



DORAL
FLORIDA

DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

DATA, INVENTORY AND ANALYSIS
VOLUME No. 2
JULY 2026



CORRADINO



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DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

1. RESILIENCY

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

DATA INVENTORY AND ANALYSIS

INTRODUCTION

The Resiliency element of this Comprehensive Plan serves as a tool to help the city's residents and communities better withstand the shocks and stressors posed by climate risks, environmental concerns, and to support long-term sustainability. The Resiliency element supports the city's land use, transportation, infrastructure, housing, and capital planning frameworks. As cities in South Florida face increasing impacts from flooding, extreme heat, and aging infrastructure, traditional planning methods alone are no longer adequate to protect public safety, economic stability, equitable conditions, and natural resources. Incorporating this element provides a coordinated framework for integrating nature-based solutions, green infrastructure, and equitable investment strategies into future growth and redevelopment. The goal is to ensure that public policies proactively enhance community resilience and provide effective mitigation for extreme events, rather than respond reactively to environmental hazards.

CLIMATE VULNERABILITY

Extreme Heat

Like other South Florida cities, Doral has experienced an increase in the number and frequency of extreme weather events. Extreme heat has become an increasing hazard to public health and natural ecosystems. According to NOAA, South Florida climate data indicate that the frequency of extreme heat days has increased noticeably over recent decades. For example, in Miami-Dade County, NOAA data shows that in 1960, there were an average of 85 days per year with temperatures over 90 degrees Fahrenheit, but by 2022, that had increased to around 133 days per year. This is an increase of approximately 56%, with no analytical evidence suggesting that this trend will reverse.

Policies and programs that support tree canopy coverage, green infrastructure, reflective-colored structures, and other heat-reducing measures should be implemented during the planning period to reduce this climatic threat.

Extreme Rainfall Events

The number of extreme rainfall events has also steadily increased, with NOAA reporting a 12% increase in heavy rainfall events in Miami-Dade County between 1970 and 2024. Two-day rainfall events with over 1.2 inches are where most precipitation occurs. Although extreme rainfall events are expected to increase in the planning period, overall precipitation is expected to decrease. In data obtained from ClimateCheck, in 1990, about 41% of precipitation occurred during these two-day downpours; In 2050, this number is projected to decrease to about 40%. In addition, overall precipitation in the city is expected to fall from 58 inches annually to approximately 56.2 inches annually. See the Conservation element data and analysis for information on water conservation measures.

Flooding

The City of Doral is considered to be at significant risk from flooding. Based on the 2024 FEMA flood zone maps, Doral has a high-to-severe flood risk. Data obtained from ClimateCheck saw that in all 58 documented census tracts in Doral, all of them showed that more than 50% of all structures in the city had a significant risk of storm surge, tidal flooding, surface flooding, and riverine flooding. The FEMA flood zones are shown in **Map 1** below.

As shown in **Map 1**, the city of Doral does not include every FEMA-designated flood zone. The three FEMA flood zones present within the City are Zones X, AH, and AE. Zone X represents areas of no to minimal flood risk and is located outside the mapped 0.2% annual chance floodplain. This is commonly referred to as the 500-year floodplain. Zone AH is a high-risk Special Flood Hazard Area (SFHA) with a 1% annual chance in the 100-year floodplain model of flooding and is characterized by shallow ponding, typically with flood depths between 1 and 3 feet, for which Base Flood Elevations (BFEs) are established. Zone AE is also a high-risk SFHA within the 1% annual chance floodplain, where detailed hydraulic analyses have been conducted, and Base Flood Elevations are established to guide development and floodplain management standards.



This map shows the location of the Doral Golf Course in Doral, Florida. The golf course is highlighted in orange, and the surrounding area is shaded in blue. The map includes a scale bar (0 to 1 mile) and a north arrow. The Doral Golf Course is located in the center of the map, bounded by NW 102nd Ave to the north, NW 74th St to the south, NW 117th Ave to the west, and NW 33rd St to the east. The map also shows major roads like NW 117th Ave, NW 102nd Ave, NW 74th St, and NW 33rd St.

Flood zones

☐ Doral Limits



The city should maintain and expand stormwater management practices and mitigation efforts throughout the planning period to lessen the impact of flooding. Flooding often affects poor communities hardest. To alleviate this issue, all measures to prevent, mitigate, and divert the damage caused by flooding should be implemented in an equitable manner.

| Hurricanes

Doral is positioned inland from the coast, and so, it is rare for a hurricane to make a direct city landfall, but regional storms bring high winds, precipitation, and storm surge that have been devastating to the community. Although largely spared from the violent hurricanes that caused widespread devastation in the 2020s, Miami-Dade County still has one of the highest hurricane strike probabilities in the United States. The County's Local Mitigation Strategy (2025) noted that approximately 70 of the over 340 hurricanes in the last century have impacted Miami-Dade County, and the county has a 1-in-6 chance of being hit by a hurricane in any given year.

The following maps depict the predicted storm surge for

each hurricane category scenario in the region.

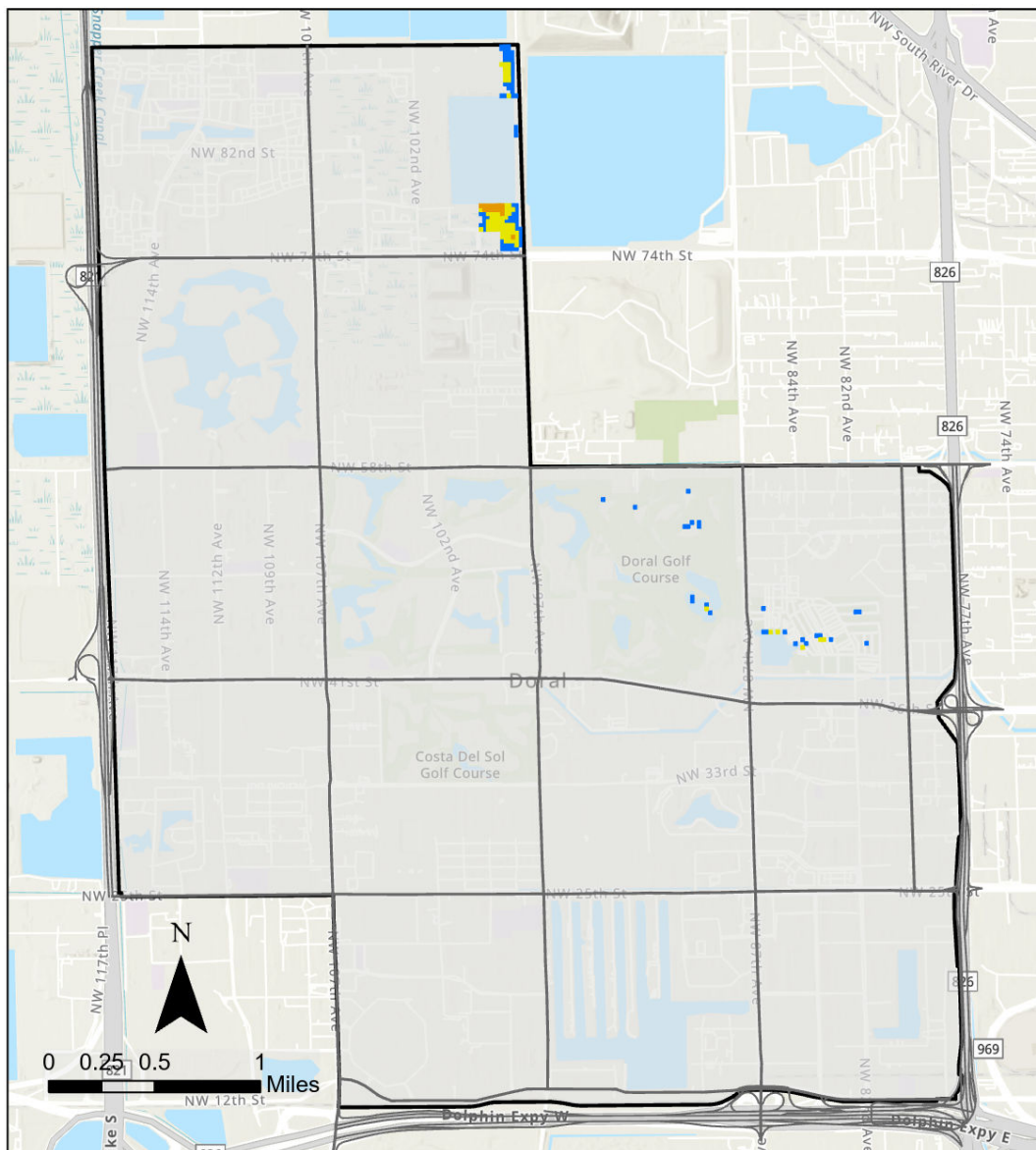
As shown in **Maps 2-6**, storm surge from hurricanes is not projected to cause as extreme flooding in Doral as it does in coastal cities. During a Category 1 hurricane, no effect from storm surge will affect the city. In a Category 2 hurricane, flooding from storm surge alone will occur in the northeast of the city, largely the area between NW 58 Street and NW 74 Street. In a Category 3 hurricane, storm surge remains in the northeast of the city but begins to move southward. In a Category 4 hurricane, the northeast, northcentral, and parts of the central and eastern city would be impacted by storm surge. In a Category 5 hurricane, large sections of the city will be affected. However, in all scenarios, storm surge never exceeds 3-5 feet.

Storm surge is not the only factor in determining hurricane risk. In recent years, the size and intensity of hurricanes have continually increased. High winds and rainfall affect broader areas, and Doral will aim to support policies and programs that enhance the resilience of the city's institutions, facilities, and emergency response capabilities in the face of these increasing storms.





MAP 1-2: CATEGORY 1 STORM SURGE SCENARIO (NOAA)



Legend

Potential Storm Surge Flooding

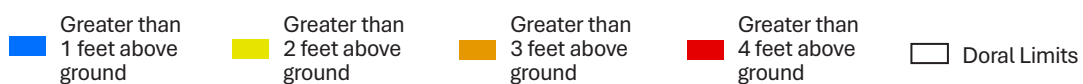
- | | | | | |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------------|
| Greater than 1 feet above ground | Greater than 2 feet above ground | Greater than 3 feet above ground | Greater than 4 feet above ground | Doral Limits |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------------|

Source: National Oceanic and Atmospheric Administration (NOAA) National Storm Surge Risk Maps (Version 4), 2018.



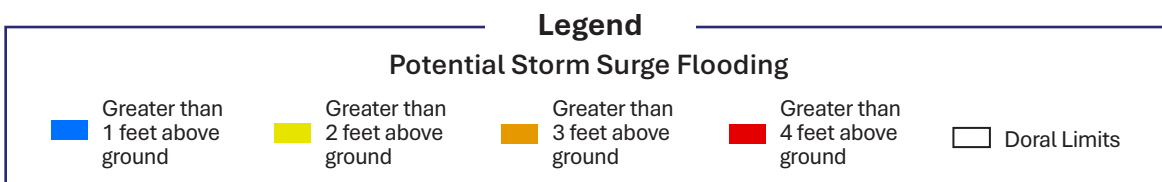
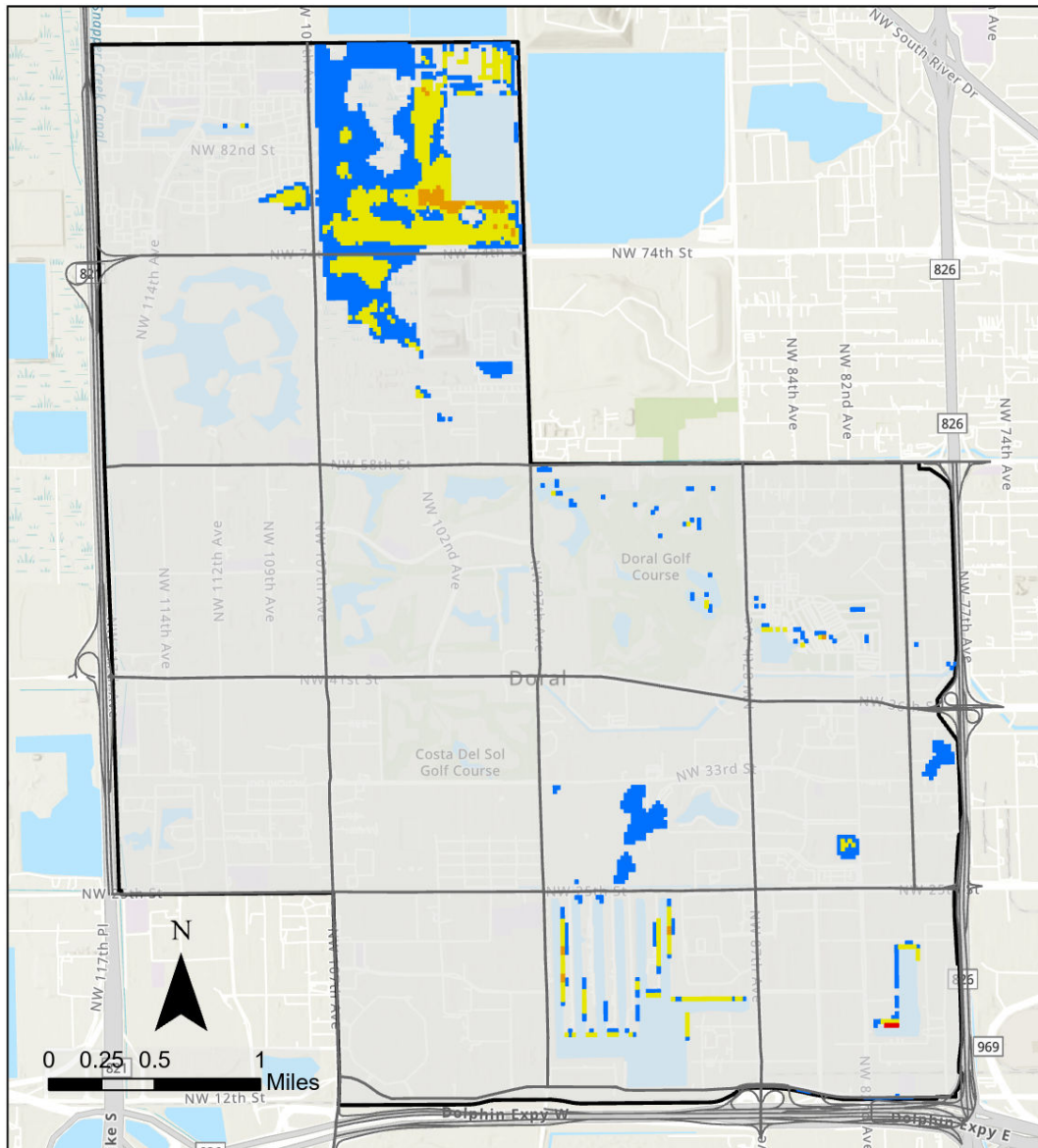
[illegible]

Potential Storm Surge Flooding





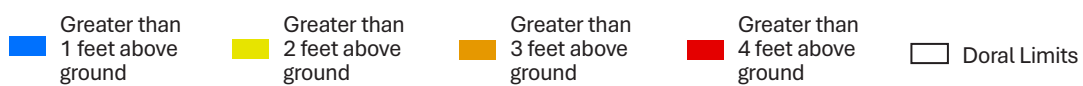
MAP 1-4: CATEGORY 3 STORM SURGE SCENARIO (NOAA)



Source: National Oceanic and Atmospheric Administration (NOAA) National Storm Surge Risk Maps (Version 4), 2018.

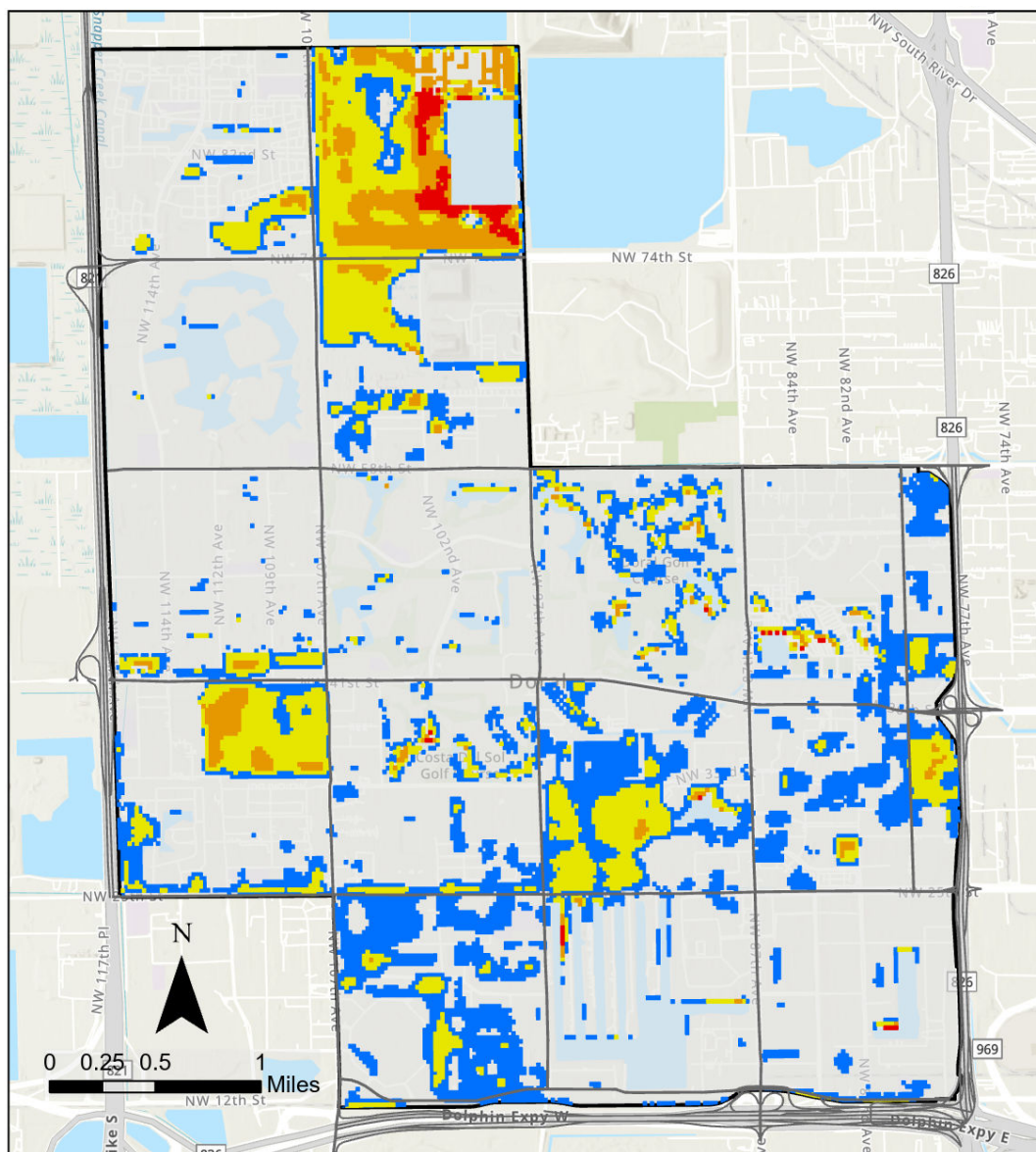


Potential Storm Surge Flooding



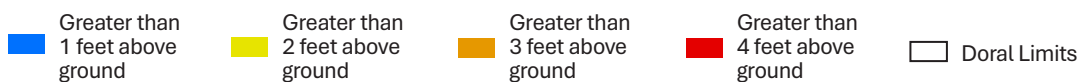


MAP 1-6: CATEGORY 5 STORM SURGE SCENARIO (NOAA)



Legend

Potential Storm Surge Flooding



Source: National Oceanic and Atmospheric Administration (NOAA) National Storm Surge Risk Maps (Version 4), 2018.



| Drought & Wildfires

Wildfires have become an increasing hazard to communities in South Florida. The number of days in drought conditions has been increasing in South Florida, as extreme heat events increase evaporation and alter rainfall patterns. The number of drought periods is expected to increase by 2050. According to data

obtained by ClimateCheck, of the last 58 census tracts in Doral, 44 determined that at least 25% of structures in the city had a significant fire risk, and 36 had over 50% of structures with a significant risk. Policies that support drought-tolerant vegetation and xeriscaping may help reduce this risk by creating conditions less susceptible to catching fire during dry periods. The wildfire risk areas are depicted in **Map 7.**



 Very High
 High
 Moderate
 Low
 Very Low
 Doral Limits



ENVIRONMENTAL CONCERNS

Brownfields

The purpose of the Brownfield Program is to support environmental rehabilitation, job creation, and promote economic redevelopment in “Environmentally Challenge Areas” with perceived or actual contamination. There are a number of brownfield sites within Doral. These consist of waste disposal sites, energy production, petrol, and other industrial activities. The largest number of these sites is located within the northeast section of the city, adjacent to the WM Medley Landfill and the 58th Street Landfill.

Florida Brownfield Program

Florida’s Brownfield Redevelopment Act provides the public and private sectors with an array of regulatory and financial benefits to facilitate the environmental cleanup and reuse of properties with environmental challenges.

- ☀ Most incentives are available pursuant to adoption by a local government of a Resolution that complies with the applicable procedural and substantive criteria.
- ☀ Incentives are only available to parties who enter into a Brownfield Site Remediation Agreement (BSRA) with the environmental regulatory agency responsible for administering the Florida Brownfields Redevelopment Program.

In the proposed brownfield area, property owners with environmental challenges will be able to recoup a portion of the environmental cleanup cost and, potentially, a portion of their redevelopment costs by entering into a Brownfield Rehabilitation Agreement (BSRA) with Miami-Dade County under the Brownfield Program.

- ☀ With a BSRA the property owner will be eligible to receive Voluntary Cleanup Tax Credits (VCTC), in the amount of 75% to 100% of all costs incurred to assess and remediate the Subject Property in the form of Florida corporate income tax credits.

- ☀ The execution of a BSRA would also trigger an important liability incentive, which protects the property owners and their lenders from claims for environmental cost recovery, property damage, and injunctive relief arising out of contamination conditions at the subject property.

To receive this designation, a brownfield area is analyzed by the following criteria:

- ☀ The area warrants economic development and has a reasonable potential for such activities; and
- ☀ Whether the proposed area to be designated represents a reasonably focused approach and is not overly large in geographic coverage; and
- ☀ Whether the area has the potential to interest the private sector in participating in rehabilitation; and
- ☀ Whether the area contains sites or parts of sites suitable for limited recreational open space, cultural, or historical preservation purposes.

NW 58th Street Corridor Green Reuse

“Brownfield” Area

The City of Doral currently monitors the land use and development of the area adjacent to the NW 58 Street Landfill. The area includes two active sites. Most notable is the 7777 NW 41st Street Green Reuse Site, which has an active rehabilitation agreement, and the Doral 87 Brownfield Site. The area is depicted in **Figure 1**. The following lists the brownfields' existing status.

- ☀ **Area Current Condition** - Industrial/Office/Commercial and holds the brownfield areas designation ID BF131701000.
- ☀ **Property Size** - Approximately 260 acres of land with over 220 light industrial and commercial properties.
- ☀ **Unique Features of the Area** - Located within close proximity to major regional highways, Miami



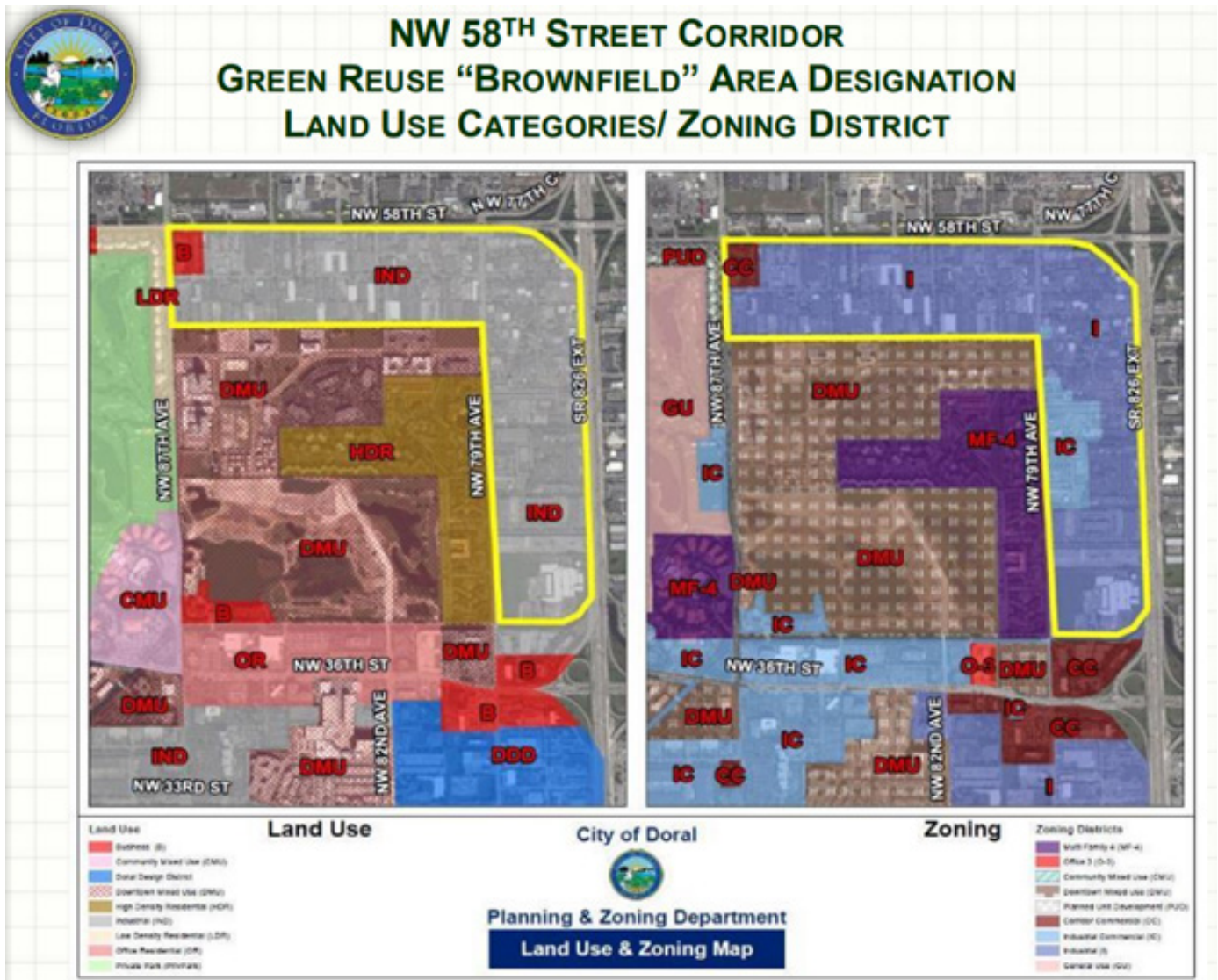
International Airport, Metro-Rail station, residential uses, and Downtown Doral.

- ☀ **Potential Redevelopment** - The City anticipates that the buildout of Downtown Doral and several other mixed-use redevelopment projects under

construction along Doral Boulevard (NW 36th Street), and potential redevelopment of the Pepsi property, will be a catalyst to initiate the redevelopment of this area in the future, consistent with the development pattern already in place in downtown Doral and surrounding areas.



FIGURE 1-1: NW 58TH STREET CORRIDOR GREEN REUSE BROWNFIELD AREA DESIGNATION



Other Contaminated Sites

In addition to the NW 58th Street brownfield area, the Florida Department of Environmental Protection's database lists other brownfields in Doral. The full list of brownfields in Doral is listed in **Table 1**.

TABLE 1-1: BROWNFIELD AREAS AND SITES WITHIN DORAL, FL

BROWNFIELD AREA/SITE NAME	AREA ID	SITE ID	STATUS
NW 58th Street Corridor Green Reuse Area	BF131701000	-	Designated Brownfield that contains two active sites.
Doral 87 Brownfield Site (Part of NW 58th Street Corridor)	BF131701000	BF131701002	Seeking a BSRA site rehabilitation order.
7777 NW 41st Street Green Reuse Site (Part of NW 58th Street Corridor)	BF131701000	BF131701001	Has an active BSRA rehabilitation completion order issued in 2023.
Doral Décor District Brownfield Area	BF131104000	-	Designated brownfield area that contains three active sites.
Jackson West Hospital Brownfield Site	BF131104000	BF131104002	Seeking a BSRA site rehabilitation order.
Skilled Nursing Facility Brownfield Site	BF131104000	BF131104003	Actively undergoing remediation and redevelopment.
Hawthorne Suites Doral Décor District BF Site	BF131104000	BF131104001	BSRA was revoked in 2020. No active remediation is occurring.

ECONOMIC RESILIENCE

Adaptive Reuse

In May 2019, the City of Doral created an Adaptive Reuse Study Area Action Plan. Due to the growth of the Doral population, several major residential and mixed-use projects came before the City for approval, including the Downtown Doral project. The evolution of Downtown Doral into a dynamic city center with restaurants, retail, and residential was driving interest in development and redevelopment of surrounding areas, such as the commercial and industrial area directly to the north, which was the focus of this Adaptive Reuse Study Area Action Plan. Additionally, both the Study Area and Doral as a whole are approaching full build-out. The Study Area is 11% vacant (13 acres), and the city is 5% vacant (450 acres), based on 2018 Florida Department of Revenue data. The limited land for new development further underscores the focus on

redevelopment, particularly for structures in the Study Area that are generally older than those in the City at large. The percentage of square footage built in the Study Area peaked at over 50% in the 1970s, while the city hit its peak at just over 30% in the 1990s. The Plan provides recommendations for the adaptive reuse and redevelopment of the Study Area. An adaptive reuse plan can be highly relevant when creating a Resiliency Element for a City's Comprehensive Plan.

1. Environmental Sustainability

- ☀ **Reduces Demolition Waste:** Adaptive reuse minimizes construction and demolition debris, a significant source of landfill material.
- ☀ **Preserves Embodied Energy:** Reusing existing structures retains the energy and resources already invested in building materials and construction.



1. RESILIENCY

2. Reduced Resource Consumption

- ✦ Less need for new materials and infrastructure means fewer emissions from extraction, processing, and transportation.
- ✦ Encourages sustainable building practices by promoting materials efficiency.

3. Smart Growth and Land Use

- ✦ Adaptive reuse often focuses on underutilized or abandoned buildings in already-developed areas (e.g., downtowns, industrial zones).
- ✦ This supports infill development, reduces sprawl, and aligns with compact, walkable community goals — key in most green elements.

4. Transportation and Emissions

- ✦ Many reuse projects occur in areas with existing transit infrastructure, helping reduce car dependency.

- ✦ Contributes to lower greenhouse gas emissions from both construction and travel.

5. Cultural and Historic Preservation

- ✦ Incorporates environmental goals with preservation of local heritage, a form of cultural sustainability.
- ✦ Maintains neighborhood character while modernizing energy efficiency and environmental performance.

6. Economic and Social Equity

- ✦ Can stimulate revitalization without displacing communities if implemented thoughtfully.
- ✦ Often creates opportunities for affordable housing, small businesses, or community spaces in sustainable ways.

Please refer to the Doral Adaptive Reuse Master Plan for further Data, Inventory, and Analysis for the Resiliency Element of the Doral Comprehensive Plan.

FIGURE 1-2: SOURCE: ADAPTIVE REUSE STUDY AREA ACTION PLAN, MAY 2019



| DORAL GREEN MASTER PLAN

The February 11, 2008, City of Doral Green Master Plan was the impetus for the Resiliency Element within the Comprehensive Plan. The following incorporates the plan by providing data and analysis aspects of the plan.

| Urban Tree Canopy & Vegetation

The City of Doral completed a 2020 Street Tree Planting Master Plan to guide strategic canopy expansion throughout public rights-of-way. The plan identifies vacant planting locations, evaluates site constraints, including utilities, sidewalk width, and soil conditions. The Plan recommends appropriate plant species based on urban tolerance, shade potential, and long-term maintenance considerations. The Master Plan establishes a structured approach to increasing canopy coverage, reducing urban heat island effects, improving pedestrian comfort, and enhancing neighborhood aesthetics. By prioritizing feasible planting corridors and resilient species, the City is positioned to incrementally expand its urban forest in alignment with infrastructure capacity and climate adaptation goals.

In addition to future planting strategy, the City maintains a tree inventory framework to document existing tree species, overall health condition, size class, and canopy coverage. This inventory allows the City to monitor canopy trends over time, identify maintenance or replacement needs, and evaluate equity in shade distribution across neighborhoods and commercial areas. Tracking these metrics supports decision-making, informs capital improvement programming, and provides measurable benchmarks for canopy expansion targets within the Resiliency element.

Please see the 2020 Street Tree Planting Master Plan.

| Parks & Recreation Infrastructure

The City of Doral maintains a comprehensive inventory of its parks and recreation systems, including major community assets such as Doral Central Park, Downtown Doral Park, and Doral Glades Park. The park inventory documents acreage, geographic distribution, and available amenities

such as playgrounds, athletic fields, sports courts, walking and biking trails, aquatic facilities, event lawns, and cultural or community centers. This cataloging effort ensures that the City can evaluate service levels, identify gaps in access, and align park improvements with neighborhood growth patterns and adopted level-of-service standards.

In addition to physical infrastructure, the City tracks facility usage data, program participation rates, and attendance at community events to assess demand across its recreational system. Monitoring trends in athletic leagues, fitness classes, cultural programming, and special events provides insight into changing community needs and seasonal usage patterns. This approach supports capital planning, informs programming adjustments, and ensures that future park investments are responsive to population growth, demographic shifts, and evolving recreational preferences. Please see the Parks and Open Space element for more data and analysis for parks and recreation infrastructure.

| Stormwater Management

The City of Doral maintains a comprehensive inventory of its stormwater management infrastructure, including catch basins, gravity drainage systems, exfiltration trenches, canals, pump stations, outfalls, and green infrastructure elements such as bioswales and retention areas. This inventory provides a baseline understanding of system capacity, age, condition, and geographic distribution across the City. The framework builds upon the City's adopted 2009 Stormwater Management Master Plan, which evaluated watershed characteristics, basin performance, and capital improvement priorities. Additional technical details and system mapping are provided in the Infrastructure Element for reference and cross-consistency.

Performance metrics are used to evaluate how effectively the existing system manages runoff, mitigates localized flooding, and responds to increasingly intense rainfall events. These metrics include drainage-level-of-service standards, pump-station capacity, storage volume, outfall elevations, and observed ponding duration following major storm events. Ongoing assessment of system performance supports targeted capital investments, the integration of



green infrastructure strategies, and alignment with broader resiliency goals to address sea-level rise, groundwater elevation, and trends in extreme precipitation.

| Sustainable Mobility & Trails

The City of Doral maintains a comprehensive inventory of its trail and greenway network to evaluate system connectivity, condition, and accessibility. This inventory documents shared-use paths, neighborhood connectors, sidewalk corridors, on-street bicycle facilities, and regional trail linkages, identifying how well these facilities connect residential areas, schools, parks, employment centers, and transit stops. Mapping existing infrastructure allows the City to assess network gaps, safety concerns, and maintenance needs while supporting long-term mobility planning and capital improvement programming.

In addition to mapping physical infrastructure, the City collects and evaluates mobility data, including pedestrian counts, bicycle usage patterns, and corridor-level activity trends. This information helps identify high-demand routes, underserved areas, and opportunities for enhanced connectivity or safety improvements. By integrating usage data with land use, park access, and transit planning, the City can prioritize trail expansions, multimodal enhancements, and complete streets initiatives that advance sustainability and provide more equitable conditions that support a resilient populace. Integrating these elements into the Resiliency Element of the DIA will provide a comprehensive foundation for sustainable urban planning in Doral, aligning with the

city's green initiatives and enhancing the quality of life for its residents.

| Guiding Green Principles

In addition to the main elements of the Green Master Plan, the overall principles tied to the plan encourage the following:

- ☀ Reduce vehicle travel miles
- ☀ Strengthen landscape and open space standards
- ☀ Create strong energy efficiency standards
- ☀ Incentivize alternative urban energy sources
- ☀ Interconnect the City's places
- ☀ Conserve water
- ☀ Reuse and recycle
- ☀ Bring back community agriculture
- ☀ Strive to be a "carbon-neutral" City government
- ☀ Initiate education and outreach

Please refer to the Doral Green Master Plan for further Data, Inventory, and Analysis for the Resiliency Element of the Doral Comprehensive Plan.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

2. FUTURE LAND USE

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

☀ DATA INVENTORY AND ANALYSIS

| INTRODUCTION

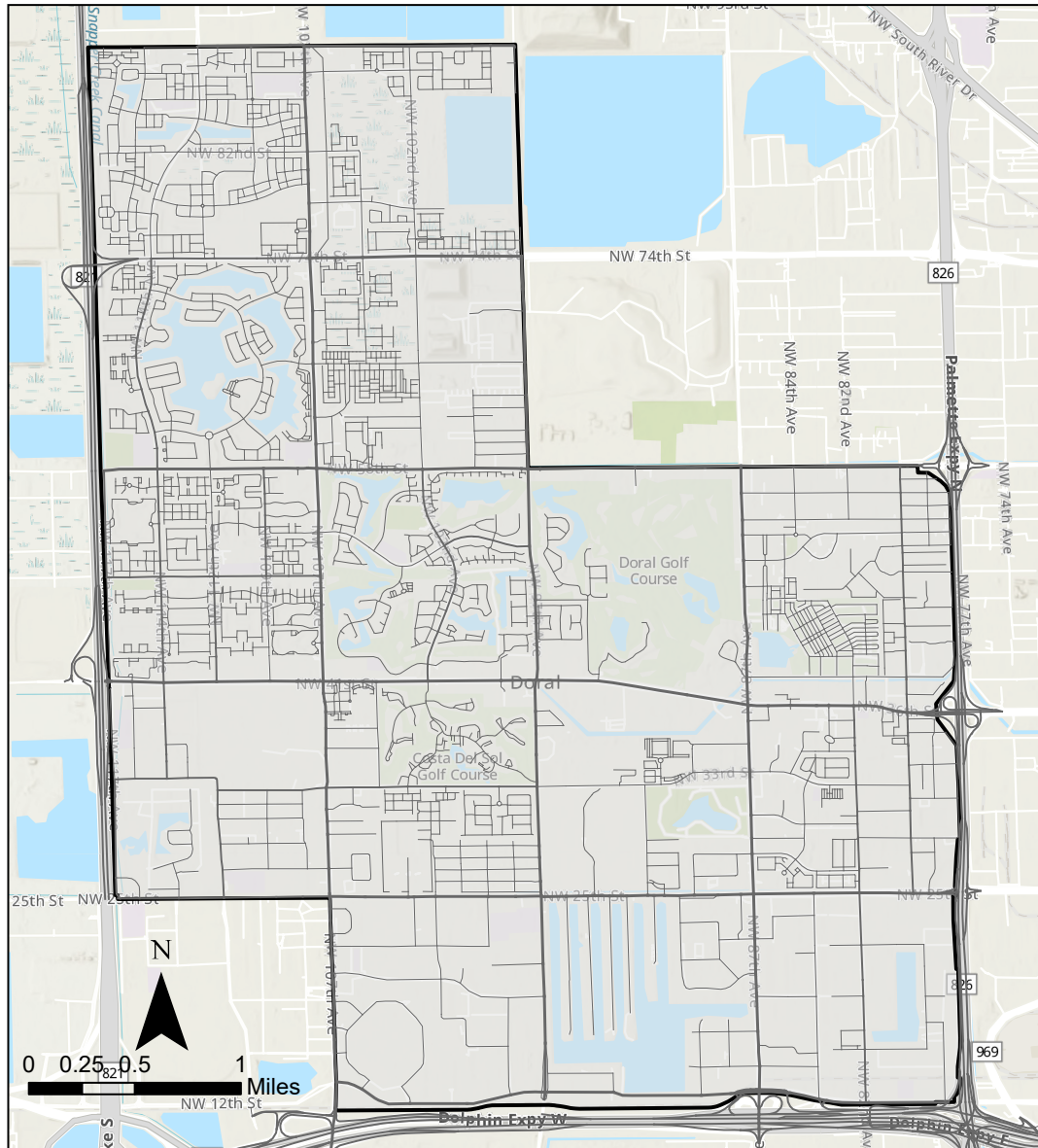
The Future Land Use for the City of Doral represents the City's vision for development and redevelopment up to 2050 for 5, 10, 15, 20, and 25-year planning periods. This component of the City's Future Land Use Element (FLUE) is designed to provide the data and analysis showing current and projected population, existing and future land use conditions, residential capacity, 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 is governed by a Mayor and a five-member Council administered by the City Manager.



2. FUTURE LAND USE



MAP 2-1: CITY OF DORAL BOUNDARY



Legend

Street Maint Doral Class

0	3	6	<all other values>
1	4	7	Doral Limits
2	5	8	

Source: Miami-Dade County (MDC) Boundary and Street, 2025.



EXISTING LAND USE CONDITIONS

The City of Doral is a diverse municipality with a mix of uses. In order to develop a Future Land Use Element a municipality must review future land use patterns, by taking an inventory of its current land use. Using this inventory, the Existing Land Use Map ([Map 1-1](#)) 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. [Table 1-1](#) documents existing land uses in the City by category and acreage.

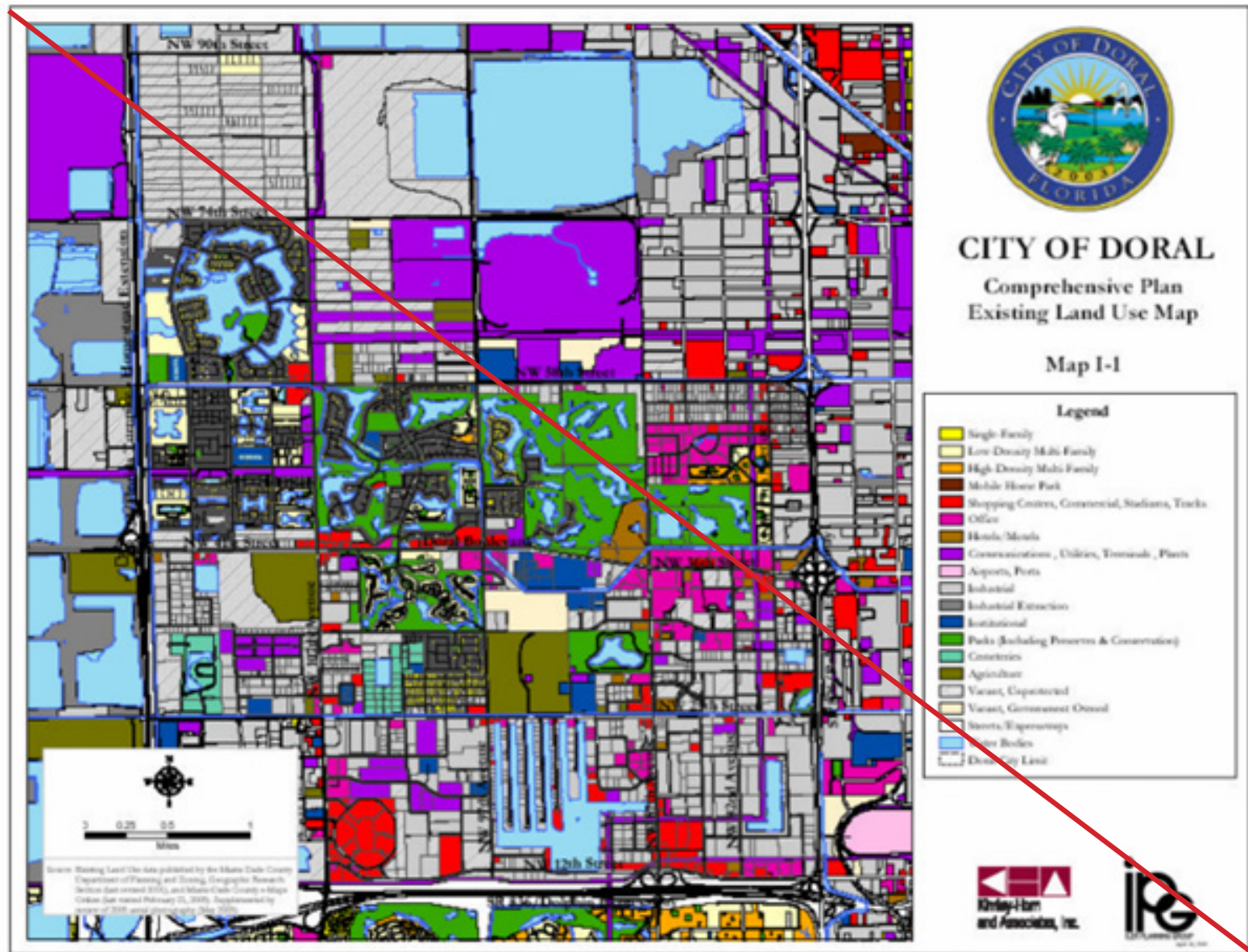


This map displays the NW 90th Street area in Miami, Florida, with various land use zones color-coded. The map includes major roads such as NW 97th Avenue, NW 74th Street, NW 58th Street, and NW 74th Avenue. A scale bar indicates distances from 0 to 1 mile, and a north arrow is present. The map is labeled with 'FLORIDA'S TOWNMAP' and '826'.

Single Family, Low-Density	Multi-Family, High-Density	Nursing Homes	Private Recreational	Hospitals
Single Family, Med.-Density	Transient Residential (Hotel/Motel)	Private Parks	Social Services	Industrial Use
Single Family, High-Density	Office Building	Municipal Parks	Houses of Worship	Industrial - Office
Two Family	Sales and Services	Golf Courses	Public Schools	Industrial Manufacturing
Townhouses	Shopping Centers	Pastures	Private Schools	Industrial Mixed-Use
Mixed-Use	Marine Commercial	Beaches	Colleges & Universities	Major Approved Projects
Multi-Family, Low-Density	Cultural Centers	Cemeteries	Government Use	Military Facilities
Sewerage Treatment Plants	Solid Waste Disposal & Transfer	Water Supply Plants	Doral Limits	



2. FUTURE LAND USE



2. FUTURE LAND USE

TABLE 2-1: EXISTING LAND USE TABLE

RESIDENTIAL LAND USES		
Land Use	Acreage	Percent
Single-Family, Low-Density (Under 2 DU/Gross Acre).	1	0.01%
Single-Family, Med.-Density (2-5 DU/Gross Acre).	354	3.70%
Office Building.	242	2.53%
Single-Family, High Density (Over 5 DU/Gross Acre, other than Townhouses, Duplexes and Mobile Homes).	467	4.88%
Townhouses.	663	6.93%
Two-Family (Duplexes).	2	0.02%
Residential predominantly (condominium/ rental apartments with lower floors Office and/or Re-tail. High density > 15 dwelling units per ac, multi-story buildings (Generally more than 5 stories).	35	0.37%
Multi-Family, Low-Density (Under 25 DU/Gross Acre).	466	4.87%
Multi-Family, High Density (Over 25 DU/Gross Acre).	136	1.42%
Industrial intensive, Commercial Condominium type of use	242	2.53%
Sub-Total	2608	27.25%
OTHER LAND USES		
Land Use	Acreage	Percent
Beaches.	0.01	0.00%
Bus/Truck/Freight Forwarding Terminals.	137	1.43%
Canal right-of-way.	2	0.02%
Cemeteries.	158	1.65%
Colleges and Universities, Including Research Centers, Public and Private.	31	0.32%
Communications (Radio, TV, Cable, and Phone), excluding Antenna Arrays.	26	0.27%
Cultural (auditoriums, convention centers, exhibition centers, museums, art galleries, libraries).	3	0.03%
Electric Power (Generator and Substation, and Service Yards).	6	0.06%
Extraction, Excavation, Quarrying, Rock-Mining, excluding the resulting water body (see 917).	0	0.00%
Golf courses, Public and Private.	538	5.62%
Governmental/Public Administration (Other than Military or Penal).	114	1.19%
Highways and Expressways right-of-way and associated open and landscaped areas excluding paved expressways and ramps.	17	0.18%
Hospitals, clinics, medical offices and/or dental facilities	46	0.48%
Houses of Worship and Religious, and associated uses (parking, retreat houses, residencies, childcare, etc.).	17	0.17%
Industrial Extensive	38	0.39%
Industrial Intensive, heavy-light manufacturing, and warehousing-storage type of use.	1311	13.70%
Industrial Intensive, Office type of use.	117	1.22%



2. FUTURE LAND USE

OTHER LAND USES		
Land Use	Acreage	Percent
Inland water bodies (Lakes, Ponds, and Watercourses) associated with industrial areas, industrial parks and new industrial development.	244	2.55%
Inland water bodies (Lakes, Watercourses) associated with residential developments.	409	4.27%
Major Approved Projects.	54	0.57%
Major Transmission Lines.	170	1.78%
Military Facilities.	54	0.57%
Municipal Operated Parks	137	1.43%
Nursing homes, Assisted living facilities, and Adult congregate living quarters	1	0.01%
Other inland water bodies (Lakes, Ponds, Watercourses other than rivers and canals), including road borrow pits.	230	2.40%
Parking - Public and Private Garages and Lots.	5	0.06%
Pasture (Grazing, Animal Farming, Dairy Farms and Animal Feed Lots), excluding Horse and Poultry.	176	1.84%
Paved Highways, Expressways and Ramps.	5	0.05%
Private Drives.	198	2.07%
Private Recreational Facilities Associated with private Residential Developments, except marinas/yacht basins, includes landscape and open spaces associated to residential, commercial and office developments.	90	0.94%
Private Schools, Including Playgrounds (K-12, Vocational Ed., Day Care and Child Nurseries).	28	0.30%
Public Schools, Including Playgrounds (K-12, Vocational Ed., Day Care and Child Nurseries).	107	1.12%
Railroads - Terminals, Trackage, and Yards.	35	0.37%
Rivers and Canals.(Water)	98	1.03%
Road Maintenance and Storage Yards, and Motor Pools.	3	0.03%
Sales and Services (Wholesale facilities, Spot commercial, strip commercial, neighborhood shopping centers/plazas). Excludes office facilities.	462	4.82%
Shopping Centers (Regional and Community).	7	0.07%
Social Services, and Charitable institutions (Shrines, Elks, Moose, Lions Club).	5	0.05%
Solid Waste Disposal and Transfer (Includes Dumps, Solid Waste Land Fills, Resource Recovery Plants and Facilities, Trash Transfer Stations).	152	1.59%
Street right-of-way and entrance features both public and private, and utility easements.	34	0.35%
Streets and Roads, except Expressways and Private Drives.	1055	11.02%
Transient-Residential (Hotel-Motel)	149	1.56%
Vacant Government owned or controlled.	164	1.72%
Vacant, Non-Protected, Privately-Owned.	210	2.19%
Vacant, Protected, Privately-Owned. Proposed and designated EEL sites until acquired, or protected under any other conservation or environmental mechanism.	121	1.26%
Sub-Total	6966	72.77%
Total	9574	100.00%



2. FUTURE LAND USE

TABLE 1-1: EXISTING LAND USE TABLE

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)	38.3	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	1459.87	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	1861.15	18.80%
Vacant Government Owned	84.81	0.86%
Streets*	1430.1	14.45%
Water*	923.71	9.33%
Sub-Total	8920.09	90.12%
TOTAL	9898	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 future 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 1020.5 acres of vacant or undeveloped 1,946 acres of vacant or undeveloped land within the City of Doral, which comprises approximately 11% 19.72% of the total land mass. Residential land totals 6% 46.5% of the City's vacant land inventory with 61 607 acres of that being in the Low-Density category.

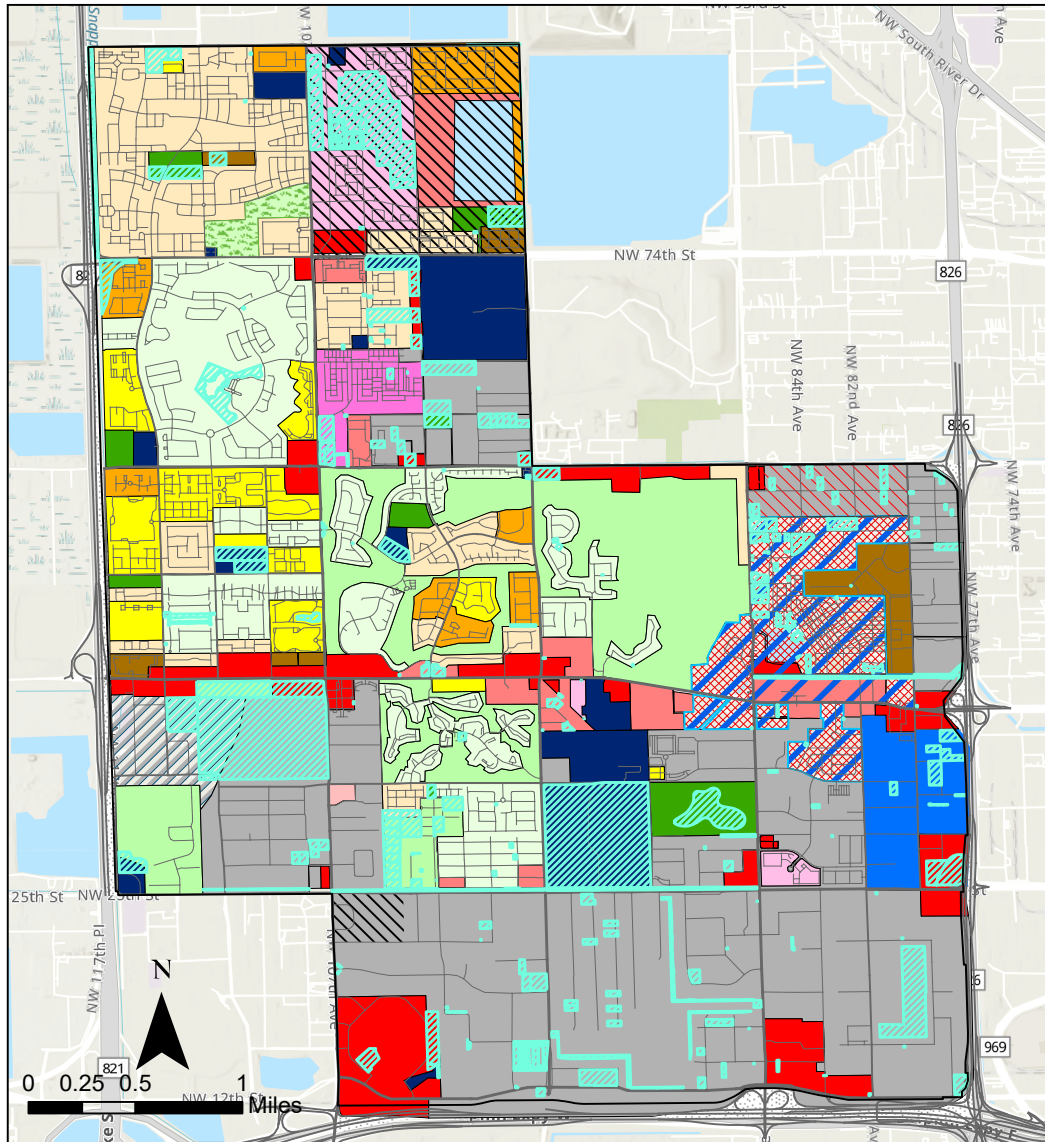
Industrial areas comprise 44% 16.76%, while Traditional Neighborhood land uses make up an estimated 1.04% 14.72% of available vacant property. The vacant Institutional and Public Facility lands in the City total 191 121 acres or 18.7% 6.25% of the total unbuilt area, owing largely to the large federal land parcels in the center of the City which are not developed. The City has an estimated 53.73 acres (5.27%) 106 acres (5.43%) of private undeveloped Business tracts currently.



2. FUTURE LAND USE



**MAP 2-3: VACANT LAND USE WITH FUTURE LAND USE
UP TO 2050 HORIZON**



Legend Land Use

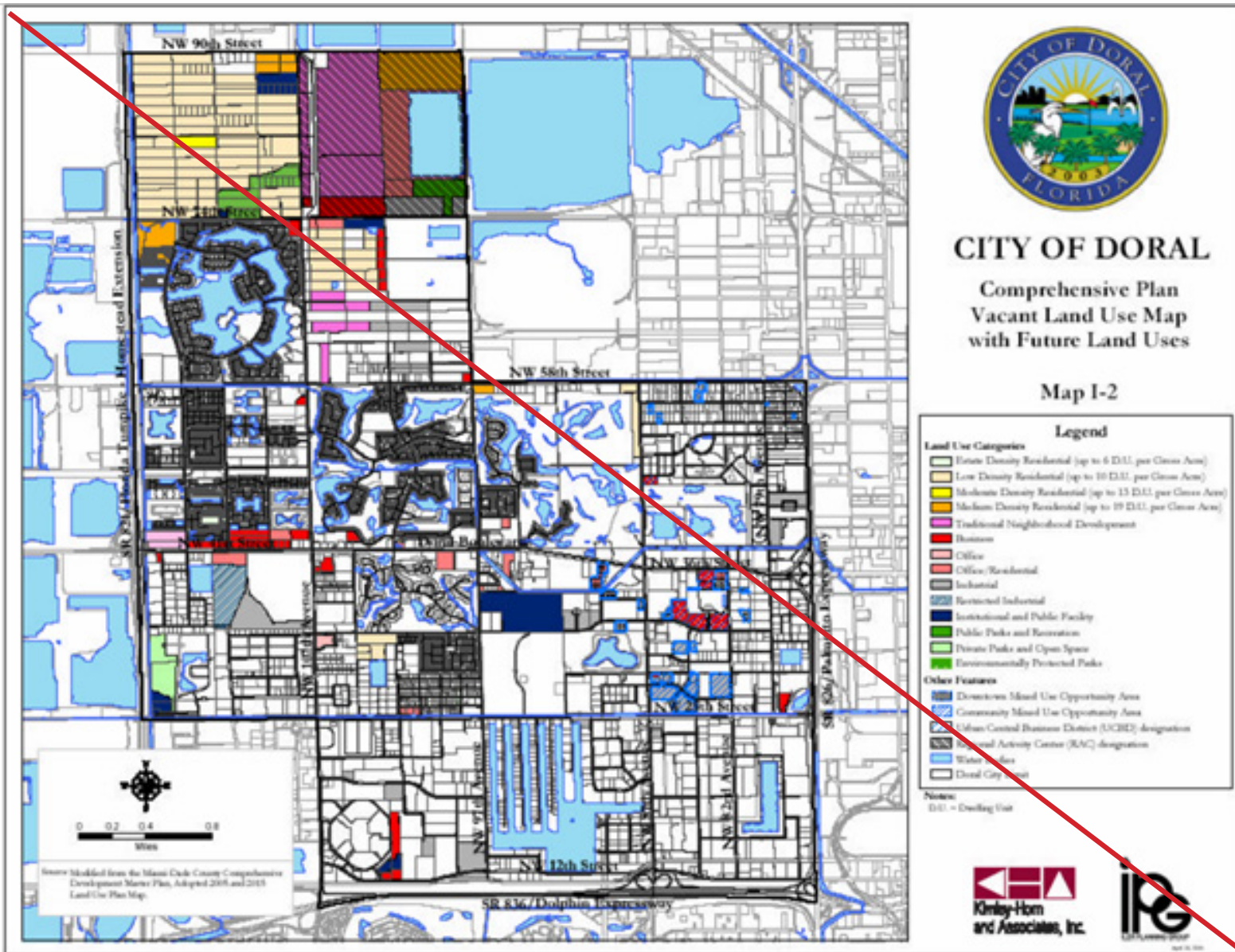
- | | | | |
|---------------------------------|---------------------------------------|--|--|
| Adaptive Reuse Area | Downtown Mixed Use (DMU) | Institutional and Public Facility (INST) | Private Park (PrivPark) |
| Business (B) | Environmentally Protected Parks (EPP) | Low Density Residential (LDR) | Public Park (PubPark) |
| Urban Central Business District | Estate Density Residential (EDR) | Medium Density Residential (MDR) | Restricted Industrial (RIO) |
| Regional Activity Center | Expressway Right of Way (EXPY) | Moderate Density Residential (MoDR) | Traditional Neighborhood Development (TND) |
| Community Mixed Use (CMU) | High Density Residential (HDR) | Office (O) | Doral Limits |
| Doral Décor District | Industrial (IND) | Office Residential (OR) | Vacant Land |



Source: Miami-Dade County Property Appraiser Parcel and Land Use Data, 2025.



2. FUTURE LAND USE



2. FUTURE LAND USE |

TABLE 2-2: VACANT LAND USE TABLE

RESIDENTIAL		
Land Use	Acres	Percent
Estate Density Residential	21.18	2.08%
Low Density Residential	27.12	2.66%
Office Residential	8.36	0.82%
Traditional Neighborhood Development	10.63	1.04%
Medium Density Residential	8.61	0.84%
Moderate Density Residential	1.75	0.17%
High Density Residential	2.65	0.26%
Community Mixed Use	95.94	9.40%
Downtown Mixed Use	28.89	2.83%
Doral Décor District	12.12	1.19%
Sub-Total	217.25	21.0%
OTHER		
Land Use	Acres	Percent
Public Parks and Recreation	45.50	4.46%
Private Parks and Open Space	49.18	4.82%
Business	53.73	5.27%
Industrial	290.85	28.50%
Restricted Industrial	162.64	15.94%
Institutional and Public Facility	190.88	18.70%
Expressway Right of Way	10.47	1.03%
Sub-Total	803.25	79%
GRAND TOTAL	1020.50	100%



2. FUTURE LAND USE

TABLE 1-2: VACANT WITH FUTURE LAND 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

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



2. FUTURE LAND USE |

| Residential

Single family residential uses occupy 822 acres (8.6%) 2,130.8 acres (33%) 2241.7 acres (34.2%) of the City's land area. The City is currently characterized by Industrial Uses. Single-family homes currently take up the most acreage by residential land use category.

Townhouse communities also comprise a significant portion of the City's residential land area, with 663 acres (6.9%). Duplexes make up 2 acres (0.02%) of the City's land Area. Low Density multi-family apartments comprise of 466 acres (4.87%). High density multi-family apartments, comprise only 136 acres (1.42%).

| Commercial and Office

Commercial land uses cover approximately 711 acres of the land or about 7.42% of the City. Commercial uses are primarily retail and include wholesale trade, office, and services, and automobile services. In the next few years, high demand for is projected to decrease the number of retail vacancies in the region, and commercial real estate will continue to be a pillar of the local economy. Doral has several mixed-use designations throughout the city that have made commercial developments more common and this trend is projected to continue as the city pushes forward with its goal of more urban centers.

| Industrial

Industrial land uses currently cover 1708 acres of the land or about 17.85% of the City. These uses are concentrated near the northern border of the City. These industrial areas will be in the coming years as interconnections to nearby neighborhoods and to the mixed-use designated areas may prompt a change in the surrounding built environment.

| Parks

The City of Doral is well known for its golf courses and has substantial private and public recreational facilities. Combined with vacant, open, and natural spaces, there are over 629 acres devoted to parks and recreation. Many private clubhouses, tennis courts, and other facilities exist within communities that provide recreational opportunities for residents. These semi-private and private recreational facilities encompass 91 acres. This is coupled with the over 538 acres of public recreation facilities in the city.

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.



2. FUTURE LAND USE

TABLE 1-2: VACANT WITH FUTURE LAND 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

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YEAR	POPULATION
2000	21,000
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2020	72,659

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



2. FUTURE LAND USE

TABLE 2-3: POPULATION PROJECTIONS, PERMANENT RESIDENTS, 2020-2050

2020	2025	2030	2035	2040	2045	2050
75,874	86,615	99,083	110,124	120,175	129,730	138,904

Sources: Estimates and projections by Shimberg Center for Housing Studies, based on 2010 and 2020 U.S. Census data and population projections by the Bureau of Economic and Business Research, University of Florida.

Population projections are an important component for growth management. The population projections in Table 1-3 is based on Shimberg Center for Housing Studies. Population growth is projected to continue in the City of Doral, and as a result there will continue to be an increased demand for the urban services and facilities that are needed to maintain and improve quality of life.

The City of Doral incorporated in on January 28, 2003. The Census 2000 figures showed a population of 21,000 20,438 persons and while the housing units in the area were not recorded at this time, likely because Doral was a Census-Designated Place (CDP) then, in the next 2010 Census, a population of 45,705 was recorded, with 13,462 occupied housing units. The city share of countywide population was 8.6% rate during the 2010–2020 period. As of 2020, the City comprised approximately 2.8% of Miami-Dade County's total population. The City's population estimates and projections are shown on Table 1-3. The City estimates that its current population is approximately 86,615, an increase of about 89.5% over the 15-year period (2010-2025).

AVAILABILITY OF SERVICES AND FACILITIES

The most important function of the Comprehensive Plan is ensuring the availability of services and infrastructure meets the demands of the existing and future population and land uses. The Comprehensive Plan establishes level of service for roadways, transit, potable water, sanitary sewer, drainage, and parks and recreation. The Capital Improvements Element identifies improvements needed to meet or exceed the level of service standards, Potable Water

The City of Doral is provided with potable water services through Miami-Dade Water and Sewer Department (WASD);

with Biscayne Aquifer as the source of potable water in Miami-Dade County.

LOS STANDARD — The City's Level of Service Standard for potable water is as follows:

REGIONAL TREATMENT — System shall operate with a rated capacity that is no less than 2% above maximum daily flow for the preceding year.

USER LOS — Maintain capacity to produce and deliver INSERT gallons per capita per day (gpd).

WATER QUALITY — Meet all County, State and federal primary potable water standards.

COUNTYWIDE STORAGE — Storage capacity for finished water shall equal no less than 15% of Countywide average daily demand.

WASD is in charge of maintaining the distribution and treatment facilities that serve the City. Since the system is owned and maintained by Miami-Dade County, no potable water improvements or projects are programmed or planned by the City. 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's Level of Service Standard for potable water is as follows:



2. FUTURE LAND USE |

LOS STANDARD – 100 gallons per capita per day (gpd).

REGIONAL WASTEWATER TREATMENT PLANTS –

System shall operate with a physical capacity of no less than the annual average daily sewage flow.

WATER QUALITY – Effluent discharged from wastewater treatment plants shall meet all federal, State, and County standards.

CAPACITY – The system shall maintain the capacity to collect and dispose of 102 percent of average daily sewage demand for the preceding 5 years.

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**

LOS STANDARD – The City's Level of Service Standard for stormwater drainage is as follows:

QUALITY – The drainage and performance standards established in Chapter 62-25, 25.015, F.A.C., as amended with treatment of the first inch of rainfall to meet water quality standards required by Chapter 62-302, 862-302.500, F.A.C., as amended.

QUANTITY – Post-development runoff should not exceed the pre-development runoff for a 25-year storm event, up to and including an event with 24-hour duration. In addition, the Standard requires onsite treatment of the first inch of rainfall or the first half-inch of runoff, whichever is greater.

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.

| **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.

| **UPDATE-Transportation**

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



2. FUTURE LAND USE |

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 I-8 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 from the future map which will reduce future traffic loads,

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.

| 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



2. FUTURE LAND USE

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.

Schools

Public schools are allowed in all land use categories shown

on the adopted Future Land Use Map, except in the Industrial and Restricted Industrial category.

FUTURE LAND USE

The Future Land Use Map (Map I-3) was created using the County’s Future Land Use reflects 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 32.7% of the City, followed closely by the 5 residential (only) land use categories at 28.75%. 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 6.33% of the City’s land base, while Institutional and Public Facilities area comprise 5.40%.

TABLE 2-4: ACREAGE WITH PERCENT DENSITY

RESIDENTIAL LAND USE		
Land Use	Acres	Percent
Estate Density Residential	1104.52	11.51%
Low Density Residential	885.01	9.22%
Office Residential	304.33	3.17%
Traditional Neighborhood Development	115.50	1.20%
Moderate Density Residential	376.19	3.92%
Medium Density Residential	252.20	2.63%
High Density Residential	142.24	1.48%
Community Mixed Use	304.39	3.17%
Downtown Mixed Use	419.54	4.37%
Doral Décor District	241.89	2.52%
Sub-Total	4145.80	43.20%



2. FUTURE LAND USE

OTHER LAND USES		
Land Use	Acres	Percent
Business	607.93	6.33%
Environmentally Protected Parks	51.10	0.53%
Industrial	2981.62	31.06%
Institutional and Public Facility	517.92	5.40%
Office	6.96	0.07%
Private Parks and Open Space	963.07	10.03%
Public Parks and Recreation	170.23	1.77%
Restricted Industrial	154.37	1.61%
Sub-Total	5453.20	56.80%
GRAND TOTAL	9599.00	100.00%

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	1.76%
Community Mixed Use	19.25	0.19%
Traditional Neighborhood Development	371.91	3.76%
Business	624	6.30%
Office	6.96	0.07%
Office/Residential	353.04	3.57%
Industrial	3038.09	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	0.53%
Expressway Right-of-Way*	197.57	2.00%
Water Bodies*	872.92	8.82%
TOTAL	9898	100.00%



The map displays a grid of land use zones in the NW 74th St area. The zones are color-coded and pattern-coded to represent different land use types. The legend on the right side of the map provides the following information:

- Residential:** Single-Family Detached (Light Green), Single-Family Attached (Yellow), Multi-Family (Orange), Medium-Density Residential (Pink), High-Density Residential (Dark Blue), and Office/Professional (Light Blue).
- Commercial:** Retail (Red), Office/Professional (Light Blue), and Industrial (Dark Blue).
- Industrial:** Heavy Industrial (Dark Blue), Medium-Density Industrial (Light Blue), and Light Industrial (Light Green).
- Open Space:** Park/Open Space (Light Green), Forest/Woodland (Dark Green), and Water (Blue).
- Other:** Public Use (Grey), Transportation (Grey), and Unimproved Land (Grey).

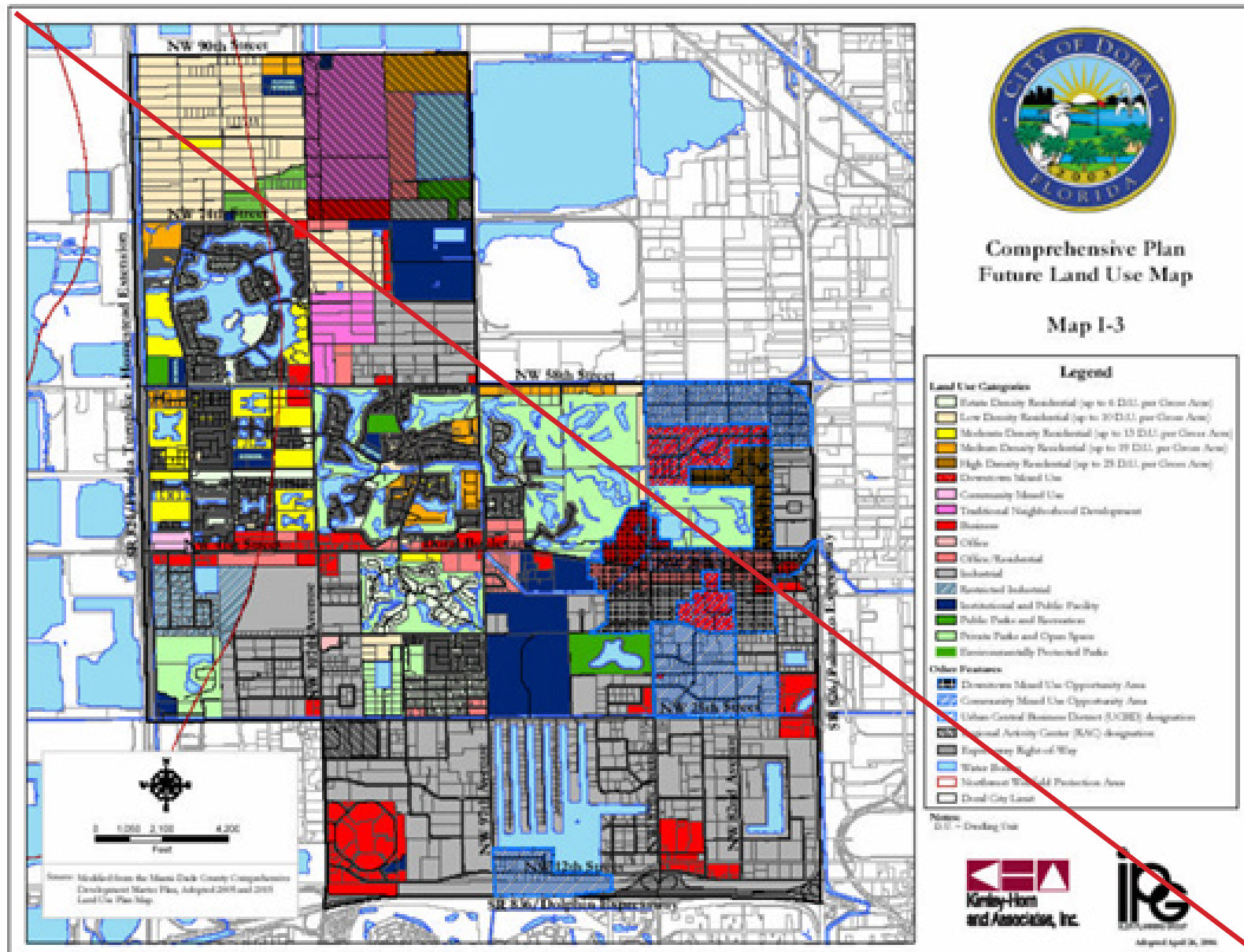
The map also includes a scale bar (0 to 1 mile) and a north arrow. Key streets shown are NW 74th St, NW 82nd Ave, NW 84th Ave, NW 74th Ave, NW 77th Ave, NW 12th St, NW 15th St, NW 17th Pl, and NW South River Dr.

	Adaptive Reuse Area		Downtown Mixed Use (DMU)		Institutional and Public Facility (INST)		Private Park (PrivPark)
	Business (B)		Environmentally Protected Parks (EPP)		Low Density Residential (LDR)		Public Park (PubPark)
	Urban Central Business District		Estate Density Residential (EDR)		Medium Density Residential (MDR)		Restricted Industrial (RIO)
	Regional Activity Center		Expressway Right of Way (EXPY)		Moderate Density Residential (MoDR)		Traditional Neighborhood Development (TND)
	Community Mixed Use (CMU)		High Density Residential (HDR)		Office (O)		Doral Limits
	Doral Décor District		Industrial (IND)		Office Residential (OR)		

Source: Miami-Dade County (MDC) Comprehensive Development Master Plan (CDMP) Future Land Use, 2025.



2. FUTURE LAND USE



| ESTATE DENSITY RESIDENTIAL

Areas designated Estate Density Residential on the Future Land Use Map may be developed with residential uses at up to 6 units per gross acre. This land use district comprises 1104.52 ~~948.47~~ acres in the City. Estate Density Residential is the most prevalent Future Land Use District in the City.

| LOW DENSITY RESIDENTIAL

The Low Density Residential Future Land Use District permits residential units at up to 10 units per acre. Encompassing a total of 885.01 ~~870.17~~ acres.

| MODERATE DENSITY RESIDENTIAL

The Moderate Density Residential Future Land Use District permits residential units at up to 13 units per acre. Encompassing a total of 376.19 ~~352.25~~ acres.

| MEDIUM DENSITY RESIDENTIAL

The Medium Density Residential Future Land Use District permits residential uses at 13 to 19 units per acre. The Medium Density Residential District encompasses a total of 252.20 ~~271.28~~ acres.

| HIGH DENSITY RESIDENTIAL (HDR)

The residential densities allowed in this category shall not exceed 25 dwelling units per gross acre. The types of housing typically found in areas designated high density include mid- and high-rise condominiums/apartments. Building height is limited to 10 stories. The High Density Residential District encompasses a total of 142.24 ~~88.29~~ acres.

| DOWNTOWN MIXED USE (DMU)

This land use category allows business/retail, office and residential uses. It is limited only to parcels 10 acres or greater in size and is designed to provide for the horizontal and vertical integration of a diversity of urban-oriented uses at the city center. The City Council may consider DMU applications less than 10 acres in size if the property

is adjacent to an existing DMU parcel, and located south of NW 58th Street, east of NW 87th Avenue, north of NW 33rd Street and west of NW 79th Avenue. A mix of uses are permitted and required for every DMU site. Hotel and related hospitality uses are allowed as part of the commercial mix, which said mix shall include a combination of at least two (2) of the following uses: (i) business/retail; (ii) office use; and (iii) residential use. In terms of location, areas designated as DMU should be within the city center area defined above for parcels less than 10 acres in size. Other DMU sites can be considered west of NW 87th Avenue provided they are located at major intersections along Doral Boulevard and meet or exceed the 10-acre size minimum. The conceptual site design and community connectivity plans for DMU sites shall identify strategic locations where vertical mixed use shall occur to facilitate multimodal options. At these locations, retail/commercial service businesses are encouraged to be located on the ground floor with office/residential uses above. This shall not preclude horizontal mixed-use development where the conceptual site design and community connectivity plans demonstrate that the functional arrangement of such uses achieves the purpose of the DMU category.

The base density allowed in the DMU category is limited to no more than 25 dwelling units per gross acre and maximum building height is eight (8) stories. All DMU project land use applications must be accompanied by a conceptual site design and community connectivity plan. Additional density up to 35 dwelling units per gross acre and height greater than 8 stories may be granted by the City Council for projects that exhibit creative excellence in exceeding the minimum standards contained in Section 86-83 of the City's Code. A workforce housing density bonus of up to 30% of total units may be granted by the City Council for the provision of at least two-thirds (2/3) of the approved bonus units as workforce housing in compliance with Miami-Dade County Code Chapter 17, Article IX, as amended, or applicable workforce housing regulations adopted by the City in the future. Landscaped open space in DMU must comprise a minimum of 10% of a project site. Floor area ratio (FAR) shall be limited to 0.5 for the first floor and 0.25 for each additional floor above, exclusive of structured parking.



| COMMUNITY MIXED USE (CMU)

The purpose of this multiple use category is to provide a flexible land use palette for high activity nodes north, south and west of Doral's downtown, and at other special locations in the City such as gateways. It allows retail, service, office and residential uses and is limited to parcels 10 acres in size or greater, except for parcels with frontage on Doral Boulevard which can be seven (7) acres or greater in size. A mix of commercial and residential uses are permitted and required for CMU sites. Areas that may be deemed as appropriate by the City Council for the CMU designation and associated CMU projects are within the Community Mixed Use Opportunity Area (CMUOA) depicted on the FLUM. Retail and commercial service businesses and hotels may develop on single-use parcels within a mixed use setting in which no building is a distance of more than 330 feet from another building containing a different single use type or mixed use located on the same side of the street.

The base density allowed in the CMU category is limited to no more than 19 dwelling units per gross acre and maximum building height is 8 stories. Additional density up to 25 dwelling units per gross acre and height up to 10 stories may be granted by the City Council for projects that exhibit creative excellence in exceeding the minimum standards contained in Section 86-83 of the City's Code. A workforce housing density bonus of up to 30% of total units may be granted by the City Council for the provision of at least two-thirds (2/3) of the approved bonus units as workforce housing in compliance with Miami-Dade County Code Chapter 17, as amended, Article IX or applicable workforce housing regulations adopted by the City in the future. Landscaped open space in CMU must comprise a minimum of 15% of a project site. Floor area ratio (FAR) shall be limited to 0.5 for the first floor and 0.25 for each additional floor above, exclusive of structured parking.

Governmental and non-profit offices, parks, public facilities and recreational facilities are allowed in CMU. All zoning applications seeking to develop or redevelop within this category must be accompanied by a site-specific master development plan showing, at a minimum, the proposed uses, residential density, public realm improvements,

internal transportation system, non-residential intensity, building mass, parks and open space, typical street orientation and building elevations, and external connectivity of the proposed development.

| TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND)

The TND concept incorporates a broad mixture of uses, unique design, hierarchy of streets, and focus on pedestrian activity, low scale community support activities, and use of community buildings and open spaces as the focal point of the neighborhood. TND areas mandate the vertical and horizontal integration of uses such as residential, business, office, civic, public facilities, education and childcare, artisan and home occupations. Residential density cannot exceed 18 dwelling units per gross residential acre and all types of housing are allowed, including detached single-family units. Building height is limited to no more than eight (8) stories. The floor area ratio shall not exceed 4.0. A conceptual master development plan is required for zoning approval.

The following criteria must be met in order to achieve the TND land use designation:

1. Site must be under single ownership, cannot be located adjacent to Estate Density Residential areas and must be comprised of at least 40 contiguous gross acres; and
2. Public parks must be provided on-site equal to at least 50 percent the City's parks level-of-service standard; and
3. Civic uses, such as meeting halls, schools, day care centers and cultural facilities must comprise at least 2 percent of the developed area; and
4. Business, office and light industrial uses not vertically mixed with residential cannot comprise greater than 50 percent of the gross land area; and
5. Site must have an internal public spine road system and be connected to a minimum of two (2) separate external public roads.



| BUSINESS (B)

This category accommodates the full range of sales service activities including retail, wholesale, personal and professional services, commercial and professional offices, hotels, motels, hospitals, theaters, medical buildings, nursing homes, entertainment and cultural facilities, amusement and commercial recreation establishments and university and college facilities. Building height is limited to no more than six (6) stories and landscaped open space must comprise a minimum of 15% of a project site. Floor area ratio (FAR) is limited to 0.5 for the first floor and 0.25 for every additional floor, exclusive of structured parking. In the Business land use strip immediately west of the Miami-Dade County Resource Recovery Facility along (theoretical) NW 102nd Avenue, uses that exhibit 24-hour site usage such as hotels, motels, hospitals, and nursing homes are not allowed.

| OFFICE (O)

This category accommodates corporate, commercial and professional offices, hotels, medical buildings, and entertainment and cultural facilities. Five (5) percent of the floor area of Office parcels may contain retail and services uses. The maximum height allowed in this category is 14 stories and landscaped open space must comprise a minimum of 15% of a project site. Floor area ratio (FAR) is limited to 0.5 for the first floor and 0.25 for every additional floor, exclusive of structured parking.

| OFFICE AND RESIDENTIAL (OR)

Uses allowed in this category include a mixture of both professional and clerical offices, hotels, motels and residential uses. The maximum density allowed is 16 units per gross residential acre. When residential uses are mixed with office uses, the overall scale and intensity shall be no greater than that which would be approved if the parcel was a parcel in either office only or residential use only, whichever is higher. Within the OR category, retail and service uses designed to primarily serve on-site businesses and residents may be integrated within a project in an amount not to exceed 10 percent of the total floor area.

Building height is limited to no more than eight (8) stories and landscaped open space must comprise a minimum of 15% of a project site. Floor area ratio (FAR) is limited to 0.5 for the first floor and 0.25 for every additional floor, exclusive of structured parking.

| INDUSTRIAL

This category allows industries, manufacturing operations, warehouses, mini-warehouses, office buildings, flex space showrooms with attached distribution/storage building areas, distribution centers, merchandise marts, public facilities, hospitals, medical buildings, hotels, convention facilities, restaurants, banks, university and college facilities and hotels. No rock quarrying or ancillary uses, amusement centers, entertainment, health/exercise and sport facilities are allowed in Industrial. Within this category, retail and service uses may be integrated within a project (land under unified control) in an amount not to exceed 15 percent of the total floor area. Building height is limited to the width of the public right-of-way fronting the subject property and landscaped open space must comprise a minimum of 15% of a project site. Floor area ratio (FAR) is limited to 0.5 for the first floor and 0.25 for every additional floor, exclusive of structured parking.

The adaptive reuse of existing buildings is encouraged in this category within the “Downtown Doral Art District” area bounded by NW 58th Street on the north, NW 54th Street on the South, NW 79th Avenue on the east, NW 87th Avenue on the west; that retail and service uses shall be permitted up to 100 percent of the total floor area and farmers market, food halls, entertainment, health/exercise and small scale recreational indoor/outdoor sports facilities are allowed in this area. Where landscaped open space or floor area ratio is nonconforming to the requirements of the Future Land Use Element or the City’s Land Development Code, the adaptive reuse of an existing building shall not require the provisions of additional landscaped open space or decrease in floor area ratio. The Installation of on-street parking and sidewalks shall be encouraged to the greatest extent possible or as required by Public Works in connection with any adaptive reuse of existing buildings within the district.



2. FUTURE LAND USE |

| RESTRICTED INDUSTRIAL (RI)

Areas designated “RI” are parcels where the range of uses and design of facilities are governed by special groundwater protection regulations. This category primarily affects wellfield protection areas designated in Chapter 24-43(5) of the Miami-Dade County Code, as amended. Building height is limited to no more than four (4) stories and landscaped open space must comprise a minimum of 15% of a project site. Floor area ratio (FAR) is limited to 0.5 for the first floor and 0.25 for every additional floor, exclusive of structured parking.

| INSTITUTIONAL AND PUBLIC FACILITY (IPF)

The IPF category allows major community institutional uses, public facilities and utilities, including hospitals, non-profit medical facilities, universities and colleges, regional water-supply, wastewater and solid waste utility facilities, religious institutions, governmental offices and facilities, public schools, police and fire stations and libraries. Building height in the IPF category is limited to no more than six (6) stories and landscaped open space must comprise a minimum of 15% of a project site. Floor area ratio (FAR) is limited to 0.5 for the first floor and 0.25 for every additional floor, exclusive of structured parking.

Public and non-profit institutional projects greater than 10 acres in size, located in a self-contained, master-planned setting may include adult living facilities for the elderly as an accessory use not to exceed 25% of the gross area of the project site.

| PUBLIC PARKS AND RECREATION (PPR)

This land use category includes all public parks, developed (with recreational facilities) and undeveloped. Related and ancillary facilities are also allowed such as community centers, typical public recreational facilities, meeting rooms and office/storage space for parks administration and operation. Certain commercial activities ancillary to recreational uses and related to the resources of the park, such as boat supply stores, fuel docks, or tennis and golf clubhouses are also permitted. Other commercial recreation, entertainment or cultural uses may also be considered for approval in the PPR category if they would enhance the quality,

utility or enjoyment of the site and its natural, historical or archeological resources and facilities. The floor area ratio for ancillary commercial, administrative, recreation, cultural and entertainment buildings shall not exceed 0.2.

| PRIVATE PARKS AND OPEN SPACE (PPOS)

The PPOS category identifies private parks and open space areas, including private membership golf courses, cemeteries, and golf-oriented resorts. Privately owned golf courses open to the public are also contained in this category. Golf courses are allowed to have ancillary uses such as clubhouses, pro shops, other recreational facilities, administrative offices, maintenance facilities, meeting rooms, lounge, small gift shop, private restaurant (owner-operated only) and ballrooms. Golf-oriented resorts in this category may also include hospitality facilities reasonably related to the resort use such as health spas and hotel rooms. The floor area ratio for ancillary uses and hospitality facilities shall not exceed 0.25.

| ENVIRONMENTALLY-PROTECTED PARKS (EPP)

This category includes existing lands that are environmentally sensitive and/or exhibit unique archeological features. All EPP areas shall be managed consistent with the goals, objectives and policies for development of the applicable environmental resources or protection area. Accordingly, resource-enhancing facilities including boardwalks, nature trails, canoe trails and launches, and interpretive facilities may be provided in these areas. The floor area ratio for incidental uses shall not exceed 0.1.

| WATER BODIES

Water bodies depicted on the FLUM are not intended for any land use and are not counted toward gross density determinations for adjacent land areas unless they are inland waters wholly owned by the applicant.

| REGIONAL ACTIVITY CENTER (RAC)

The Foreign Trade Zone (FTZ) site located at the southeast corner of NW 25th St. and NW 107th Av. and certain lands



2. FUTURE LAND USE |

located in Section 8 (Township 53 South, Range 40 East), as depicted on the adopted FLUM, are hereby designated as “Chapter 380 Regional Activity Centers” pursuant to Chapter 28- 24.014(10)(b)2, Florida Administrative Code

| URBAN CENTRAL BUSINESS DISTRICT (UCBD)

The downtown core area roughly 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 RyderShoma site on Doral Boulevard west of NW 82nd Avenue, and the 200-acre Downtown Doral South (formerly known as Doral Resort) site located east of NW 87th Avenue between NW 48th Street and NW 41st Street, and west of NW 82nd Avenue between NW 48th Street and Doral Boulevard (NW 36/41 Street), as depicted on the adopted FLUM, is hereby designated as “Urban Central Business District” pursuant to Chapter 28-24.014(10)(b)1, Florida Administrative Code.

| DORAL DÉCOR DISTRICT (DDD)

This land use category establishes the core area of the Doral Decor District based on that envisioned in the Doral Design District Master Plan (2010). The Décor District boundary is depicted in the Future Land Use map. The DDD category allows light industrial uses, manufacturing, warehouses,

mini-warehouses, offices, showrooms, distribution centers, merchandise marts, banks, tangible sales, utility maintenance yards, utility plants, public facilities, hospitals, medical uses, hotels, convention facilities, restaurants, cultural facilities, entertainment venues and similar uses. No rock quarrying or its ancillary uses are allowed. Residential uses such as live/work and multi-family are permitted but are limited by the District-wide maximum of 5 units per gross acre and are required to be located in a building mixed with non-residential uses. The total number of units permitted in this Future Land Use Category is 925 dwelling units. The number of units permitted per project shall be drawn down from this number on a case-by-case basis, determined by criteria established in the Land Development Code. The maximum floor area ratio (FAR) is 4.75. Structured parking shall not be counted towards the floor area ratio.

| LAND USE SUPPLY AND DEMAND ANALYSIS

This report evaluates the City of Doral’s residential capacity and household size data (Tables 1-5 through 1-8) to confirm whether the City’s Future Land Use (FLU) designations are adequate to accommodate projected long-term population growth. The analysis relies on data from the U.S. Census Bureau’s American Community Survey (ACS) 5-Year Estimates (2023).

| TABLE 2-5: RESIDENTIAL CAPACITY ANALYSIS

FLU CATEGORY	ACRES	MAX. DU/AC	BASE DWELLING UNITS
Estate Density Residential	1,104.52	6	6,627
Low Density Residential	885.01	10	8,850
Office and Residential (OR)	304.33	16	4,869
Traditional Neighborhood Development	115.5	18	2,079
Moderate Density Residential	376.19	13	4,890
Medium Density Residential	252.2	19	4,792
High Density Residential	142.24	25	3,556
Community Mixed-Use	304.39	25	7,610
Downtown Mixed-Use	419.54	35	14,684
Doral Décor District	241.89	-	925
Total Dwelling Unit Capacity	-	-	58,882



2. FUTURE LAND USE

TABLE 2-6: HOUSEHOLD SIZES

JURISDICTION	AVERAGE HOUSEHOLD SIZE
City of Doral	3.04
Miami-Dade County	2.88

TABLE 2-7: ESTIMATED POPULATION BY CAPACITY SCENARIO

JURISDICTION	AVERAGE HOUSEHOLD SIZE	POPULATION CAPACITY (58,882 DU)
City of Doral	3.04	179,003
Miami-Dade County	2.88	169,581

Source: ACS 5-Year (2023) Estimates Data Profiles, Table DP04, U.S. Census Bureau.

TABLE 2-8: SUMMARY OF FUTURE LAND USE DESIGNATIONS AND EXISTING RESIDENTIAL LAND USE

DESCRIPTION	TOTAL RESIDENTIAL ACREAGE	DEVELOPED RESIDENTIAL ACREAGE	REMAINING RESIDENTIAL ACREAGE	ESTIMATED UNITS BUILT (EXISTING LU × MAX DU/AC)	TOTAL PLANNED CAPACITY (DU)
All Residential FLU Categories (combined)	4,145.81 acres	2,608 acres	1,537.81 acres	41,766 units (approx.)	58,882 units

The City's FLU provides a total capacity of approximately 58,882 dwelling units, corresponding to a population capacity of up to 179,003 residents when using Doral's average household size of 3.04 persons per household, or 169,581 residents when using Miami-Dade County's average household size of 2.88 persons per household. For consistency with local conditions, calculations in this report primarily use Doral's household size of 3.04 persons per household when estimating total buildout capacity.

Population projections indicate growth from 75,874 residents in 2020 to 138,904 by 2050, as indicated in Table 1-3. Even applying a conservative planning assumption of 2.70 persons per household, the FLU supports a buildout population of approximately 158,981 residents, which exceeds the projected 2050 population.

At present, approximately 2,608 of the 4,145.81 acres designated for residential use are developed, leaving about 37 percent of residential land available for future growth. Although inconsistencies between FLU categories and existing land use classifications limit the precision of category-specific comparisons, the aggregate findings clearly demonstrate that the City has substantial remaining residential capacity within its adopted land use designations.

This analysis confirms that the City of Doral's current Future Land Use framework fully supports anticipated population growth through 2050. The City's residential land use capacity remains well above projected demand, ensuring that future housing needs can be met within the existing comprehensive planning structure.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

3. TRANSPORTATION

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

EXISTING TRANSPORTATION CONDITIONS

EXISTING TRANSPORTATION SYSTEM OVERVIEW

Purpose

Local governments with jurisdiction within an urbanized area served by a metropolitan planning organization are required to prepare and adopt a Transportation Element consistent with Chapter 163, Part III, Florida Statutes. The City of Doral, located within the Miami-Dade County Transportation Planning Organization (TPO) planning area, which serves as the federally designated metropolitan planning organization for Miami-Dade County, has prepared this Transportation Element to guide the development and coordination of a safe, efficient, and multimodal transportation system.

The Transportation Element provides the policy framework for planning, operating, and maintaining transportation facilities and services within the City. It is supported by a comprehensive Data, Inventory, and Analysis (DIA) that evaluates existing transportation conditions, identifies system deficiencies, examines growth trends and travel patterns, and projects future transportation needs. The analysis considers the ability of the transportation system to serve existing and planned land uses, support emergency evacuation and hurricane preparedness, and accommodate future population and employment growth.

This Element uses short- and long-range planning horizons of 2036 and 2050, consistent with the Miami-Dade County TPO Long Range Transportation Plan. The Transportation Element establishes goals, objectives, and policies that:

-  Provide for a safe, convenient, energy-efficient, and multimodal transportation system;
-  Coordinate transportation planning with the Future Land Use Map to ensure consistency with existing and proposed population densities, housing patterns, employment centers, and land uses;

-  Ensure coordination with the plans and programs of the Miami-Dade County Transportation Planning Organization, Miami-Dade County Department of Transportation and Public Works, the Florida Department of Transportation, and the Florida Transportation Plan;

-  Address the provision of efficient public transit services based on existing and planned trip generators and attractors, including accommodations for the transportation disadvantaged, elderly, and persons with special needs;

-  Protect existing and future transportation rights-of-way from encroachment; and

-  Support hurricane preparedness, emergency evacuation, and post-disaster mobility.

The Transportation Element is organized around objectives addressing levels of service and mobility performance, alternative transportation modes, pedestrian and bicycle networks, coordination with land use and adjacent jurisdictions, growth management, capital improvements programming, and transportation financing. Together with the other elements of the City of Doral Comprehensive Plan, most notably the Future Land Use Element, this Element establishes an integrated framework for long-term transportation planning and investment.

Population Characteristics

The City of Doral has an estimated population of approximately 83,746 residents with an average household size of 3.07 persons and a median age of 37.2 years, reflecting a predominantly working-age population with a high share of family households. Approximately 45.4 percent of households include children and 18.5 percent of residents are age 65 or older, indicating daily transportation demand associated with commuting, school trips, and access to services for older adults.

Vehicle ownership averages 1.8 vehicles per household, demonstrating continued dependence on personal



automobiles. Although household incomes exceed county averages, 36.2 percent of households are cost burdened, reinforcing the importance of transportation affordability and access to employment and services. These characteristics support the need for a multimodal system capable of serving commuters, students, and residents with limited transportation options.

Ability of Transportation Facilities to Serve Existing Land Uses

Doral functions as a regional employment center with approximately 86,878 workers, significantly exceeding the resident workforce. The roadway network therefore primarily serves commuter and freight mobility associated with office, industrial, and commercial land uses. Travel patterns remain auto-oriented, with approximately 67.3 percent of commuters driving alone and only 4-5 percent using transit, walking, or bicycling combined. Average commute time is 25.1 minutes, slightly lower than the countywide average, indicating reasonable regional accessibility but reliance on roadway capacity.

Transit service is available through Miami-Dade County routes, the Tri-Rail Doral Shuttle, and the City's community shuttle system connecting residential areas to employment centers, commercial areas, and regional transit stations. However, multimodal performance remains limited, with WalkScore indicators of approximately 35 (transit), 53 (bicycle), and 39 (walkability). Overall, the transportation network effectively supports regional commuting and goods movement but provides more limited support for internal circulation by non-automobile modes between residential and employment areas.

Growth Trends, Travel Patterns, and Land Use-Transportation Interaction

Commuting patterns confirm Doral's role as a regional job center:

- ☀ 81,576 workers commute into the City
- ☀ 26,413 residents commute out of the City

- ☀ Only 7,011 workers live and work within Doral

This imbalance produces pronounced peak-hour traffic volumes on major corridors and highlights the strong interaction between concentrated employment land uses and regional travel demand.

Housing costs contribute to longer commute distances, increasing inbound daily traffic and regional roadway demand. Households spend approximately 34 percent of income on transportation, further emphasizing the importance of improving proximity between housing and employment and expanding mobility options. Existing development patterns generate primarily regional commuting rather than local internal trips. As the City grows toward the 2036 and 2050 planning horizons, improving multimodal connectivity and coordinating land use intensity with transportation capacity will be critical to managing congestion and maintaining mobility.

ROADWAY NETWORK AND LEVEL OF SERVICE

Functional Classification and Capacity

The functional classification of roadways is a framework used to organize the street and highway network based on the character of travel service each facility is intended to provide. Functional classification is a cooperative process conducted by the Florida Department of Transportation (FDOT) in coordination with local agencies and the Miami-Dade County Transportation Planning Organization (TPO), and it aligns with national standards adopted by the Federal Highway Administration (FHWA). This system is routinely reviewed and updated as part of the Urban Area Boundary and Functional Classification update process. Functional classification helps distinguish between roadways that primarily provide mobility (movement of people and goods) and those that primarily provide access (entry and exit to adjacent land uses). Roadways are assigned to categories based on their role in the overall network, typical traffic volumes and speeds, connectivity objectives, and the surrounding land use context.



3. TRANSPORTATION

The major thoroughfare network described here accommodates not only local and City mobility needs but also supports the broader regional transportation system as defined by the Miami-Dade TPO and FDOT. Principal and minor arterials within Doral connect to state and interstate facilities, facilitating movement throughout the urbanized area, while collectors and local streets provide crucial connections to neighborhood destinations and support local land use patterns.

The major functional classification categories used in this Transportation Element are:

☀ **Interstate, Expressway, and Ramps**

Principal arterials are the highest order of the roadway network within the urban transportation system. They serve major activity centers, accommodate high traffic volumes, and provide regional connectivity. These facilities typically support longer trip lengths and higher operating speeds, with limited direct land access in order to preserve mobility. Interstate highways, freeways, and other limited access facilities are examples of principal arterials. Within the City of Doral and the surrounding area, this includes facilities such as SR 836 (Dolphin Expressway), SR 826 (Palmetto Expressway), and SR 821 (Florida's Turnpike), which are classified as freeways under the FDOT functional classification system.

☀ SR 836 (Dolphin Expressway)

☀ SR 826 (Palmetto Expressway)

☀ SR 821 (Florida's Turnpike)

☀ **Major and Minor Arterials**

Minor arterials provide connectivity between principal arterials and between local streets, and they carry moderate traffic volumes over moderate distances. They balance mobility and access, often serving as connectors between communities, commercial corridors, and local activity centers. Minor arterials

accommodate local bus routes and play an important role in the urban multimodal system, facilitating travel within and between neighborhoods without penetrating directly into low-traffic residential streets.

☀ NW 58 Street

☀ NW 41 Street / NW 36 Street

☀ NW 25 Street

☀ NW 12 Street

☀ NW 107 Avenue

☀ **Major and Minor Collectors**

Collector streets serve to distribute traffic between local streets and the arterial network. Collectors provide access within residential neighborhoods, commercial areas, and industrial zones, while also channeling traffic from local streets to higher-order arterials. These facilities typically have moderate traffic volumes and operate at lower speeds than arterials. In urbanized areas such as Doral, collectors also play a role in accommodating neighborhood access and supporting local transit circulation.

☀ NW 97 Avenue

☀ NW 79 Avenue

☀ **Local Streets**

Local streets are the lowest tier of the functional classification hierarchy. They provide direct access to residential, commercial, and other abutting land uses and are not intended for through traffic. Local streets serve short trip lengths at low operating speeds and generally support low traffic volumes. These facilities are not the focus of this Transportation Element's major thoroughfare network table but are referenced for context and connectivity analysis.



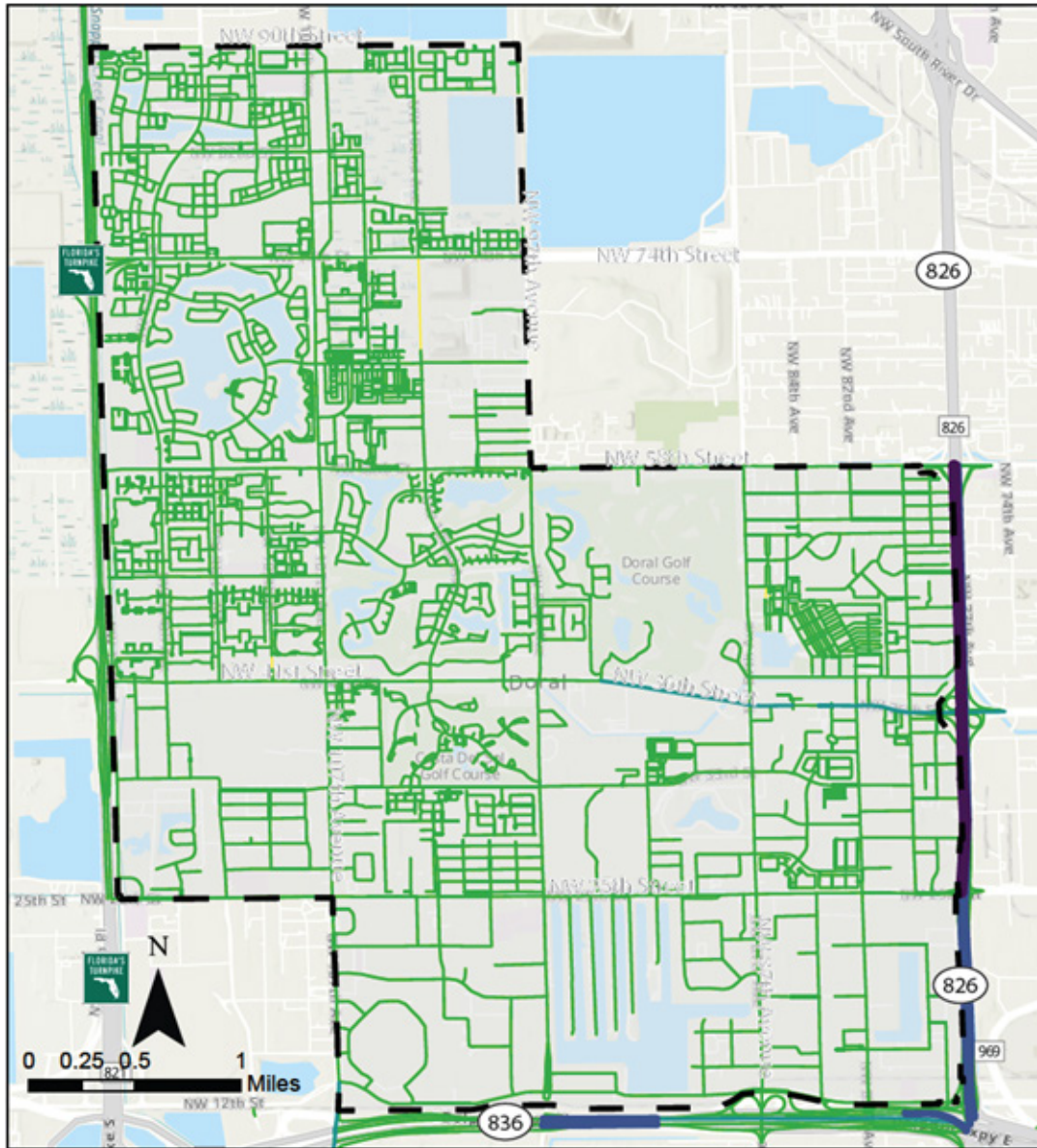
— Interstate & Ramps — Minor Arterial — Local
— Expressway — Major Collector Doral Limits
— Other Principal Arterial — Minor Collector



3. TRANSPORTATION



MAP 3-2: NUMBER OF LANES



Legend
Number of Lanes

- | | | |
|-----------|-----------|--------------|
| 5-6 Lanes | 3 Lanes | No Data |
| 4 Lanes | 1-2 Lanes | Doral Limits |



Source: Florida Department of Transportation (FDOT) Number of Lanes, 2025.



Existing Roadway Levels of Service

Automobile level of service is evaluated based on roadway operating conditions and is generally expressed in terms of the relationship between traffic demand and roadway capacity. LOS provides an indication of travel speeds, delay, maneuverability, and overall driving comfort experienced by motorists.

LOS is typically described using a scale ranging from LOS A through LOS F, with LOS A representing free-flow conditions and LOS F representing highly congested conditions where demand exceeds capacity. These measures are used by FDOT, the Miami-Dade County TPO, and local jurisdictions to evaluate roadway performance, identify deficiencies, and inform transportation planning and capital improvement decisions.

In general terms:

- LOS A represents free-flow conditions with high travel speeds, minimal delay, and unrestricted maneuverability.
- LOS B represents stable traffic flow with slight

restrictions on maneuverability and minimal delays.

- LOS C represents stable traffic flow with noticeable constraints on speed and maneuverability and is commonly considered an acceptable operating condition in urban areas.
- LOS D represents traffic flow approaching unstable conditions, with reduced speeds, increased delays, and limited maneuverability.
- LOS E represents operating conditions at or near roadway capacity, characterized by low speeds, significant delays, and little flexibility for drivers.
- LOS F represents congested conditions where traffic demand exceeds roadway capacity, resulting in stop-and-go traffic and substantial delays.

Automobile LOS standards applicable to state and county roadways within the City are established in coordination with FDOT and Miami-Dade County and are applied consistent with adopted concurrency and mobility policies.

TABLE 3-1: AVERAGE TRAVEL SPEED CRITERIA

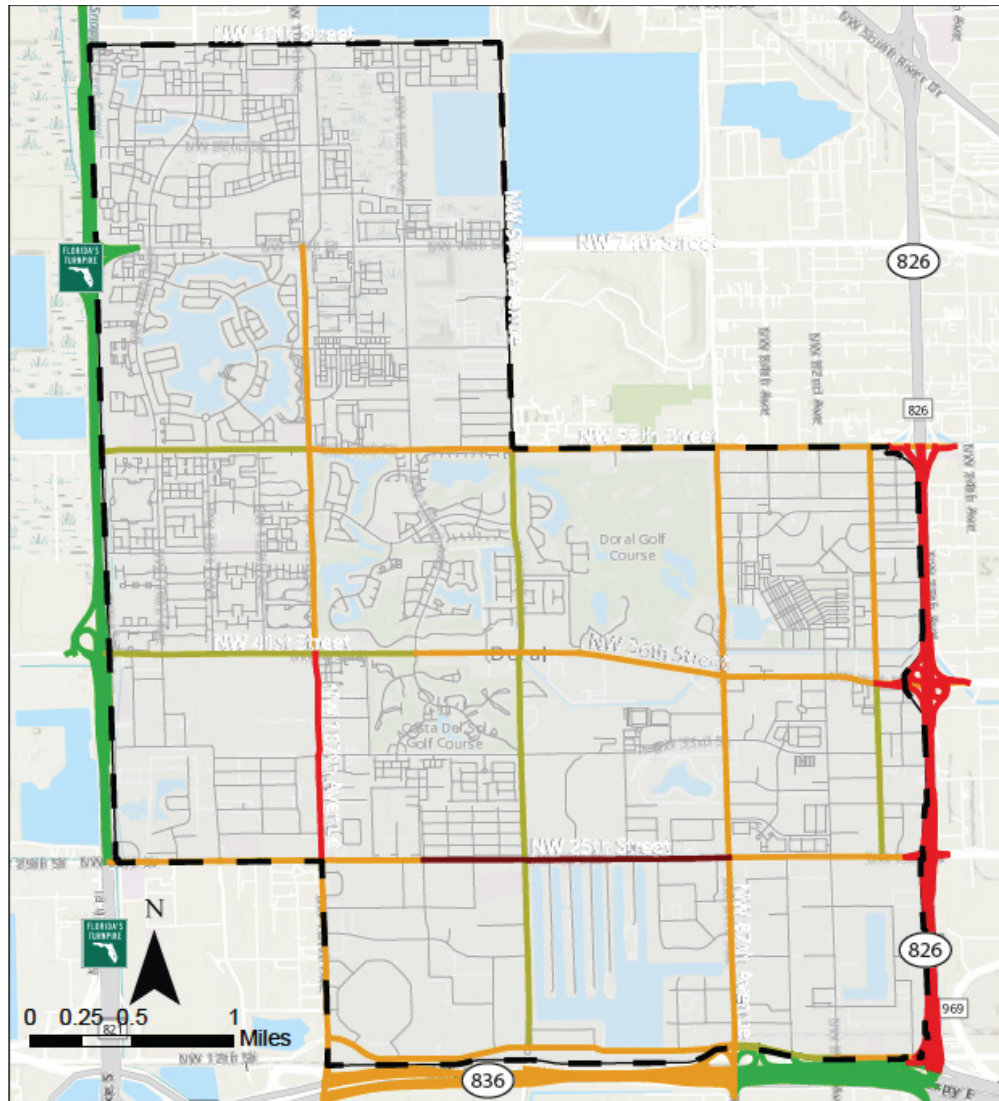
AVERAGE TRAVEL SPEEDS				
URBAN STREET CLASS	I	II	III	IV
Range of free-flow speeds (FFS)	55-45 MPH	45-35 MPH	35-30 MPH	35-25 MPH
Typical FFS	50 MPH	40 MPH	35 MPH	30 MPH
LOS	AVERAGE TRAVEL SPEED (MPH)			
A	>42	>35	>30	>25
B	>34-42	>28-35	>24-30	>19-25
C	>27-34	>22-28	>18-24	>13-19
D	>21-27	>17-22	>14-18	>9-13
E	>16-21	>13-17	>10-14	>7-9
F	≤16	≤13	≤10	≤7



3. TRANSPORTATION



MAP 3-3: EXISTING LEVEL-OF-SERVICE (2024)



Legend

- | | | |
|---|---|---|
| — B | — D | — F |
| — C | — E | - - - Doral Limits |



Source: * Context Classification was obtained from Doral's Transportation Master Plan.

** From FDOT Traffic Online Web-based mapping application reports . *** From 2024 AADT converted into peak hour directional based on AADT Report D and K Factors. **** Using FDOT Traffic Trends Analysis Tool to develop a historical trend analysis calculating a compound annual historic growth rate by examining linear, exponential, and decaying exponential growth rates for the last 10 years of available data. A growth rate was determined for collectors, arterials, and expressways, respectively.



3. TRANSPORTATION

TABLE 3-2: EXISTING LEVEL-OF-SERVICE (LOS)

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	Number of Lanes	Existing Context Classification (2024) *	2024 AADT **	2024 Volume (Peak Hour/ Peak Direction) ***	Base Capacity	Adjusted Peak Hour/Peak Direction Base Capacity	2024 V/C Ratio	Current LOS
	From	To									
SR 836 Dolphin Expressway	Western City Limits/ NW 107 Ave	NW 87 Ave/ Galloway Road	Freeway Core Urbanized	8L-D	Core Urbanized	149301	8412	7700	8700	0.97	D
SR 836 Dolphin Expressway	NW 87 Ave/ Galloway Road	SR 826 Palmetto Express	Freeway Core Urbanized	8L-D	Core Urbanized	86500	4873	4340	5340	0.91	B
SR 826 Palmetto Expressway	NW 58 Street/ Northern City Limits	NW 36 Street	Freeway Core Urbanized	12L-D	Core Urbanized	287000	13147	12760	14448	0.91	E
SR 826 Palmetto Expressway	NW 36 Street	NW 25 Street	Freeway Core Urbanized	12L-D	Core Urbanized	280000	12827	12760	14448	0.89	E
SR 826 Palmetto Expressway	NW 25 Street	SR 836/Dolphin Expressway Southern City Limits	Freeway Core Urbanized	12L-D	Core Urbanized	256000	11727	12760	14448	0.81	E
SR 821 FL Turnpike	NW 90 St/ Northern City Limits	NW 74 Street	Freeway Core Urbanized	12L-D	Core Urbanized	119800	6070	6630	6630	0.92	B
SR 821 FL Turnpike	NW 74 Street	NW 41 Street	Freeway Core Urbanized	12L-D	Core Urbanized	137101	6379	6630	6630	0.96	B
SR 821 FL Turnpike	NW 41 Street	NW 25 Street / City Limits	Freeway Core Urbanized	12L-D	Core Urbanized	137101	6379	6630	6630	0.96	B



3. TRANSPORTATION

Table Continued

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	Number of Lanes	Existing Context Classification (2024) *	2024 AADT **	2024 Volume (Peak Hour/ Peak Direction) ***	Base Capacity	Adjusted Peak Hour/Peak Direction Base Capacity	2024 V/C Ratio	Current LOS
	From	To									
NW 58 Street	NW 117 Ave	NW 107 Ave	Non-State Collector C4	4LD	C4	13500	667	1210	1089	0.61	C
NW 58 Street	NW 107 Ave	NW 97 Ave	Non-State Arterial C4	4LD	C4	26500	1257	1790	1611	0.78	D
NW 58 Street	NW 97 Ave	NW 87 Ave	Non-State Arterial C4	4LU	C4	29500	1458	1790	1530.45	0.95	D
NW 58 Street	NW 87 Ave	SR 826 Palmetto Express	Non-State Arterial C4	4LU	C4	28500	1352	1790	1530	0.88	D
NW 41 Street	FL's Turnpike / NW 117 Ave	NW 107 Ave	Non-State Arterial C4	6LD	C3C	40500	2001	2360	2360	0.85	C
NW 41 Street	NW 107 Ave	NW 102 Ave	Non-State Arterial C4	6LD	C3C	43000	2125	2360	2360	0.90	C
NW 41 Street	NW 102 Ave	NW 93 Ct	Non-State Arterial C4	6LD	C4	47000	2229	2810	2529	0.88	D
NW 36 Street	NW 93 Ct	SR 826 Palmetto Express	Non-State Arterial C4	6LD	C4	44000	2174	2810	2655	0.82	D
NW 25 Street	NW 117 Ave	NW 112 Ave	Non-State Arterial C4	4LD	C4	27000	1334	1790	1611	0.83	D
NW 25 Street	NW 112 Ave	NW 102 Ave	Non-State Arterial C4	4LU	C4	27000	1281	1790	1530	0.84	D
NW 25 Street	NW 102 Ave	NW 87 Ave	Non-State Arterial C4	4LU	C4	37500	1779	2020	1727	1.03	E
NW 25 Street	NW 87 Ave	SR 826 Palmetto Express	Non-State Arterial C4	6LD	C4	41000	2026	2810	2655	0.76	D



3. TRANSPORTATION

Table Continued

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	Number of Lanes	Existing Context Classification (2024) *	2024 AADT **	2024 Volume (Peak Hour/ Peak Direction) ***	Base Capacity	Adjusted Peak Hour/Peak Direction Base Capacity	2024 V/C Ratio	Current LOS
	From	To									
NW 12 Street	NW 107 Ave	NW 97 Ave	Non-State Arterial C4	4LD	C4	27000	1281	1790	1611	0.80	D
NW 12 Street	NW 97 Ave	NW 87 Ave	Non-State Arterial C4	4LU	C4	31500	1494	1790	1530	0.98	D
NW 12 Street	NW 87 Ave	NW 82 Ave	Non-State Arterial C4	6LD	C4	28000	1383	2210	1989	0.70	C
NW 12 Street	NW 82 Ave	City Limits	Non-State Arterial C4	4LD	C4	26000	1285	1790	1611	0.80	D
NW 107 Avenue	NW 74 Street	NW 58 Street	Non-State Arterial C3C	4LD	C3C	31000	1532	1810	1810	0.85	D
NW 107 Avenue	NW 58 Street	NW 41 Street	Non-State Arterial C3C	4LD	C3C	30000	1482	1810	1810	0.82	D
NW 107 Avenue	NW 41 Street	NW 25 Street	Non-State Arterial C4	4LD	C4	33500	1655	2020	1818	0.91	E
NW 107 Avenue	NW 25 Street	NW 12 Street	Non-State Arterial C4	6LD	C4	41500	2051	2810	2529	0.81	D
NW 97 Avenue	NW 58 Street/ Northern City Limits	NW 52 Street	Non-State Collector C3C	2LU	C3C	10800	534	760	760	0.70	C
NW 97 Avenue	NW 52 Street	NW 33 Street	Non-State Collector C3C	4LD	C3C	10800	534	1520	1520	0.35	C
NW 97 Avenue	NW 33 Street	NW 25 Street	Non-State Collector C3C	4LD	C3C	20200	958	1520	1520	0.63	C



3. TRANSPORTATION

Table Continued

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	Number of Lanes	Existing Context Classification (2024) *	2024 AADT **	2024 Volume (Peak Hour/ Peak Direction) ***	Base Capacity	Adjusted Peak Hour/Peak Direction Base Capacity	2024 V/C Ratio	Current LOS
	From	To									
NW 97 Avenue	NW 25 Street	NW 12 Street	Non-State Collector C3C	4LU	C4	20200	998	1210	1035	0.96	C
NW 87 Avenue	NW 58 Street/ Northern City Limits	NW 36 Street	Non-State Arterial C4	4LD	C4	29000	1375	1790	1692	0.81	D
NW 87 Avenue	NW 36 Street	NW 12 Street	Non-State Arterial C4	6LD	C4	41000	1945	2810	2655	0.73	D
NW 79 Avenue	NW 58 Street/ Northern City Limits	NW 36 Street	Non-State Collector C4	4LU	C4	22500	1112	1790	1530	0.73	D
NW 79 Avenue	NW 36 Street	NW 25 Street	Non-State Collector C5	4LU	C4	15500	766	1210	1035	0.74	C

Source: * Context Classification was obtained from Doral's Transportation Master Plan

** From FDOT Traffic Online Web-based mapping application reports . *** From 2024 AADT converted into peak hour directional based on AADT Report D and K Factors.

**** Using FDOT Traffic Trends Analysis Tool to develop a historical trend analysis calculating a compound annual historic growth rate by examining linear, exponential, and decaying exponential growth rates for the last 10 years of available data. A growth rate was determined for collectors, arterials, and expressways, respectively.



Methodology

The evaluation of existing roadway operating conditions is based on an analysis of automobile level of service (LOS) for major roadway segments within the City of Doral. The analysis was conducted for the 2024 peak hour and peak direction, consistent with methodologies applied by the Florida Department of Transportation (FDOT) and the Miami-Dade County Transportation Planning Organization (TPO). Roadway segments included in the analysis reflect the City's major thoroughfare network, including freeway facilities, non-state arterials, and collector roadways. Each segment was evaluated using FDOT functional classification, existing roadway geometry, traffic control characteristics, and urban context classification, consistent with current FDOT and TPO planning and modeling practices.

Analysis of Existing Level of Service Conditions (2024)

An evaluation of existing roadway operating conditions was conducted for major roadway segments within the City of Doral using 2024 traffic data. The analysis evaluates automobile level of service (LOS) during the peak hour and peak direction, consistent with FDOT procedures and the Miami-Dade County Transportation Planning Organization (TPO) regional modeling and analysis practices. The evaluation considers roadway functional classification, number of travel lanes, geometric and operational characteristics, and adjusted base capacities reflective of urbanized context conditions. Overall, the roadway network exhibits a range of operating conditions typical of a fully urbanized area, with most arterial and collector facilities operating at LOS C or LOS D. Freeway facilities operate under more constrained conditions due to high regional travel demand. One non-state arterial segment is identified as operating under deficient conditions, while several other corridors operate near capacity and warrant continued monitoring.

Principal Arterials

- * **SR 836 (Dolphin Expressway):** Segments of SR 836 operate at LOS B to LOS D, with volume-to-capacity (V/C) ratios ranging from approximately

0.91 to 0.97. The western segment between the City limits and NW 87 Avenue operates at LOS D, reflecting high commuter volumes and interchange influences. The eastern segment approaching SR 826 operates at LOS B, indicating comparatively stable flow conditions despite high traffic volumes.

- * **SR 826 (Palmetto Expressway):** All analyzed segments of SR 826 operate at LOS E, with V/C ratios ranging from approximately 0.81 to 0.91. These segments carry extremely high average annual daily traffic volumes, exceeding 250,000 vehicles per day in several locations. While constrained, these conditions are consistent with the function of SR 826 as a regional beltway facility and are addressed through regional and state transportation planning efforts.

- * **SR 821 (Florida's Turnpike):** Segments of Florida's Turnpike within the City operate at LOS B, with V/C ratios between 0.92 and 0.96. The facility's limited access design and controlled operations allow it to maintain stable operating conditions during peak periods despite high traffic demand.

Minor Arterials

- * **NW 58 Street:** NW 58 Street operates at LOS C to LOS D, with V/C ratios ranging from approximately 0.61 to 0.95. Operating conditions become more constrained toward the eastern segments near SR 826, reflecting increased traffic volumes and signalized intersection spacing.
- * **NW 41 Street / NW 36 Street:** Segments of NW 41 Street operate primarily at LOS C, transitioning to LOS D in more urbanized sections. The segment of NW 36 Street approaching SR 826 operates at LOS D, reflecting higher peak-hour demand and interchange-related traffic.
- * **NW 25 Street:** NW 25 Street exhibits the most constrained conditions among non-state arterial corridors. Most segments operate at LOS D;



however, the segment between NW 102 Avenue and NW 87 Avenue operates at LOS F, with a V/C ratio exceeding 1.00. This segment represents a localized roadway deficiency, indicating peak-hour traffic demand that exceeds available capacity.

- * **NW 12 Street:** NW 12 Street generally operates at LOS C to LOS D, with V/C ratios ranging from approximately 0.70 to 0.98. The segment between NW 97 Avenue and NW 87 Avenue operates near capacity and should be monitored, though it does not currently meet the threshold for deficiency.
- * **NW 107 Avenue:** Segments of NW 107 Avenue operate at LOS D to LOS E, particularly south of NW 41 Street where traffic volumes increase and the corridor transitions into a more urban context. These conditions are considered constrained but typical for a north-south arterial serving both local and regional travel.

Collectors

- * **NW 97 Avenue:** NW 97 Avenue operates predominantly at LOS C, with V/C ratios generally below 0.70. These conditions indicate stable operations consistent with its functional classification as a collector roadway.
- * **NW 79 Avenue:** NW 79 Avenue operates at LOS C to LOS D, with V/C ratios ranging from approximately 0.73 to 0.74, reflecting acceptable operating conditions for a collector facility in an urban environment.

Deficiencies and Constrained Conditions

Based on the 2024 level of service analysis, one roadway segment within the City is identified as operating at deficient conditions. NW 25 Street between NW 102 Avenue and NW 87 Avenue operates at LOS F, indicating peak-hour demand exceeding available roadway capacity. Several additional roadway segments operate near

capacity, including portions of SR 826, SR 836, NW 12 Street, and NW 107 Avenue. These constrained conditions are characteristic of a fully urbanized transportation system and are consistent with regional travel patterns identified by the Miami-Dade County Transportation Planning Organization. No other roadway segments are identified as deficient at this time.

Performance and Capacity Conditions

With the exception of one deficient non-state arterial segment, the City's roadway network generally operates at acceptable levels of service for an urbanized area. Congestion is primarily concentrated along major east-west corridors and near expressway interchanges serving regional travel demand. These findings support the need for continued coordination with FDOT and the Miami-Dade County TPO, as well as consideration of multimodal strategies, operational improvements, and targeted enhancements to address localized deficiencies and support future mobility.

TRANSIT SYSTEM

Public transit service within the City of Doral is provided through a combination of regional fixed-route bus service operated by Miami-Dade County Department of Transportation and Public Works (DTPW) and locally operated circulator service provided by the City of Doral Trolley system. Together, these services provide connections between residential neighborhoods, employment centers, regional transit corridors, Metrorail stations, and major activity centers throughout Miami-Dade County.

Existing Transit Services

1. Miami-Dade Transit Metrobus

Regional transit service within Doral is primarily provided by the following routes:

- * Route 36 / 36A – Doral – Airport - Miami Beach via NW 36 Street



- ☀ Route 95 / 95A / 95B – Express service toward Golden Glades Interchange and regional employment centers
- ☀ Route 132 – Tri-Rail Doral Shuttle connecting to regional commuter rail

These routes provide east-west connectivity along major arterial corridors and regional commuter access to employment areas including Miami International Airport, Downtown Miami, and Miami Beach.

2. Doral Trolley System

The City operates a local circulator trolley system intended to provide first- and last-mile connections to regional transit

and local destinations. The system includes:

- ☀ Route 1 – Crosstown Connector
- ☀ Route 2 – Commercial- Metrorail Connector
- ☀ Route 3 – Residential-Metrorail Connector
- ☀ Route 4 – FIU Connector

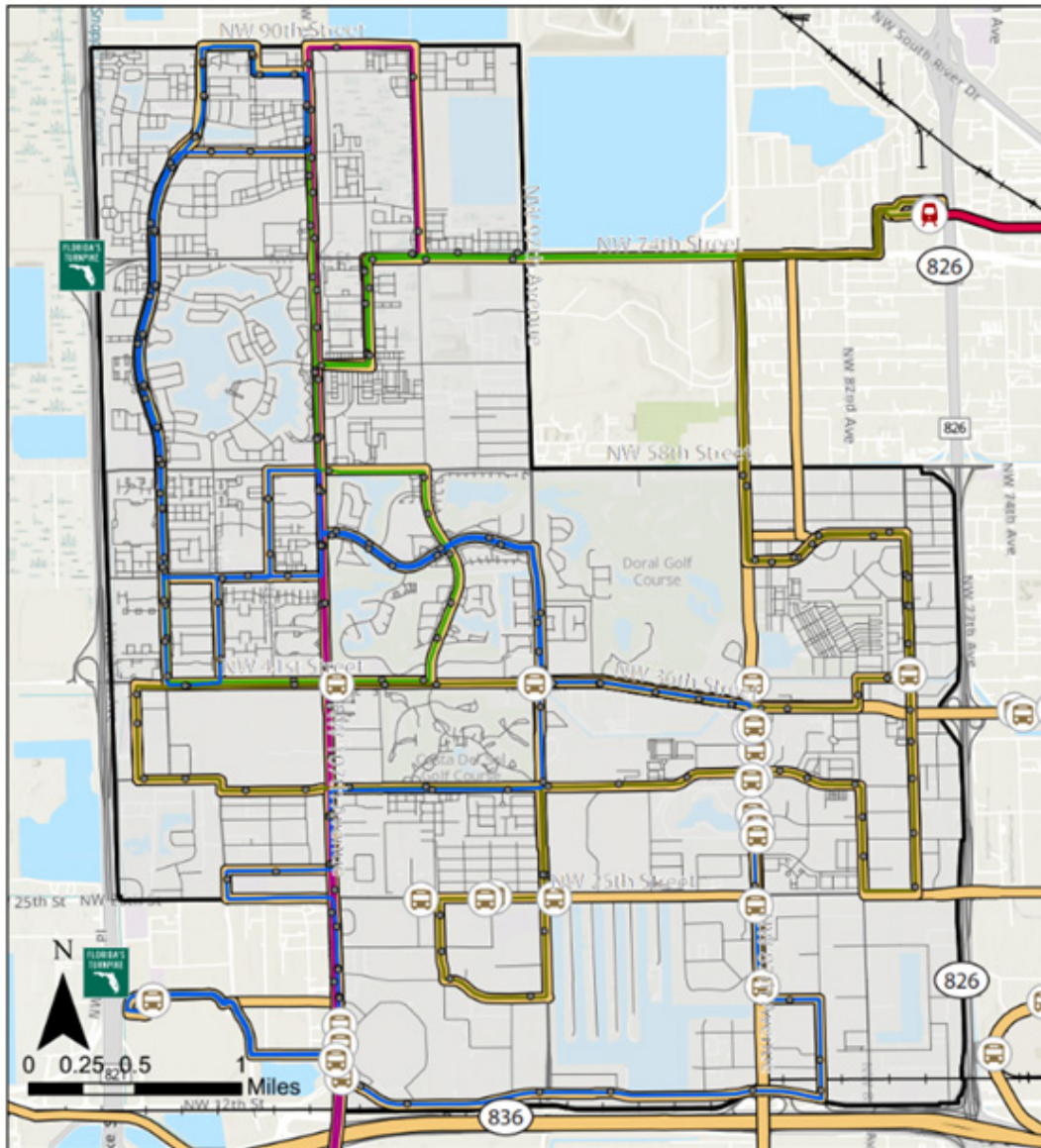
The trolley network links residential areas to major destinations including Palmetto Metrorail Station, Downtown Doral, Miami-Dade College West Campus, Florida International University Engineering Campus, retail centers, and major employment areas.



3. TRANSPORTATION



MAP 3-4: LOCAL TRANSIT ROUTES



Legend

- | | | | |
|-------------------|----------------|-----------------------|-----------------|
| — Trolley Route 1 | — FIU Trolley | — MDTA Bus Routes | — Rail Corridor |
| — Trolley Route 2 | ○ Trolley Stop | Ⓜ MetroRail Station | ▭ Doral Limits |
| — Trolley Route 3 | — MetroRail | Ⓜ Sheltered Bus Stops | |

Source: Miami-Dade County (MDC) County and Municipal Bus Stop, Bus Route, City of Doral Trolley, and Rail, 2025.



| Bicycle and Pedestrian Facilities

In addition to vehicular level of service (LOS), the City evaluates multimodal mobility through bicycle and pedestrian level of service measures, which assess user comfort, safety, and facility suitability for non-motorized travel. These measures consider roadway characteristics including traffic speed and volume, separation from vehicular traffic, crossing conditions, presence of sidewalks or bicycle facilities, and overall network continuity. The Miami-Dade County Transportation Planning Organization (TPO) conducts regional multimodal evaluations as part of the long-range transportation planning process. These analyses support regional goals to improve safety, accessibility, and connectivity for walking and bicycling and provide a basis for local mobility planning and capital improvements. Within Doral, bicycle and pedestrian LOS

information is used as a planning tool to identify gaps in connectivity, prioritize improvements, and support the development of a balanced multimodal transportation system.

| Bicycle Network

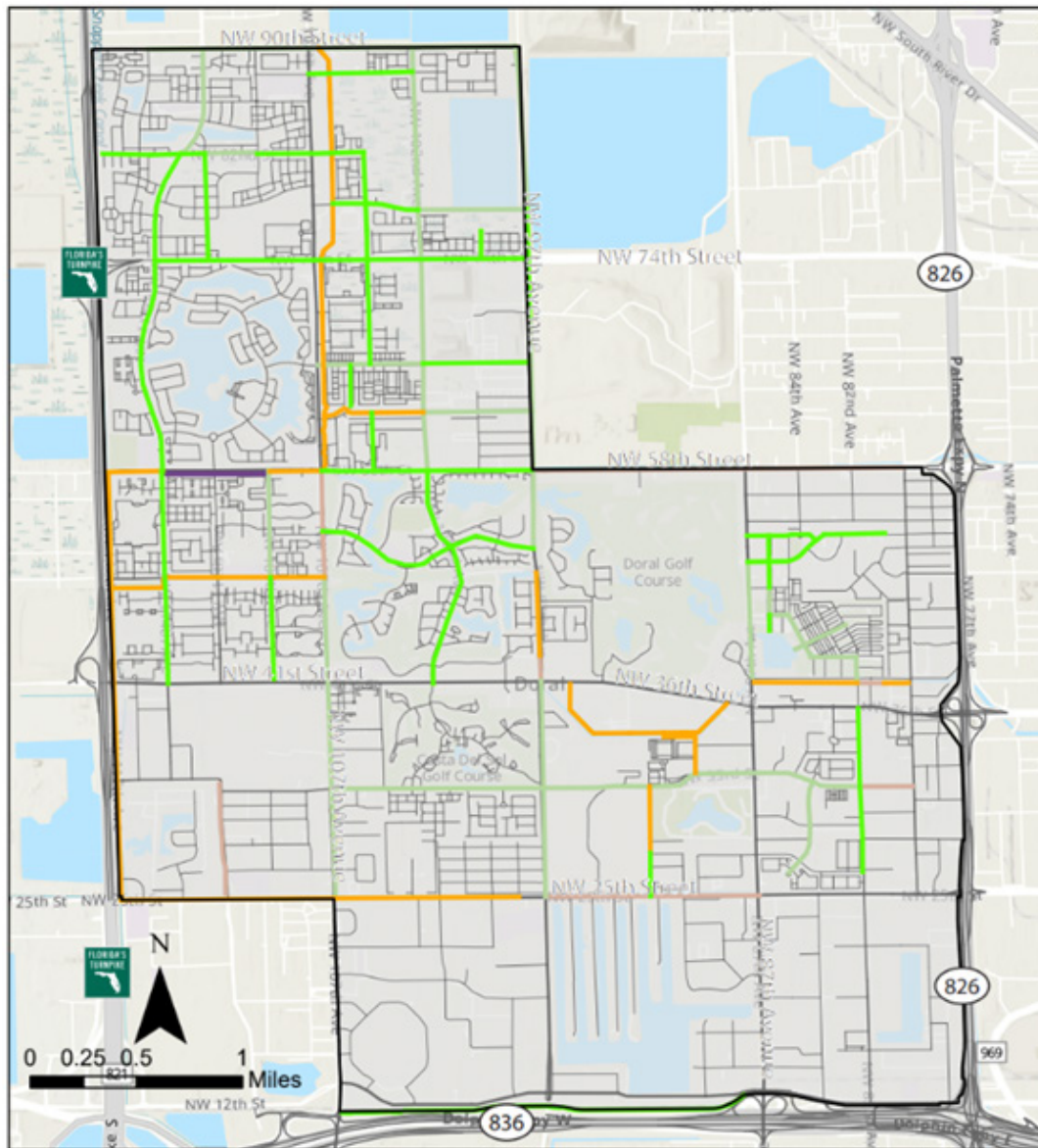
The City's bicycle network consists of a combination of on-street bicycle lanes and shared-use paths located along major corridors and local streets. As illustrated in the Existing Bicycle Facilities Map, bicycle facilities are concentrated along primary east-west and north-south corridors, with additional local connections providing access to parks, schools, and employment areas. Planned facilities are intended to improve continuity between currently disconnected segments and expand access across the City.



3. TRANSPORTATION



MAP 3-5: BICYCLE AND PEDESTRIAN FACILITIES



Legend

- Bicycle Lane - Completed
- Shared-Use Path - Completed
- Bicycle Lane - Planned
- Maintenance Path - Completed
- Doral Limits
- Shared-Use Path - Planned



Source: Miami-Dade County (MDC) Transportation Planning Organization (TPO) Bike Lane, Paved Path, Paved Shoulder, and Wide Curb Lane, 2025.



Bicycle Level of Service

The Miami-Dade TPO evaluates bicycle conditions on arterial and collector roadways using the Florida Department of Transportation Quality/Level of Service methodology. The bicycle LOS measures roadway suitability for bicyclists based on traffic conditions, roadway geometry, and separation from motor vehicles. The resulting numerical score is categorized into a level of service from A (most comfortable) to F (least comfortable).

Bicycle LOS is used to identify corridors where facility improvements, separation, or traffic calming may be appropriate to improve rider comfort and safety.

Pedestrian Network

Pedestrian facilities in Doral include sidewalks along collector and arterial roadways, internal neighborhood walkways, and shared-use paths connecting residential areas to commercial centers, parks, schools, and transit stops. The pedestrian system supports local circulation and access to transit services, particularly in mixed-use and higher density areas.

Pedestrian Level of Service

The Miami-Dade TPO also evaluates pedestrian conditions along arterial and collector roadways using FDOT

methodology. Pedestrian LOS considers factors such as lateral separation from traffic, vehicle speeds and volumes, driveway frequency, and roadway crossing conditions. Pedestrian LOS results help identify locations where crossing enhancements, sidewalks, buffering, or traffic calming improvements may be needed.

Sidewalk Coverage

Pedestrian facilities within the City of Doral are generally concentrated along major collector and arterial corridors, where continuous sidewalks provide primary access between residential neighborhoods, schools, parks, and commercial areas. Coverage is most complete along principal east-west corridors and within planned residential developments, where internal street networks include sidewalks on at least one side of the roadway. However, the network becomes less continuous along industrial and employment-oriented areas, where block lengths are longer and pedestrian accommodations are more limited. In these locations, sidewalks may be intermittent or located on only one side of the roadway, reducing overall walkability and increasing walking distances between destinations. Large roadway corridors and canal crossings also create barriers that limit pedestrian continuity and require travel to signalized intersections. Overall, while the City provides a functional sidewalk framework along primary travel corridors, gaps remain in older industrial areas and along certain collector streets, indicating opportunities for targeted infill connections.

TABLE 3-3: BICYCLE & PEDESTRIAN LEVEL OF SERVICE CLASSIFICATION

LOS	SCORE RANGE
A	≤ 1.5
B	1.5 - < 2.5
C	2.5 - < 3.5
D	3.5 - < 4.5
E	4.5 - < 5.5
F	≥ 5.5

Source: FDOT Quality/Level of Service Manual



Key Pedestrian Corridors

The pedestrian system is structured around several primary corridors that function as the backbone of non-motorized mobility within the City. These corridors generally coincide with major east-west roadways that connect residential neighborhoods to employment centers, parks, schools, and transit services. North-south connections provide access across neighborhoods and link to regional facilities and transit stops. Higher pedestrian activity is expected along corridors serving mixed-use development areas, civic facilities, and transit connections, where shorter block lengths and destination clustering support walking trips. Shared-use paths and internal neighborhood street networks provide secondary connections that distribute pedestrian movement into surrounding residential areas. These primary corridors therefore function as pedestrian mobility spines, while local streets operate as feeders providing neighborhood-level access.

Safety Considerations

Pedestrian safety conditions vary based on roadway classification and surrounding land use patterns. Arterial corridors with higher traffic volumes and speeds present the greatest challenges for pedestrian comfort, particularly where crossings are spaced far apart. Long block lengths, turning movements at major intersections, and limited midblock crossings may increase exposure time for pedestrians. In areas where sidewalks are located directly adjacent to travel lanes, limited buffering reduces perceived comfort compared to segments with landscaped separation. Industrial areas with frequent driveways and truck movements also present potential conflict points. Conversely, local residential streets and internal neighborhood connections provide more comfortable walking conditions due to lower speeds and traffic volumes. Future improvements that may enhance safety include additional crossing opportunities, enhanced pedestrian refuge areas, and expanded buffer separation along higher-volume corridors.

FREIGHT AND RAIL, AVIATION, AND EMERGENCY MANAGEMENT

Freight and Rail Facilities

The City of Doral plays an important role in regional goods movement within western Miami-Dade County due to its concentration of warehouse, distribution, airport-support, and light industrial land uses. Freight travel is primarily accommodated along high-capacity arterial corridors including NW 36 Street (SR 948/Doral Boulevard), NW 25 Street, NW 74 Street, NW 79 Avenue, and NW 107 Avenue, which provide direct connections to regional facilities such as SR 826 (Palmetto Expressway), the Florida Turnpike (SR 91), and SR 836 (Dolphin Expressway). These corridors support truck circulation between industrial districts, commercial centers, and the Miami International Airport cargo area while minimizing heavy vehicle traffic on local residential streets.

A freight rail corridor located along the northern portion of the City provides rail service to industrial and logistics uses and connects to the broader South Florida freight rail system. Industrial areas adjacent to this corridor and along NW 25 Street and NW 79 Avenue are positioned to accommodate truck-to-rail transfers and large-scale distribution activity.

Local industrial streets are designed to provide direct access to these arterials and expressways, supporting loading operations and heavy vehicle turning movements. The City coordinates with Miami-Dade County and the Florida Department of Transportation to maintain appropriate access management, turning radii, and signal operations along designated freight corridors to preserve roadway safety and operational efficiency.

Aviation Coordination

The City of Doral is located within the influence area of Miami International Airport (MIA). Accordingly, transportation and development activities must maintain compatibility with airport operations and navigable airspace. The City coordinates with the Miami-Dade Aviation Department (MDAD), the Federal Aviation Administration (FAA), and the



Florida Department of Transportation (FDOT) Aviation Office during development review and infrastructure planning. Proposed structures, roadway lighting, utilities, and construction equipment that may affect protected airspace are reviewed pursuant to 14 CFR Part 77, and applicants are required to obtain FAA determinations where applicable prior to approval. The City also considers potential aviation hazards, including glare, lighting interference, and wildlife attractants, when planning transportation improvements. This coordination ensures that transportation facilities and land development do not adversely affect airport operations while maintaining consistency with regional aviation safety requirements.

| Emergency Evacuation Network

The City of Doral is served by a network of regional transportation facilities designated to accommodate emergency evacuation during hurricane and disaster

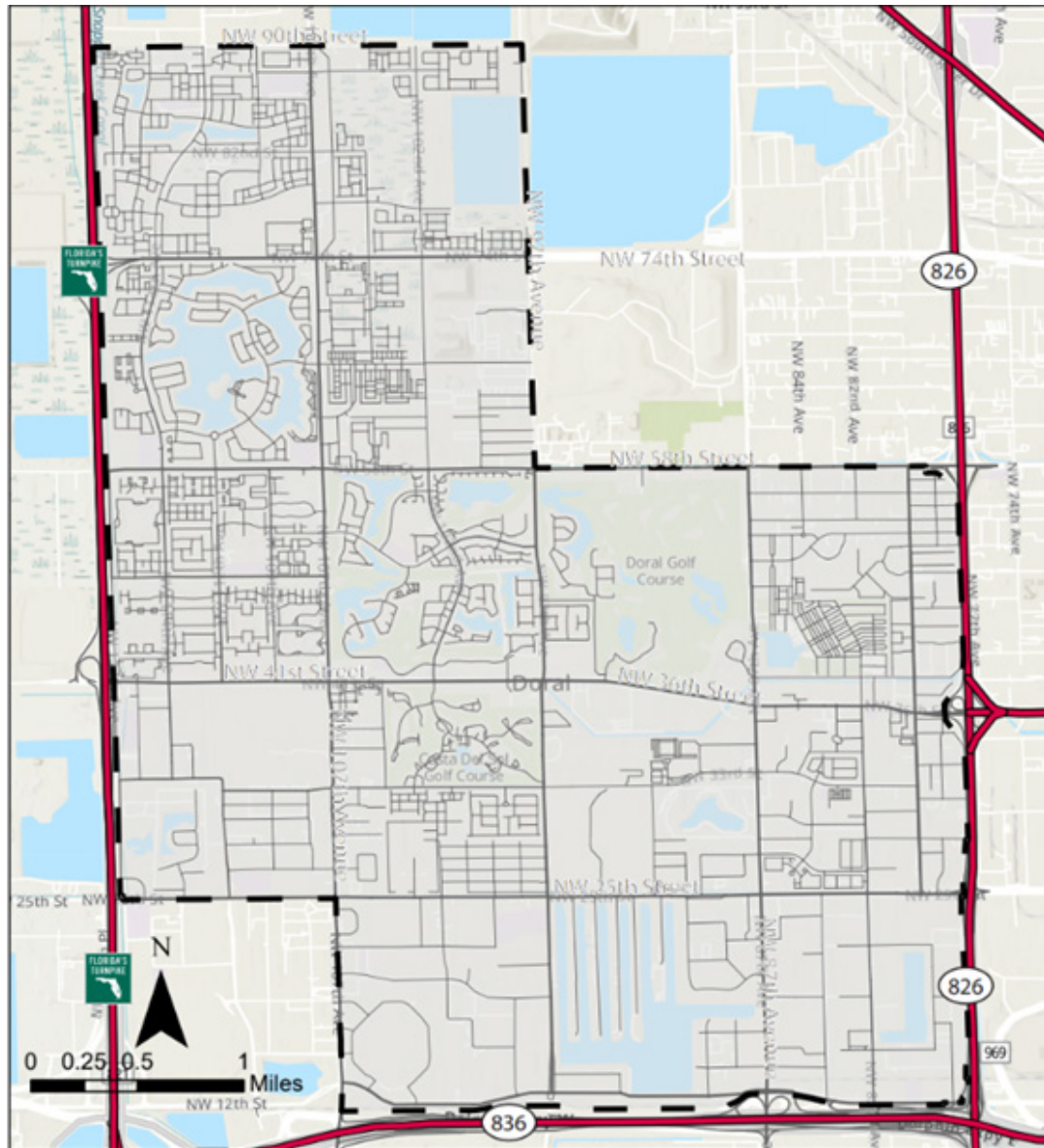
events. As shown on the Primary Evacuation Routes Map 2-4, evacuation movements rely primarily on high-capacity expressways and major arterial corridors located along the City's perimeter that provide direct access to the Miami-Dade County regional evacuation system and inland sheltering areas. Because the City is located inland and outside of coastal storm surge evacuation zones, evacuation travel demand is generally associated with regional mobility and continuity of travel rather than coastal clearance. Accordingly, maintaining efficient access to adjacent limited-access facilities and major arterial corridors is essential to support outbound traffic flow during emergency conditions. Local roadway connections within the City function to distribute traffic from residential and employment areas to these regional facilities. The City coordinates with Miami-Dade County Emergency Management, the Florida Department of Transportation (FDOT), and the Miami-Dade County Department of Transportation and Public Works (DTPW) to preserve operational capacity along evacuation routes.



3. TRANSPORTATION



MAP 3-6: EMERGENCY EVACUATION ROUTES



Legend

- Doral Limits
- Primary Evacuation Routes



Source: Miami-Dade County (MDC) Primary Evacuation Routes, 2018.



FUTURE TRANSPORTATION CONDITIONS

FUTURE TRANSPORTATION NETWORK

Planned Roadway and Multimodal Improvements Future Transportation Performance

FUTURE LEVELS OF SERVICE CONDITIONS

Methodology

Future roadway operating conditions for the City of Doral were evaluated using projected traffic volumes developed from regional travel demand forecasts and historic growth trends. Traffic volumes were applied to roadway segments using the adopted Miami-Dade County concurrency methodology and the FDOT Quality/Level of Service procedures. Peak hour, peak direction volumes were compared to adjusted roadway capacity to calculate volume-to-capacity ratios and determine Level of Service (LOS) for the planning horizons of 2036 and 2050. Capacity adjustments reflect roadway classification, number of lanes, operational characteristics, and urban context. The analysis evaluates roadway performance along principal arterials, minor arterials, and collector facilities forming the primary travel network within the City. Results are illustrated on the Future Level of Service maps and summarized in the accompanying tables.

ANALYSIS OF FUTURE LEVEL OF SERVICE CONDITIONS

2036 Conditions

By 2036, several major corridors begin to experience degraded operating conditions during peak travel periods. Regional facilities and major east-west corridors show the greatest stress due to commuter travel entering and exiting the City's employment centers. Congestion is concentrated along expressway interchanges and adjacent arterial roadways where regional traffic converges with local circulation. While portions of the internal roadway grid continue to operate acceptably, segments serving industrial and employment areas begin to approach capacity. The roadway network remains functional but shows increasing dependence on intersection operations and corridor continuity to maintain acceptable travel times.

2050 Conditions

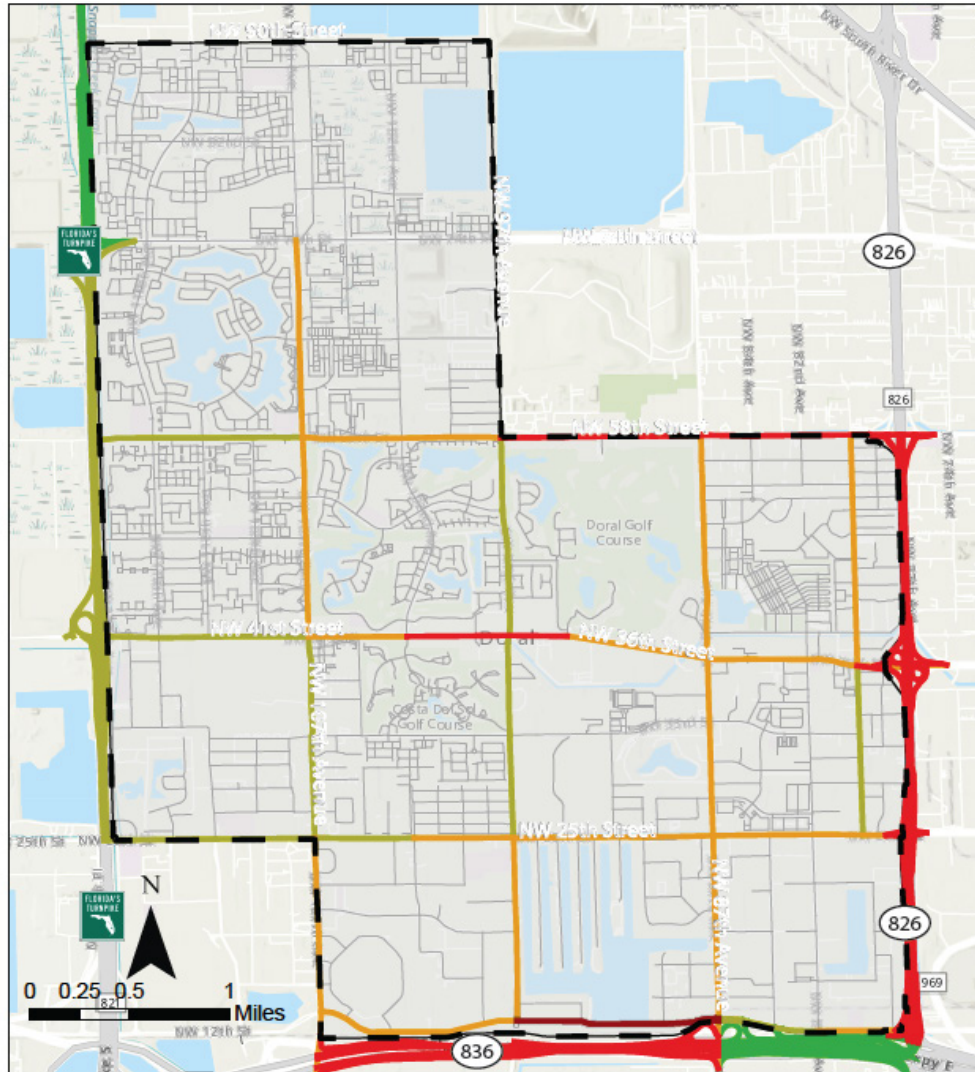
By 2050, projected growth in regional travel demand results in more widespread constrained conditions across the network. Several major corridors operate at LOS E or F during peak periods, particularly near expressway interchanges and along major east-west travel routes. Congestion expands beyond isolated intersections and becomes corridor-based, reflecting the City's role as a regional employment center attracting inbound commuter traffic. Local circulation routes continue to distribute traffic; however, capacity limitations on major facilities affect system performance across multiple roadway classifications. The future conditions indicate the roadway network transitions from localized congestion to sustained peak-period congestion along key mobility corridors.



3. TRANSPORTATION



MAP 3-7: FUTURE LEVEL-OF-SERVICE (2036)



Legend

- | | | |
|---|---|---|
| — B | — D | — F |
| — C | — E | - - Doral Limits |



Source: * Context Classification was obtained from Doral's Transportation Master Plan

** From FDOT Traffic Online Web-based mapping application reports . *** From 2024 AADT converted into peak hour directional based on AADT Report D and K Factors. **** Using FDOT Traffic Trends Analysis Tool to develop a historical trend analysis calculating a compound annual historic growth rate by examining linear, exponential, and decaying exponential growth rates for the last 10 years of available data. A growth rate was determined for collectors, arterials, and expressways, respectively.



3. TRANSPORTATION

TABLE 3-4: FUTURE LEVEL-OF-SERVICE (2036)

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	2036 Volume (Peak Hour/ Peak Direction) ****	Number of Lanes	2036 V/C Ratio	2036 Projected LOS
	From	To					
SR 836 Dolphin Expressway	Western City Limits / NW 107 Ave	NW 87 Ave / Galloway Road	Freeway Core Urbanized	8931	8L-D	0.97	E
SR 836 Dolphin Expressway	NW 87 Ave / Galloway Road	SR 826 Palmetto Express	Freeway Core Urbanized	5174	8L-D	0.97	B
SR 826 Palmetto Expressway	NW 58 Street/ Northern City Limits	NW 36 Street	Freeway Core Urbanized	13958	12L-D	0.97	E
SR 826 Palmetto Expressway	NW 36 Street	NW 25 Street	Freeway Core Urbanized	13618	12L-D	0.94	E
SR 826 Palmetto Expressway	NW 25 Street	SR 836/Dolphin Expressway Southern City Limits	Freeway Core Urbanized	12450	12L-D	0.86	E
SR 821 FL Turnpike	NW 90 St /Northern City Limits	NW 74 Street	Freeway Core Urbanized	6444	12L-D	0.97	B
SR 821 FL Turnpike	NW 74 Street	NW 41 Street	Freeway Core Urbanized	6772	12L-D	0.73	C
SR 821 FL Turnpike	NW 41 Street	NW 25 Street / City Limits	Freeway Core Urbanized	6772	12L-D	0.73	C
NW 58 Street	NW 117 Ave	NW 107 Ave	Non-State Collector C4	744	4LD	0.68	C
NW 58 Street	NW 107 Ave	NW 97 Ave	Non-State Arterial C4	1475	4LD	0.92	D
NW 58 Street	NW 97 Ave	NW 87 Ave	Non-State Arterial C4	1711	4LU	0.94	E
NW 58 Street	NW 87 Ave	SR 826 Palmetto Express	Non-State Arterial C4	1586	4LU	0.92	E
NW 41 Street	FL's Turnpike / NW 117 Ave	NW 107 Ave	Non-State Arterial C4	2348	6LD	0.99	C



3. TRANSPORTATION

Table Continued

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	2036 Volume (Peak Hour/ Peak Direction) ****	Number of Lanes	2036 V/C Ratio	2036 Projected LOS
	From	To					
NW 41 Street	NW 107 Ave	NW 102 Ave	Non-State Arterial C4	2493	6LD	0.93	D
NW 41 Street	NW 102 Ave	NW 93 Ct	Non-State Arterial C4	2615	6LD	0.97	E
NW 36 Street	NW 93 Ct	SR 826 Palmetto Express	Non-State Arterial C4	2551	6LD	0.96	D
NW 25 Street	NW 117 Ave	NW 112 Ave	Non-State Arterial C4	1565	4LD	0.79	C
NW 25 Street	NW 112 Ave	NW 102 Ave	Non-State Arterial C4	1503	4LU	0.80	C
NW 25 Street	NW 102 Ave	NW 87 Ave	Non-State Arterial C4	2087	4LU	0.87	D
NW 25 Street	NW 87 Ave	SR 826 Palmetto Express	Non-State Arterial C4	2377	6LD	0.90	D
NW 12 Street	NW 107 Ave	NW 97 Ave	Non-State Arterial C4	1503	4LD	0.93	D
NW 12 Street	NW 97 Ave	NW 87 Ave	Non-State Arterial C4	1753	4LU	1.01	F
NW 12 Street	NW 87 Ave	NW 82 Ave	Non-State Arterial C4	1623	6LD	0.82	C
NW 12 Street	NW 82 Ave	City Limits	Non-State Arterial C4	1508	4LD	0.94	D
NW 107 Avenue	NW 74 Street	NW 58 Street	Non-State Arterial C3C	1797	4LD	0.99	D
NW 107 Avenue	NW 58 Street	NW 41 Street	Non-State Arterial C3C	1739	4LD	0.96	D



3. TRANSPORTATION

Table Continued

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	2036 Volume (Peak Hour/ Peak Direction) ****	Number of Lanes	2036 V/C Ratio	2036 Projected LOS
	From	To					
NW 107 Avenue	NW 41 Street	NW 25 Street	Non-State Arterial C4	1942	4LD	0.98	C
NW 107 Avenue	NW 25 Street	NW 12 Street	Non-State Arterial C4	2406	6LD	0.95	D
NW 97 Avenue	NW 58 Street/ Northern City Limits	NW 52 Street	Non-State Collector C3C	595	2LU	0.78	C
NW 97 Avenue	NW 52 Street	NW 33 Street	Non-State Collector C3C	595	4LD	0.39	C
NW 97 Avenue	NW 33 Street	NW 25 Street	Non-State Collector C3C	1068	4LD	0.70	C
NW 97 Avenue	NW 25 Street	NW 12 Street	Non-State Collector C3C	1113	4LU	0.73	D
NW 87 Avenue	NW 58 Street/ Northern City Limits	NW 36 Street	Non-State Arterial C4	1613	4LD	0.95	D
NW 87 Avenue	NW 36 Street	NW 12 Street	Non-State Arterial C4	2282	6LD	0.86	D
NW 79 Avenue	NW 58 Street/ Northern City Limits	NW 36 Street	Non-State Collector C4	1240	4LU	0.81	D
NW 79 Avenue	NW 36 Street	NW 25 Street	Non-State Collector C5	854	4LU	0.83	C

Source: * Context Classification was obtained from Doral's Transportation Master Plan.

** From FDOT Traffic Online Web-based mapping application reports

*** From 2024 AADT converted into peak hour directional based on AADT Report D and K Factors.

**** Using FDOT Traffic Trends Analysis Tool to develop a historical trend analysis calculating a compound annual historic growth rate by examining linear, exponential, and decaying exponential growth rates for the last 10 years of available data. A growth rate was determined for collectors, arterials, and expressways, respectively.

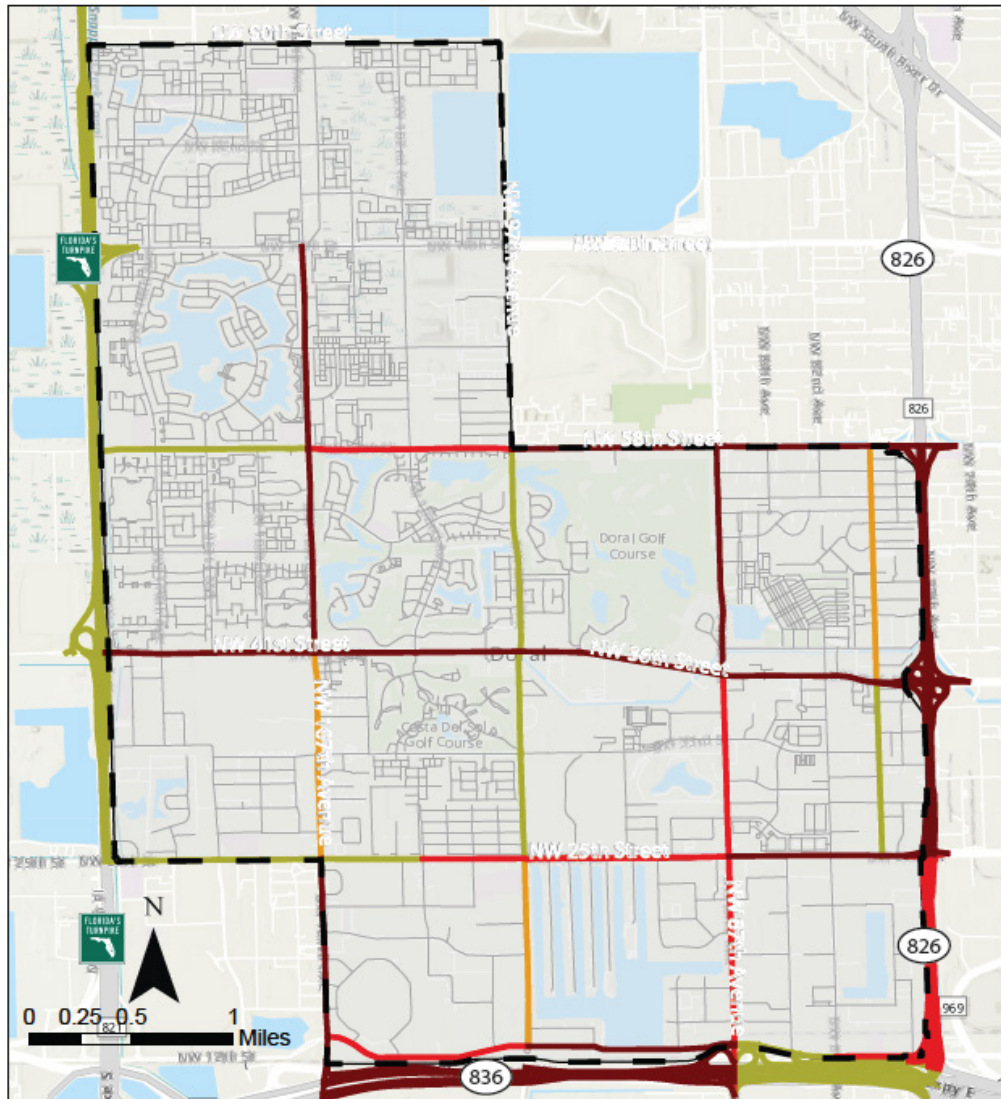
***** From Miami Dade TPO Interactive Project Tool 2050 LRTP Projects. Only the widening projects for NW 107 Ave and NW 25 Street have been programmed.



3. TRANSPORTATION



MAP 3-8: FUTURE LEVEL-OF-SERVICE (2050)



Legend

- | | | |
|---|--|---|
| — C | — E | - - Doral Limits |
| — D | — F | |



Source: * Context Classification was obtained from Doral's Transportation Master Plan

** From FDOT Traffic Online Web-based mapping application reports. *** From 2024 AADT converted into peak hour directional based on AADT Report D and K Factors. **** Using FDOT Traffic Trends Analysis Tool to develop a historical trend analysis calculating a compound annual historic growth rate by examining linear, exponential, and decaying exponential growth rates for the last 10 years of available data. A growth rate was determined for collectors, arterials, and expressways, respectively.



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TABLE 3-5: FUTURE LEVEL-OF-SERVICE (2050)

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	2050 Volume (Peak Hour/ Peak Direction) ****	2050 V/C Ratio	2050 Projected LOS
	From	To				
SR 836 Dolphin Expressway	Western City Limits / NW 107 Ave	NW 87 Ave / Galloway Road	Freeway Core Urbanized	9577	1.04	F
SR 836 Dolphin Expressway	NW 87 Ave / Galloway Road	SR 826 Palmetto Express	Freeway Core Urbanized	5548	0.79	C
SR 826 Palmetto Expressway	NW 58 Street/Northern City Limits	NW 36 Street	Freeway Core Urbanized	14967	1.04	F
SR 826 Palmetto Expressway	NW 36 Street	NW 25 Street	Freeway Core Urbanized	14603	1.01	F
SR 826 Palmetto Expressway	NW 25 Street	SR 836/Dolphin Expressway Southern City Limits	Freeway Core Urbanized	13351	0.92	E
SR 821 FL Turnpike	NW 90 St /Northern City Limits	NW 74 Street	Freeway Core Urbanized	6910	0.75	C
SR 821 FL Turnpike	NW 74 Street	NW 41 Street	Freeway Core Urbanized	7262	0.79	C
SR 821 FL Turnpike	NW 41 Street	NW 25 Street / City Limits	Freeway Core Urbanized	7262	0.79	C
NW 58 Street	NW 117 Ave	NW 107 Ave	Non-State Collector C4	844	0.78	C
NW 58 Street	NW 107 Ave	NW 97 Ave	Non-State Arterial C4	1777	0.98	E
NW 58 Street	NW 97 Ave	NW 87 Ave	Non-State Arterial C4	2061	1.13	F
NW 58 Street	NW 87 Ave	SR 826 Palmetto Express	Non-State Arterial C4	1911	1.11	F
NW 41 Street	FL's Turnpike / NW 117 Ave	NW 107 Ave	Non-State Arterial C4	2828	1.06	F
NW 41 Street	NW 107 Ave	NW 102 Ave	Non-State Arterial C4	3004	1.12	F
NW 41 Street	NW 102 Ave	NW 93 Ct	Non-State Arterial C4	3151	1.17	F
NW 36 Street	NW 93 Ct	SR 826 Palmetto Express	Non-State Arterial C4	3073	1.09	F
NW 25 Street	NW 117 Ave	NW 112 Ave	Non-State Arterial C4	1886	0.95	C
NW 25 Street	NW 112 Ave	NW 102 Ave	Non-State Arterial C4	1811	0.96	C



3. TRANSPORTATION

Table Continued

Roadway Segment Name	Limits of Corridor Segment		Functional Classification*	2050 Volume (Peak Hour/ Peak Direction) ****	2050 V/C Ratio	2050 Projected LOS
	From	To				
NW 25 Street	NW 102 Ave	NW 87 Ave	Non-State Arterial C4	2515	0.98	E
NW 25 Street	NW 87 Ave	SR 826 Palmetto Express	Non-State Arterial C4	2864	1.01	F
NW 12 Street	NW 107 Ave	NW 97 Ave	Non-State Arterial C4	1811	1.00	E
NW 12 Street	NW 97 Ave	NW 87 Ave	Non-State Arterial C4	2112	1.22	F
NW 12 Street	NW 87 Ave	NW 82 Ave	Non-State Arterial C4	1955	0.98	C
NW 12 Street	NW 82 Ave	City Limits	Non-State Arterial C4	1816	1.00	E
NW 107 Avenue	NW 74 Street	NW 58 Street	Non-State Arterial C3C	2166	1.20	F
NW 107 Avenue	NW 58 Street	NW 41 Street	Non-State Arterial C3C	2095	1.16	F
NW 107 Avenue	NW 41 Street	NW 25 Street	Non-State Arterial C4	2339	0.92	D
NW 107 Avenue	NW 25 Street	NW 12 Street	Non-State Arterial C4	2899	1.08	F
NW 97 Avenue	NW 58 Street/ Northern City Limits	NW 52 Street	Non-State Collector C3C	676	0.89	C
NW 97 Avenue	NW 52 Street	NW 33 Street	Non-State Collector C3C	676	0.44	C
NW 97 Avenue	NW 33 Street	NW 25 Street	Non-State Collector C3C	1212	0.80	C
NW 97 Avenue	NW 25 Street	NW 12 Street	Non-State Collector C3C	1263	0.83	D
NW 87 Avenue	NW 58 Street/Northern City Limits	NW 36 Street	Non-State Arterial C4	1944	1.02	F
NW 87 Avenue	NW 36 Street	NW 12 Street	Non-State Arterial C4	2749	0.97	E
NW 79 Avenue	NW 58 Street/ Northern City Limits	NW 36 Street	Non-State Collector C4	1407	0.92	D
NW 79 Avenue	NW 36 Street	NW 25 Street	Non-State Collector C5	969	0.94	C

Source: * Context Classification was obtained from Doral's Transportation Master Plan. ** From FDOT Traffic Online Web-based mapping application reports. *** From 2024 AADT converted into peak hour directional based on AADT Report D and K Factors. **** Using FDOT Traffic Trends Analysis Tool to develop a historical trend analysis calculating a compound annual historic growth rate by examining linear, exponential, and decaying exponential growth rates for the last 10 years of available data. A growth rate was determined for collectors, arterials, and expressways, respectively.



DEFICIENCIES AND CONSTRAINED CONDITIONS

The future analysis indicates that constrained operating conditions are concentrated along corridors influenced by regional travel demand and expressway access. The most affected areas occur near interchanges with SR 836 (Dolphin Expressway), SR 826 (Palmetto Expressway), and Florida's Turnpike (SR 821), where merging and weaving movements affect adjacent arterial operations. Major east-west corridors experiencing recurring constrained conditions include NW 36 Street (Doral Boulevard)/NW 41 Street, NW 25 Street, and NW 58 Street, particularly at locations approaching expressway ramps and major signalized intersections. These facilities carry significant commuter and airport-related travel and experience corridor-level congestion during peak periods. North-south facilities such as NW 107 Avenue, NW 79 Avenue, and portions of NW 97 Avenue experience operational impacts where traffic redistributes from congested expressways and east-west arterials. Industrial and freight-serving corridors, especially along NW 25 Street and adjacent collectors, also show constrained operations due to truck activity combined with commuter travel. Overall, deficiencies are not limited to isolated roadway segments but occur where regional and local traffic converge, resulting in congestion propagation from expressway facilities onto adjacent arterials and collectors. These conditions reflect regional travel demand patterns associated with employment concentration and airport access rather than a lack of internal street connectivity.

PERFORMANCE AND CAPACITY CONDITIONS

The future transportation network continues to provide overall connectivity throughout the City; however, peak-period operations become increasingly constrained along primary mobility corridors. By the planning horizon, sustained congestion is expected along NW 36 Street (Doral Boulevard) and NW 25 Street, with additional degradation along NW 58 Street and segments of NW 107 Avenue near major intersections and interchange areas. Collector facilities such as NW 79 Avenue and NW 97 Avenue increasingly function as alternate routes as drivers

divert from congested arterials, resulting in moderate operational impacts but generally maintaining circulation function. Operational performance throughout the network becomes increasingly dependent on the performance of adjacent regional facilities, particularly SR 836 and SR 826, where recurring congestion influences multiple connecting corridors. Future capacity challenges are therefore primarily associated with regional commuter travel, freight movement, and employment-related trips rather than localized access limitations within residential areas.

MAINTAINING ADOPTED LEVEL OF SERVICE STANDARDS

The City of Doral will maintain the adopted level of service (LOS) standards through a coordinated approach combining transportation concurrency management, multimodal mobility strategies, capital improvements programming, and intergovernmental coordination. Development approvals are reviewed pursuant to Chapter 163, Florida Statutes and the Miami-Dade County concurrency management system to ensure impacts are mitigated through available capacity, programmed improvements, or proportionate share contributions prior to issuance of development orders. Because many constrained corridors function as regional facilities, the City coordinates mitigation and operational improvements with Miami-Dade County, the Florida Department of Transportation (FDOT), and the Miami-Dade Transportation Planning Organization (TPO). In addition to capacity enhancements, the City supports transit access, bicycle and pedestrian connectivity, signal coordination, access management, and transportation demand management measures to reduce peak hour vehicle demand. Improvements identified in the Capital Improvements Element, FDOT Five-Year Work Program, and the TPO Transportation Improvement Program are coordinated with land use decisions to ensure transportation capacity is provided concurrent with development and that adopted LOS standards are maintained as the City grows.

INTERGOVERNMENTAL COORDINATION AND CONCURRENCY

Relationship to the Regional Network



3. TRANSPORTATION

The City of Doral transportation system functions as part of the larger regional network serving western Miami-Dade County and the South Florida metropolitan area. Major arterial roadways, expressways, and transit corridors within and adjacent to the City provide regional mobility for residents, employees, freight movement, and visitors. Because a significant share of daily travel both originates outside the City and travels through the City to regional destinations, coordination with state, regional, and county agencies is necessary to ensure consistent planning, funding, and implementation of transportation improvements.

The City coordinates transportation planning activities with the Florida Department of Transportation (FDOT), the Miami-Dade Transportation Planning Organization (TPO), and the Miami-Dade County Department of Transportation and Public Works (DTPW). Coordination occurs through the comprehensive plan amendment review process, development review, capital improvements programming, and participation in regional transportation planning initiatives.

FDOT COORDINATION

Several facilities serving Doral are part of the State Highway System and are planned, designed, and maintained by FDOT. The City coordinates with FDOT on roadway design, access management, signalization, safety improvements, and corridor studies affecting state facilities. Proposed land use changes adjacent to state roadways are reviewed for operational and safety impacts and are coordinated through FDOT's permitting and access review processes. Planned FDOT improvements identified in the Five-Year Work Program are reviewed by the City to ensure compatibility with local roadway connections, bicycle and pedestrian facilities, and adjacent land uses. The City also coordinates during development review to protect right-of-way needs and maintain the functional integrity of state facilities.

TPO CONSISTENCY

The City's Transportation Element is consistent with the Miami-Dade TPO Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP). Planned roadway, transit, bicycle, and pedestrian improvements

within the City are reviewed to ensure they support regional mobility goals, congestion management strategies, and multimodal connectivity. The City reviews LRTP and TIP updates and coordinates proposed local improvements with regionally funded projects to maximize system efficiency and avoid duplication of facilities. Through this process, local transportation priorities are incorporated into regional funding programs when appropriate.

ADOPTED LEVEL OF SERVICE STANDARDS AND COORDINATION

The City of Doral recognizes the adopted roadway level of service (LOS) standards established through the Miami-Dade County concurrency management system for state and county facilities within the urbanized area. These standards are intended to maintain acceptable mobility and travel conditions while accommodating growth consistent with regional planning objectives. Development applications within the City that impact state or county roadways are evaluated in coordination with Miami-Dade County and the Florida Department of Transportation (FDOT) to ensure that transportation capacity is available concurrent with development or that appropriate mitigation measures are provided.

MULTI-AGENCY REVIEW AND MULTIMODAL COORDINATION

Through its Development Review Committee, the City maintains an ongoing technical coordination process with the Miami-Dade Transportation Planning Organization (TPO), Miami-Dade County Department of Transportation and Public Works, FDOT, and adjacent municipalities. This interagency review ensures that proposed development and transportation improvements support an integrated multimodal transportation system and remain consistent with adopted LOS standards, regional mobility goals, and planned capital improvements.

INTERNAL CONSISTENCY WITHIN THE COMPREHENSIVE PLAN

The Transportation Element is coordinated with the other elements of the City of Doral Comprehensive Plan,



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particularly the Future Land Use Element. Transportation analyses and improvement strategies are based on the planned distribution, density, and intensity of land uses shown on the Future Land Use Map (FLUM), ensuring that

land use decisions and mobility planning function together to maintain system performance and support long-term growth. The Transportation Element is also coordinated with the City's adopted Transportation Master Plan and Transit Master Plan.



3. TRANSPORTATION | APPENDIX

**TABLE 3-6: FDOT FIVE-YEAR WORK PROGRAM (FY 2026-2030)
PROJECTS AFFECTING CITY OF DORAL**

AREA	PROJECT OR FACILITY	FROM	TO	PROJECT DESCRIPTION	YEARS
Miami-Dade	NW 25 Street	NW 89 Court	SR 826	Add Lanes & Reconstruct	FY 2026-2030
Miami-Dade	SR 826 & SR 836 Interchange	NW 87 Avenue	NW 57 Avenue	Interchange (Major)	FY 2026-2030
Miami-Dade	SR 826 / Palmetto Expressway	I-75 South	SR 836	ITS Surveillance System	FY 2026-2030
Miami-Dade	SR 826 / Palmetto Expressway	North of NW 25 Street	NW 74 Street	Add Lanes & Reconstruct	FY 2026-2030
Miami-Dade	SR 826 / Palmetto Expressway	NW 62 Street	North of FEC Railroad	Add Lanes & Reconstruct	FY 2026-2030
Miami-Dade	HEFT Pavement Rehabilitation	=	=	Signing & Pavement Markings	FY 2026-2030
Miami-Dade	HEFT / Turnpike	SR 836	Okeechobee Plaza	Add Lanes & Rehabilitate Pavement	FY 2026-2030
Miami-Dade	HEFT Turnpike Interchange	=	=	Interchange Improvements	FY 2026-2030
Miami-Dade	NW 74 Street Interchange	=	=	Interchange Improvements	FY 2026-2030

TABLE 3-7: LRTP 2050 PROJECTS AFFECTING CITY OF DORAL

AREA	PROJECT OR FACILITY	FROM	TO	PROJECT DESCRIPTION	PRIORITY LEVEL
Central/North-west/West	SR 826 & SR 836 Interchange	NW 87 Avenue	NW 57 Avenue	Widen Interchange to 10 Lanes	Priority I
Northwest	SR 826	NW 25 Street	NW 47 Street	Add Lanes & Reconstruct (8 to 10 Lanes)	Priority I
Northwest	NW 97 Avenue	NW 41 Street	NW 25 Street	2 to 4 Lanes	Priority I
Northwest	NW 74 Street	HEFT	NW 82 Avenue	New 3-Lane Roadway	Priority I
Northwest	NW 58 Street	NW 107 Avenue	NW 102 Avenue	2 to 4 Lanes	Priority I
West/Northwest	NW 97 Avenue Bridge	=	=	Construct Bridge over SR 836	Priority I
West/Northwest	SR 836 Extension	NW 111 Avenue	NW 87 Avenue	New Bi-Directional Mainline Toll Plaza	Priority I



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Table Continued

AREA	PROJECT OR FACILITY	FROM	TO	PROJECT DESCRIPTION	PRIORITY LEVEL
Central/North-west/West	SR 836 Express Lanes	HEFT	SR 826/836	4-Lane Divided Express Lanes	Priority I
Beach/CBD/ Northwest/West	ITS Improvements	HEFT	A1A	CCTV, DMS, Sensors & Wireless	Priority II
Northwest	NW 87 Avenue	NW 36 Street	NW 58 Street	4 to 6 Lanes	Priority II
Northwest	NW 97 Avenue	NW 58 Street	NW 74 Street	2 to 4 Lanes	Priority II
Northwest	HEFT at NW 74 Street	=	=	Interchange (Major)	Priority III
Northwest	NW 107 Avenue	NW 41 Street	NW 25 Street	4 to 6 Lanes	Priority III

TABLE 3-8: FY 2026-2030 TIP PROJECTS AFFECTING CITY OF DORAL

PROJECT OR FACILITY	FROM	TO	PROJECT DESCRIPTION	YEARS
SR 826 & SR 836 Interchange	NW 87 Avenue	NW 57 Avenue	Interchange (Major). Widen to 10 Lanes	2026-2030
SR 826 / Palmetto Expressway	North of NW 25 Street	NW 74 Street	Add Lanes & Reconstruct to 10 Lanes	2026-2030
SR 826 / Palmetto Expressway	SR 836	SR 9 / I-75	ITS Surveillance System	2026-2030
HEFT	NW 74 Street	=	Interchange (Major)	2026-2030
SR 836 Express Lanes	HEFT	NW 37 Avenue	Provide 4-Lane Divided Express Lanes in Median	2026-2030
SR 836 Extension Toll Plaza	NW 111 Avenue	NW 87 Avenue	New Bi-Directional Mainline Toll Plaza	2026-2030
SR 836 Westbound	SR 826	NW 57 Avenue	Add Auxiliary Lane Westbound	2026-2030
Incident Management/ Surveillance	HEFT	I-95	Install Communications & Detection System	2026-2030



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:



II. Transportation Element

Data, Inventory and Analysis

- ~~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 2-4*.



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.~~

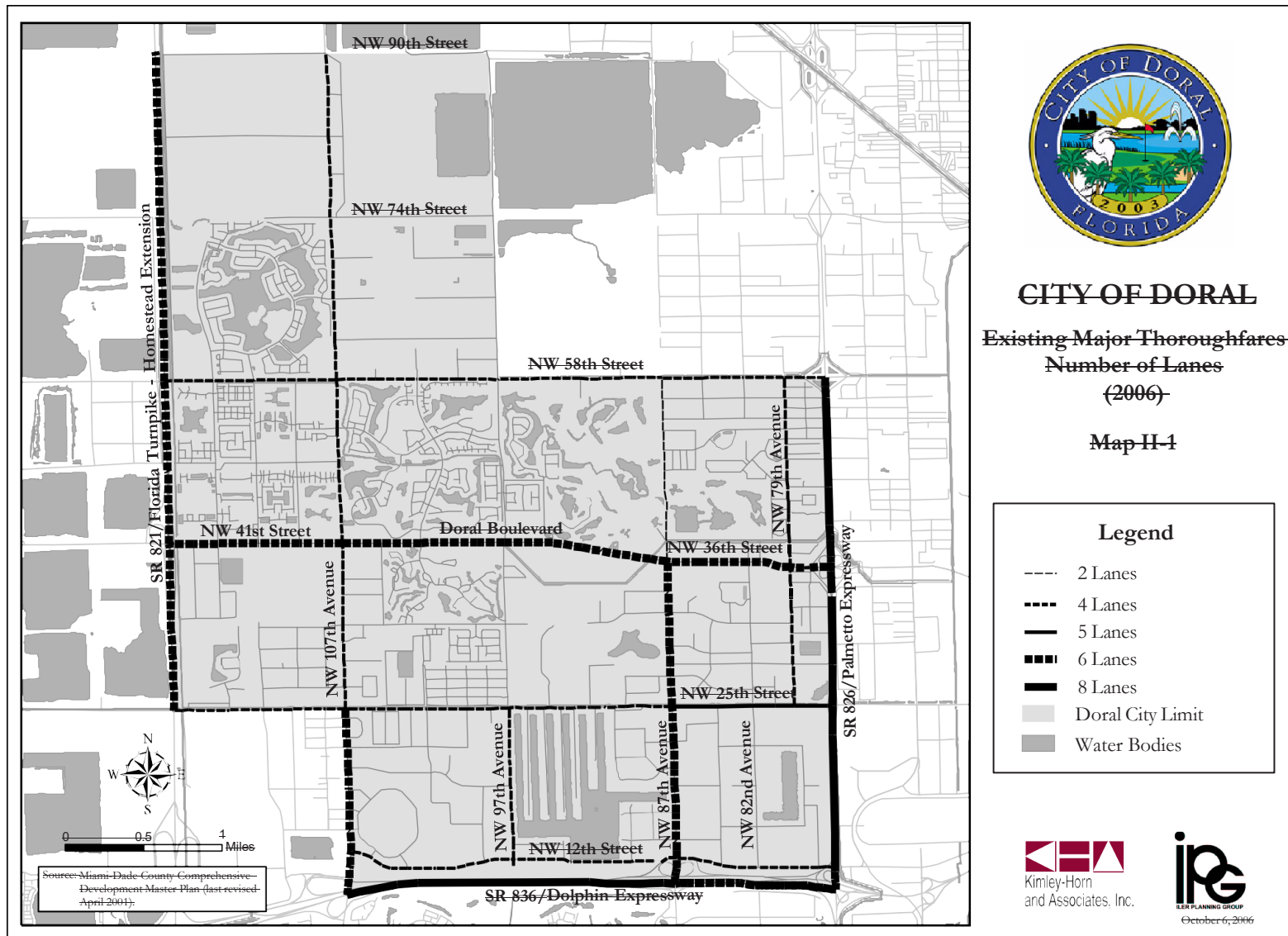
~~**Airport and Port Facilities** — The City of Doral does not have any airport or seaport facilities within its municipal boundaries; therefore no associated data, analysis or maps regarding these facilities are presented in the City's comprehensive plan. However, airport service is provided nearby 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)~~



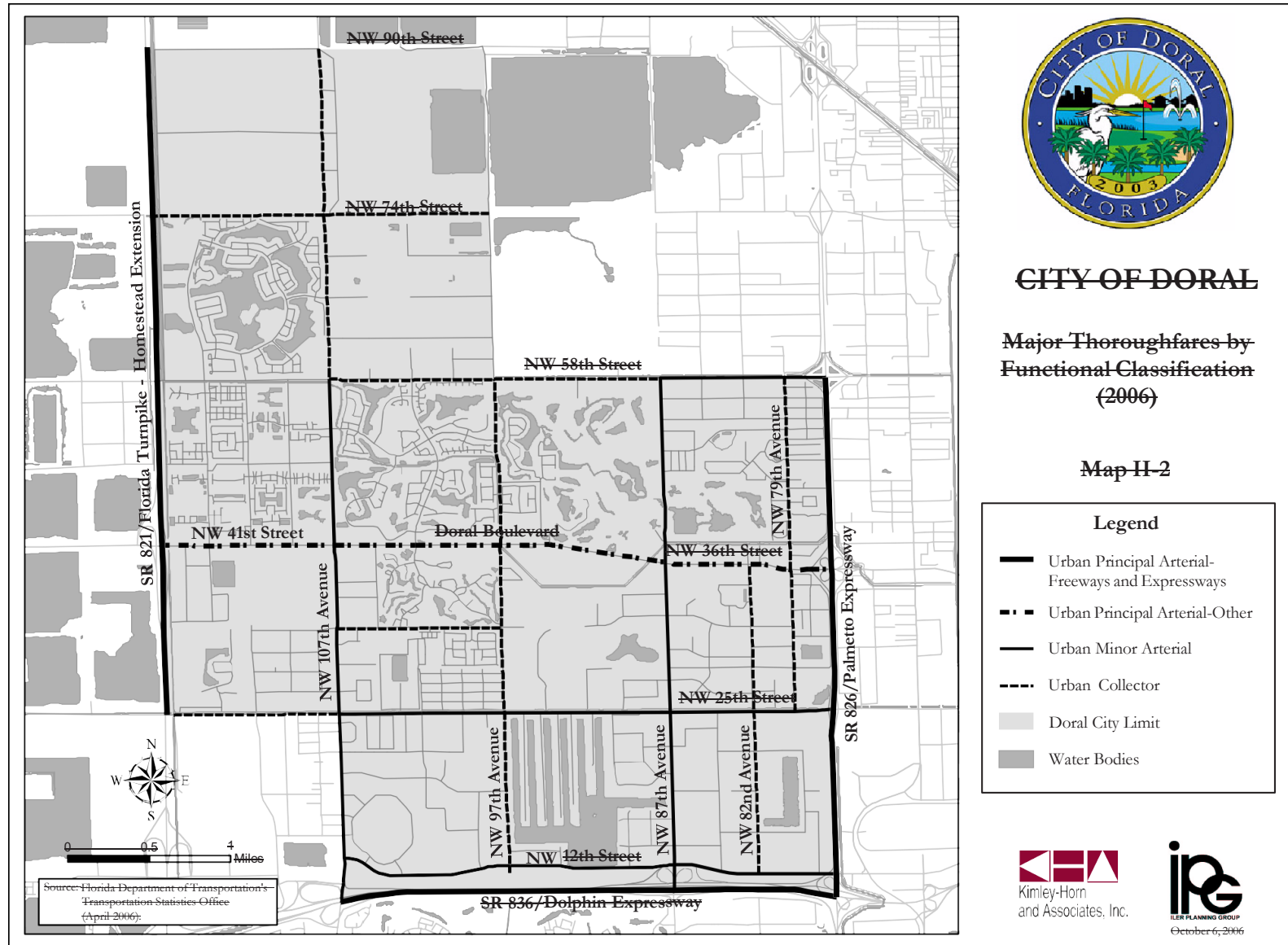
3. TRANSPORTATION



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



3. TRANSPORTATION

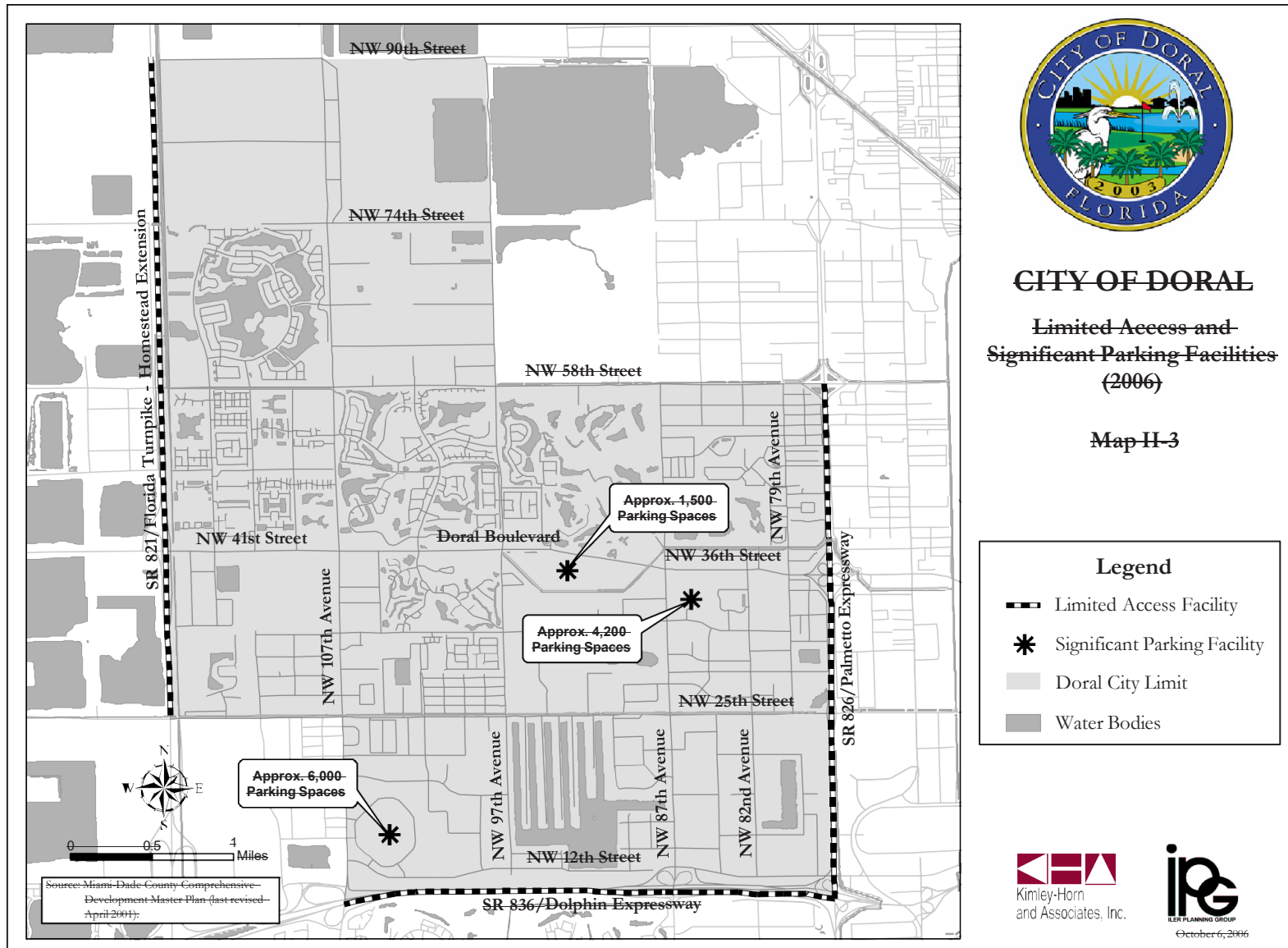


II. Transportation Element Data, Inventory and Analysis

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



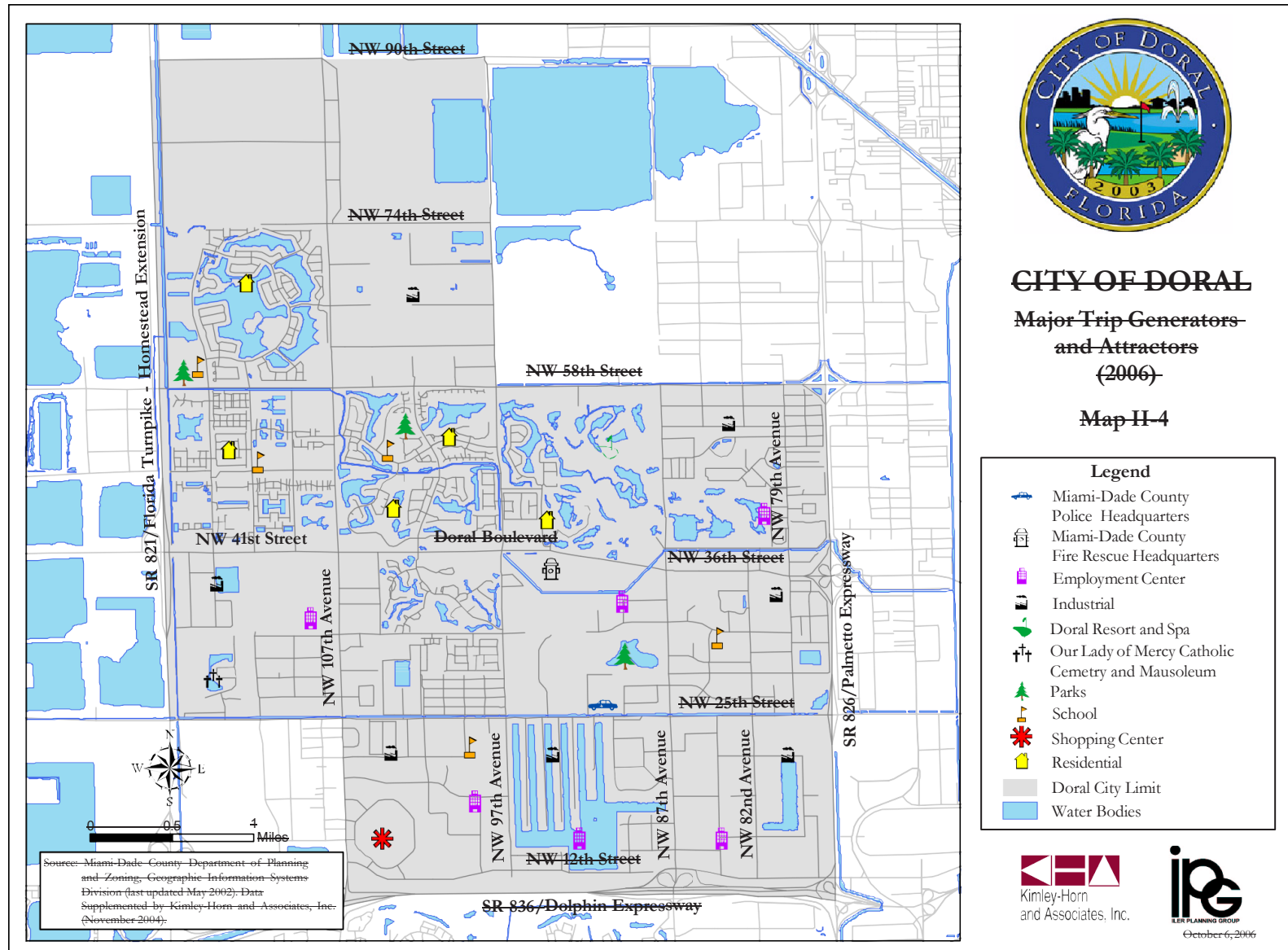
3. TRANSPORTATION



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



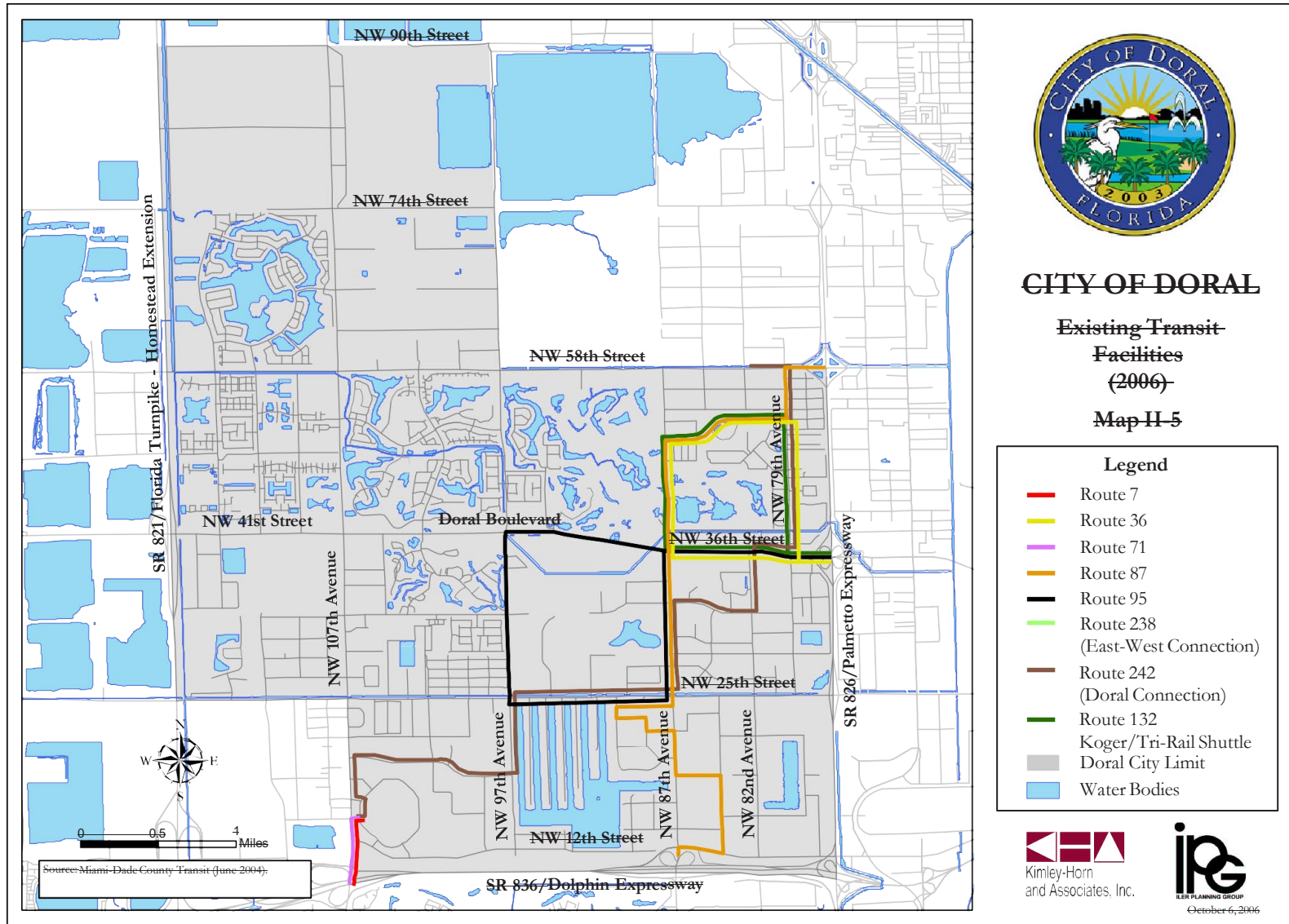
3. TRANSPORTATION



Map 2-5: Existing Transit Facilities (2006)



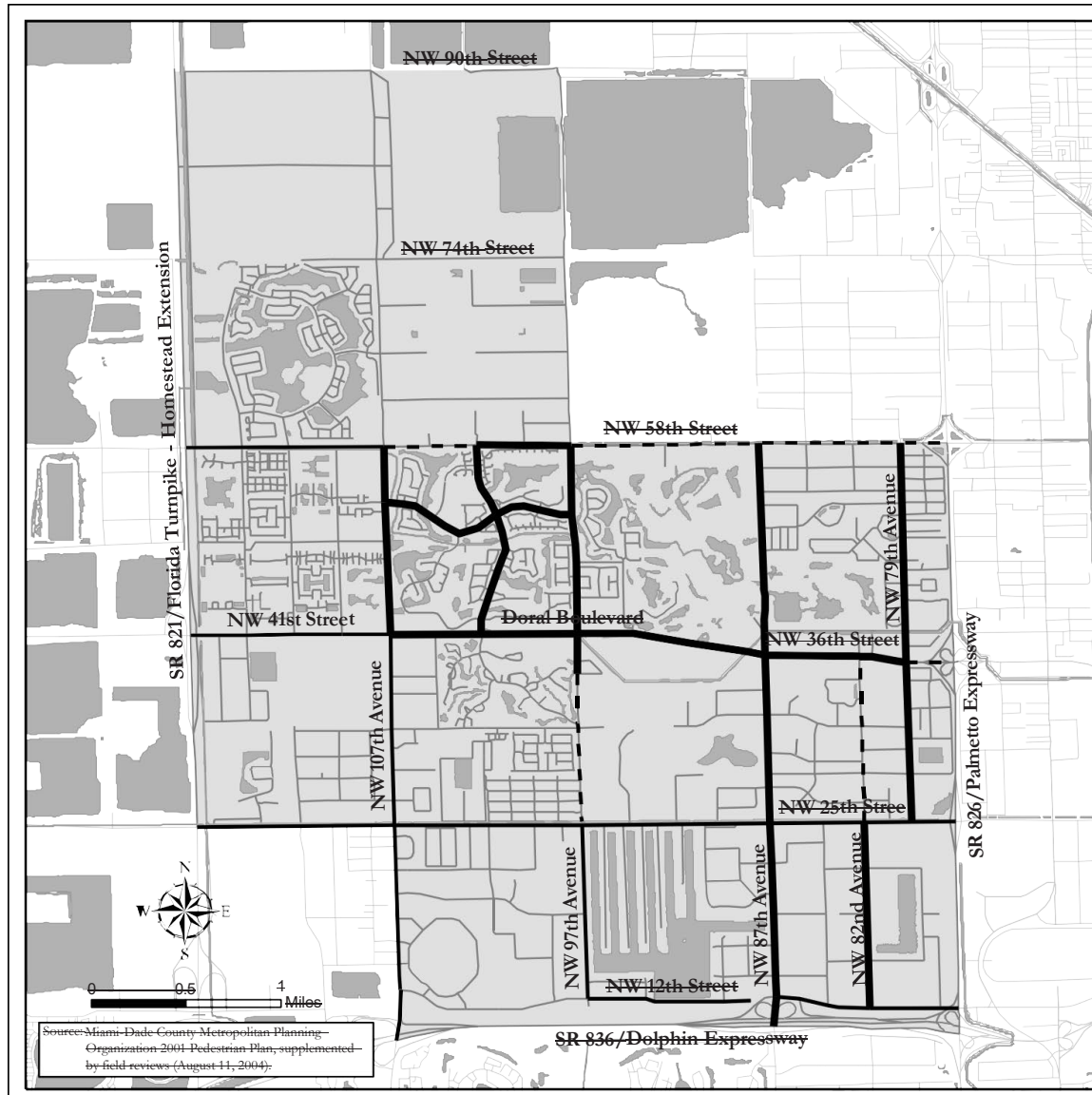
3. TRANSPORTATION



Map 2-6: Existing Pedestrian Facilities (2006)



3. TRANSPORTATION



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

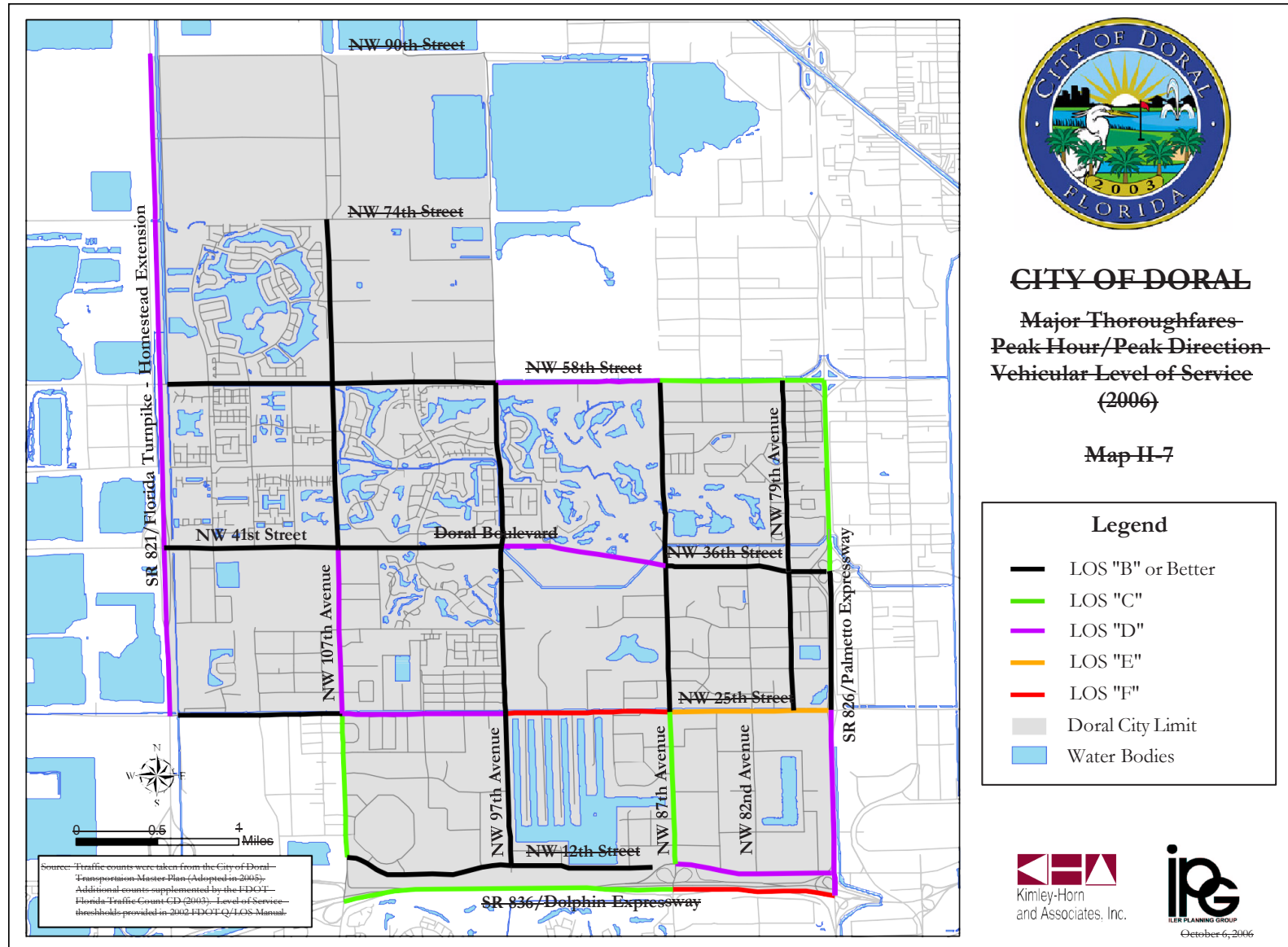


II. Transportation Element Data, Inventory and Analysis

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



3. TRANSPORTATION

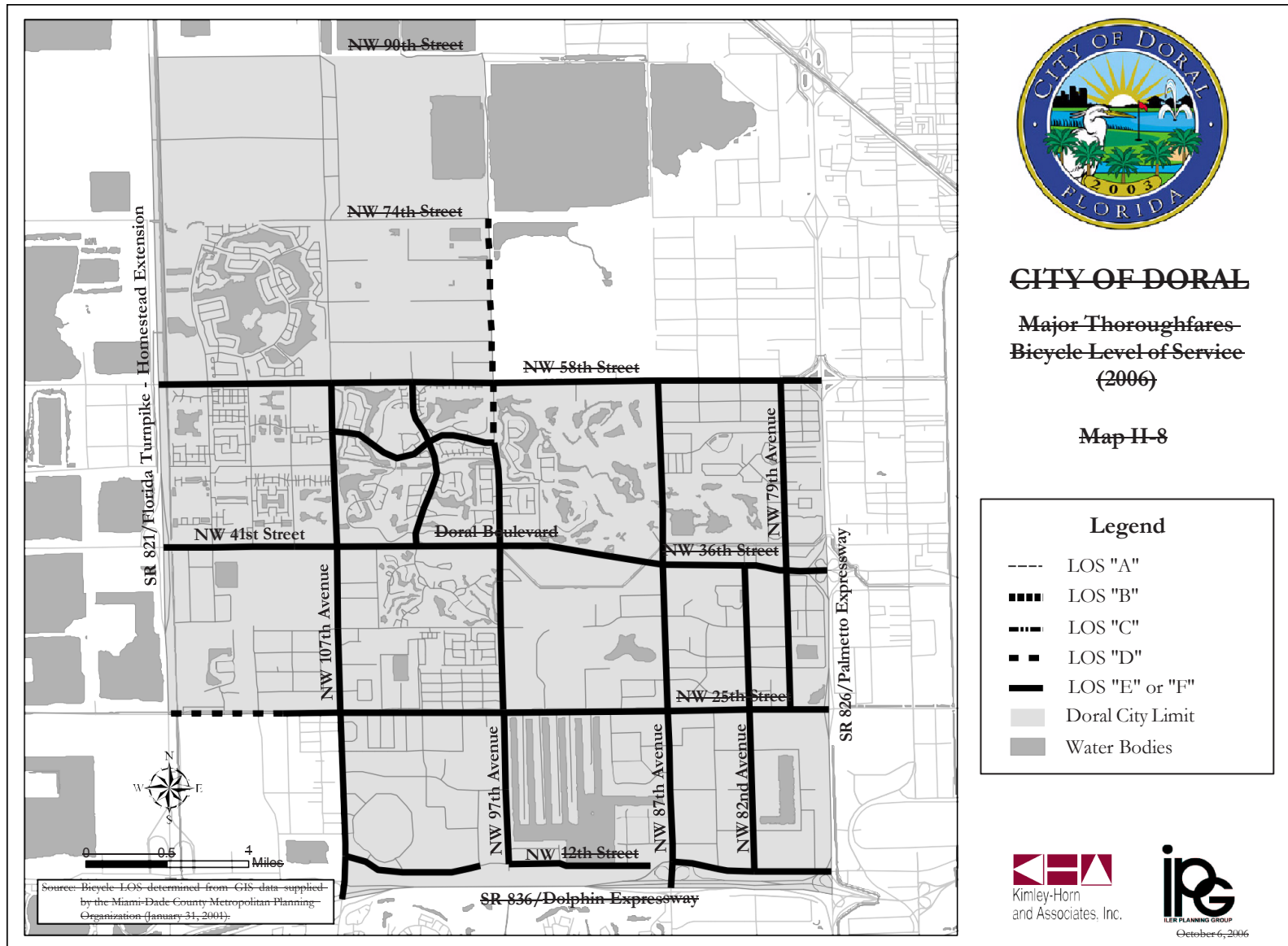


II. Transportation Element Data, Inventory and Analysis

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



3. TRANSPORTATION

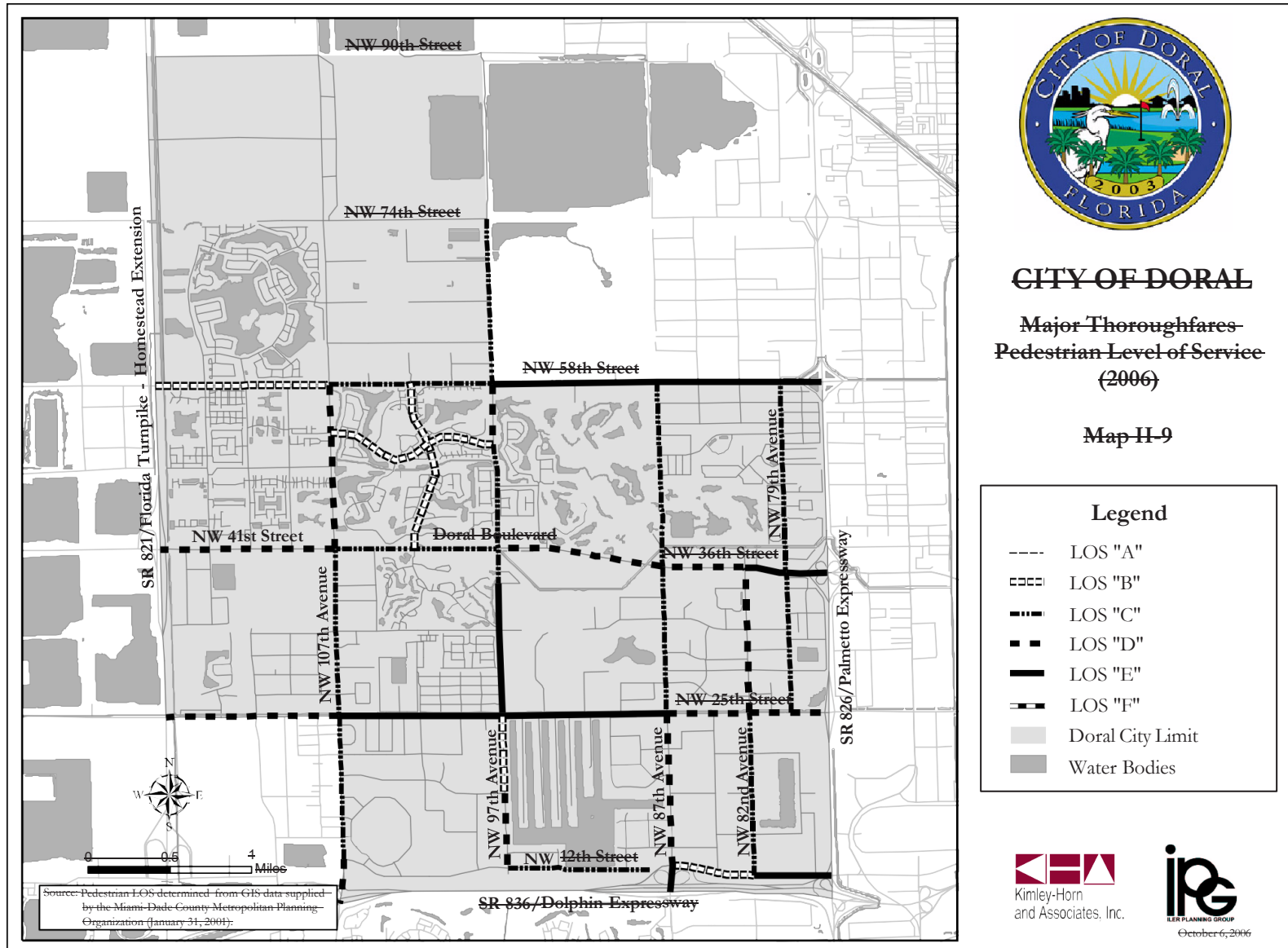


II. Transportation Element Data, Inventory and Analysis

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



3. TRANSPORTATION

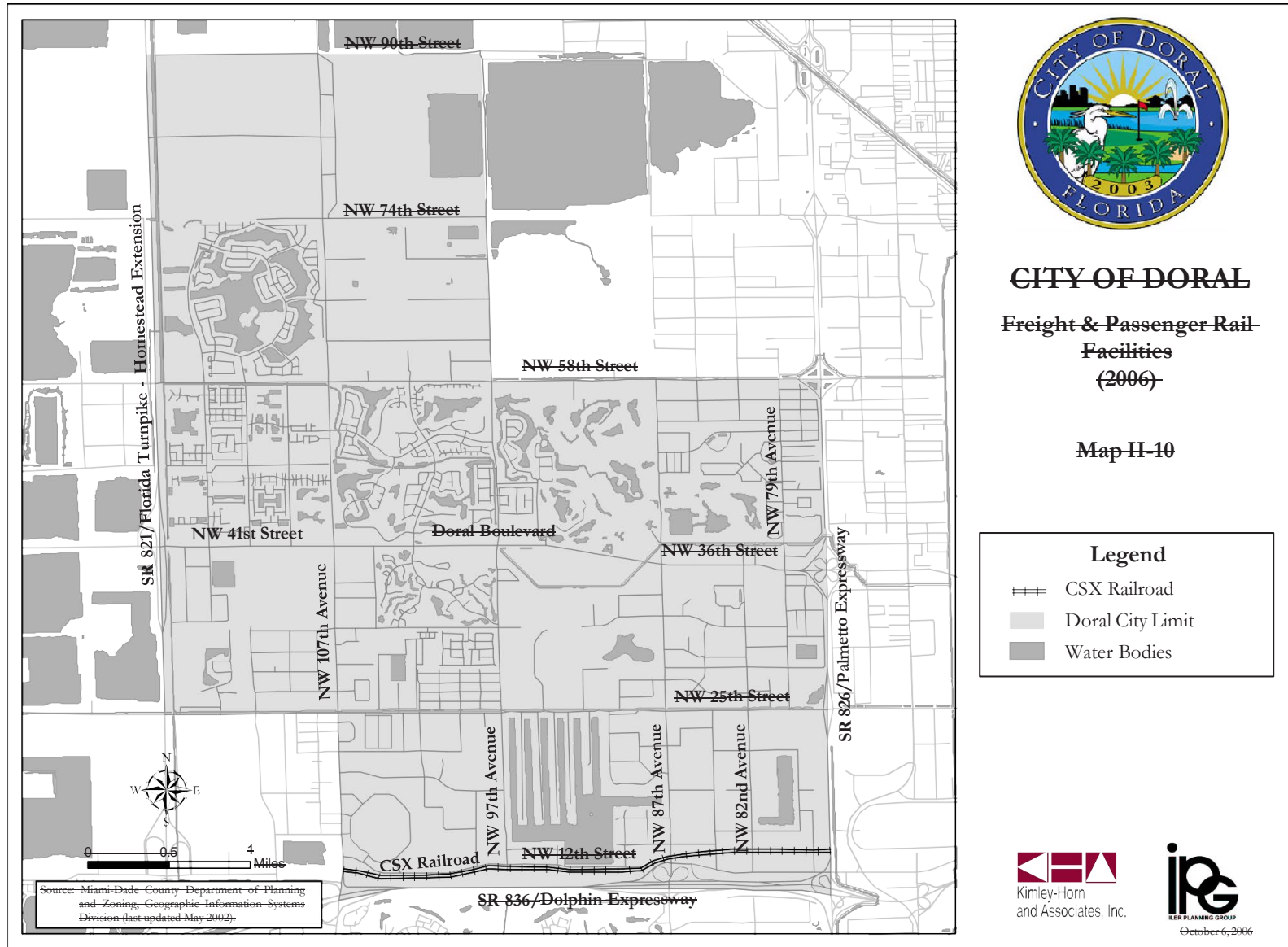


II. Transportation Element Data, Inventory and Analysis

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



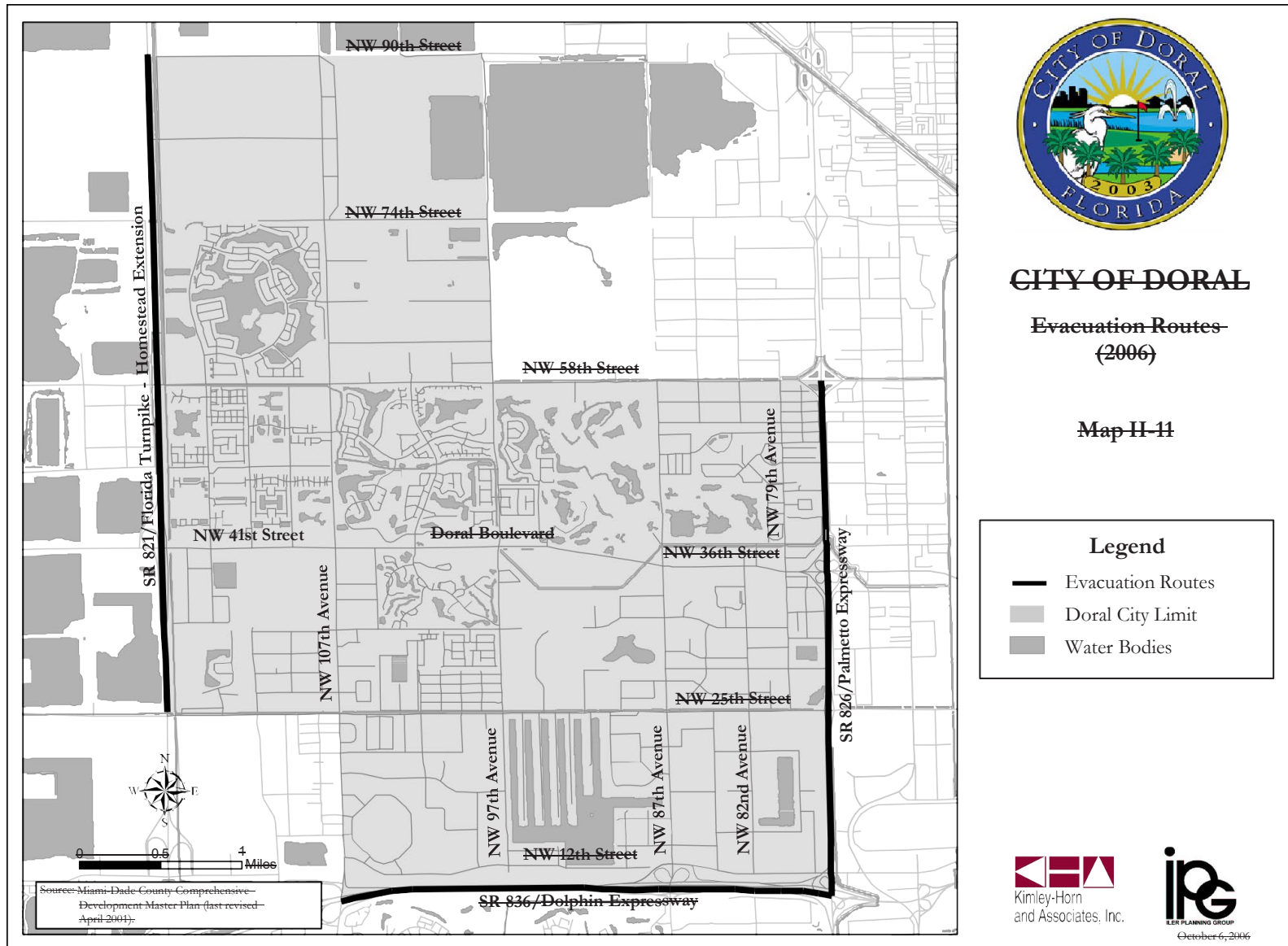
3. TRANSPORTATION



Map 2-11: Hurricane Evacuation Routes (2006)



3. TRANSPORTATION

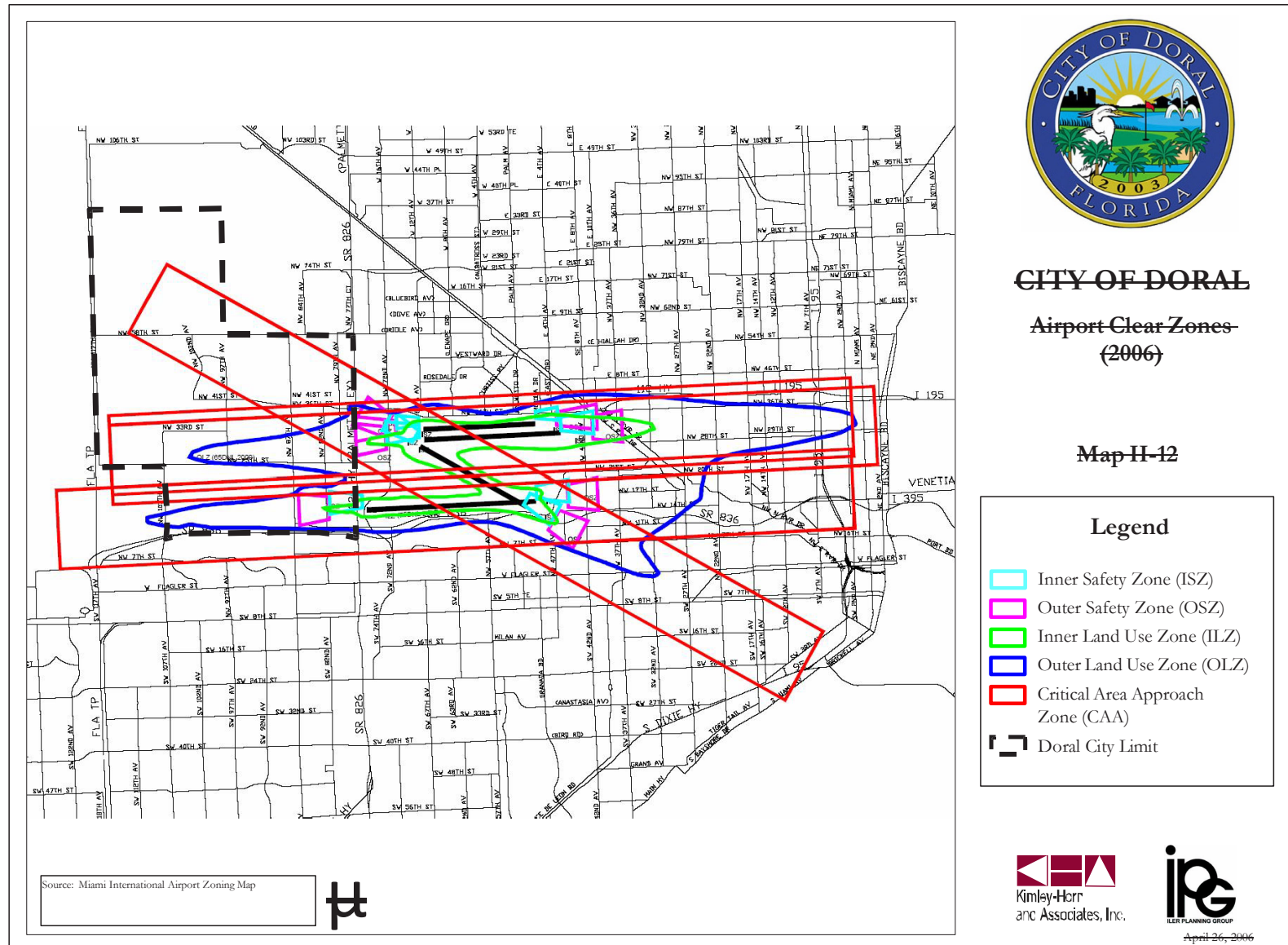


II. Transportation Element	Data, Inventory and Analysis
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~~Map 2-12: Airport Clear Zones (2006)~~



3. TRANSPORTATION



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.



II. Transportation Element

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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	E
SR 826 (Palmetto Expressway)							
SR 826 to NW 25th St.	D	Freeway (Int. Spacing < 2 mi.)	8L-D	8,380	7,208	0.87	D
NW 25th St. to NW 41st St./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	E
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 87th 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	2,102	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-State Roadway	4L	1,634	613	0.38	B-or-Better
NW 25th St. to NW 41st St.	D	Non-State Roadway	4L	1,634	657	0.40	B-or-Better
NW 41st St. to NW 58th St.	D	Non-State 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-State Roadway	4L	1,634	657	0.40	B-or-Better
NW 41st St./36th St. to NW 58th St.	E ⁵	Non-State 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.



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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,



II. Transportation Element

Data, Inventory and Analysis

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.



3. TRANSPORTATION

II. Transportation Element

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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	4%	1,220	1,184	1,116	1,861	1,276	1,196	1,264	1,234	1,266	1,194	1,421	1,406	16,618
36	14%	10,646	10,406	11,404	11,227	10,224	9,677	10,108	10,628	10,894	10,036	11,444	11,315	128,188
71	3%	1,428	1,371	1,527	1,264	1,188	1,130	1,133	1,266	1,466	1,207	1,248	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	2,468	2,676	1,964	2,131	2,336	27,638
132/Koger/Tri-Rail Shuttle	48%	436	696	286	813	486	323	472	366	276	146	324	186	4,474
238/East-West Connection	23%	3,803	3,561	4,021	3,565	3,678	3,542	3,453	4,066	4,012	3,348	4,222	4,384	46,652
242/Doral Connection	14%	1,290	1,138	1,441	1,939	1,251	1,221	936	1,501	1,593	1,234	1,704	1,424	16,678

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,



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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



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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.

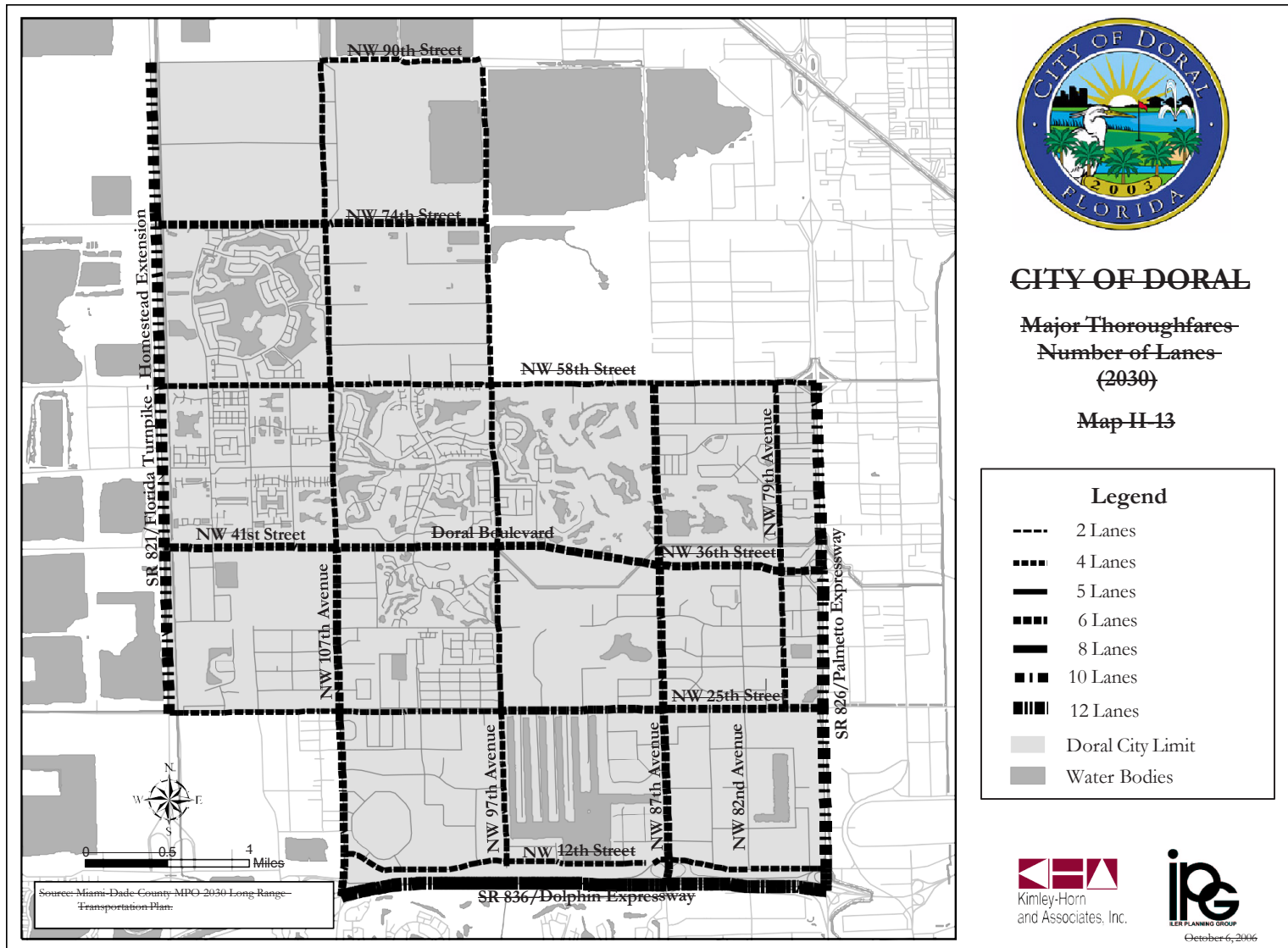
Map 2-21: Future Airport Clear Zones (2030) delineates the Miami International Airport (MIA) runway clear zones in relation to the Doral city limits.



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



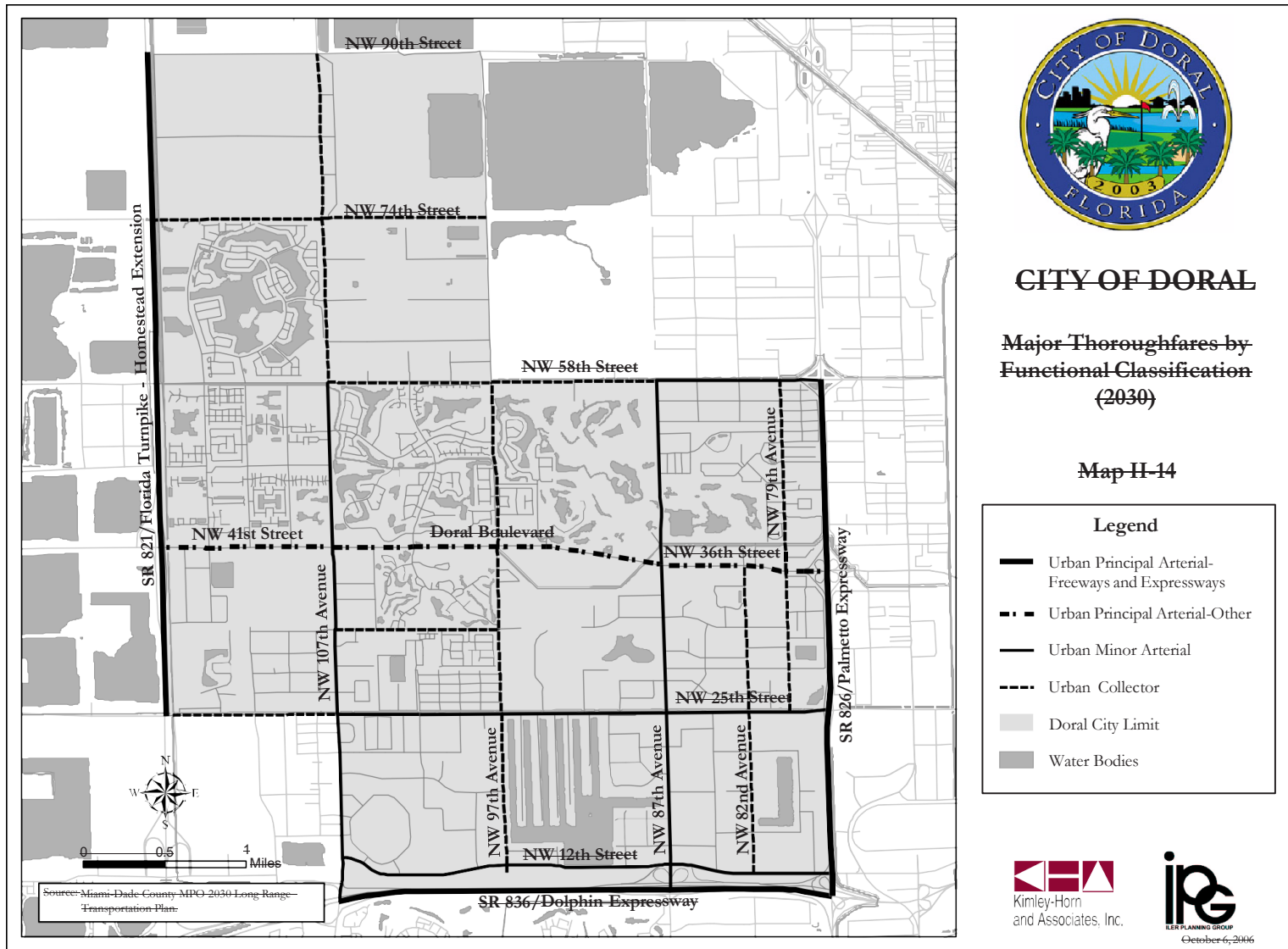
3. TRANSPORTATION



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



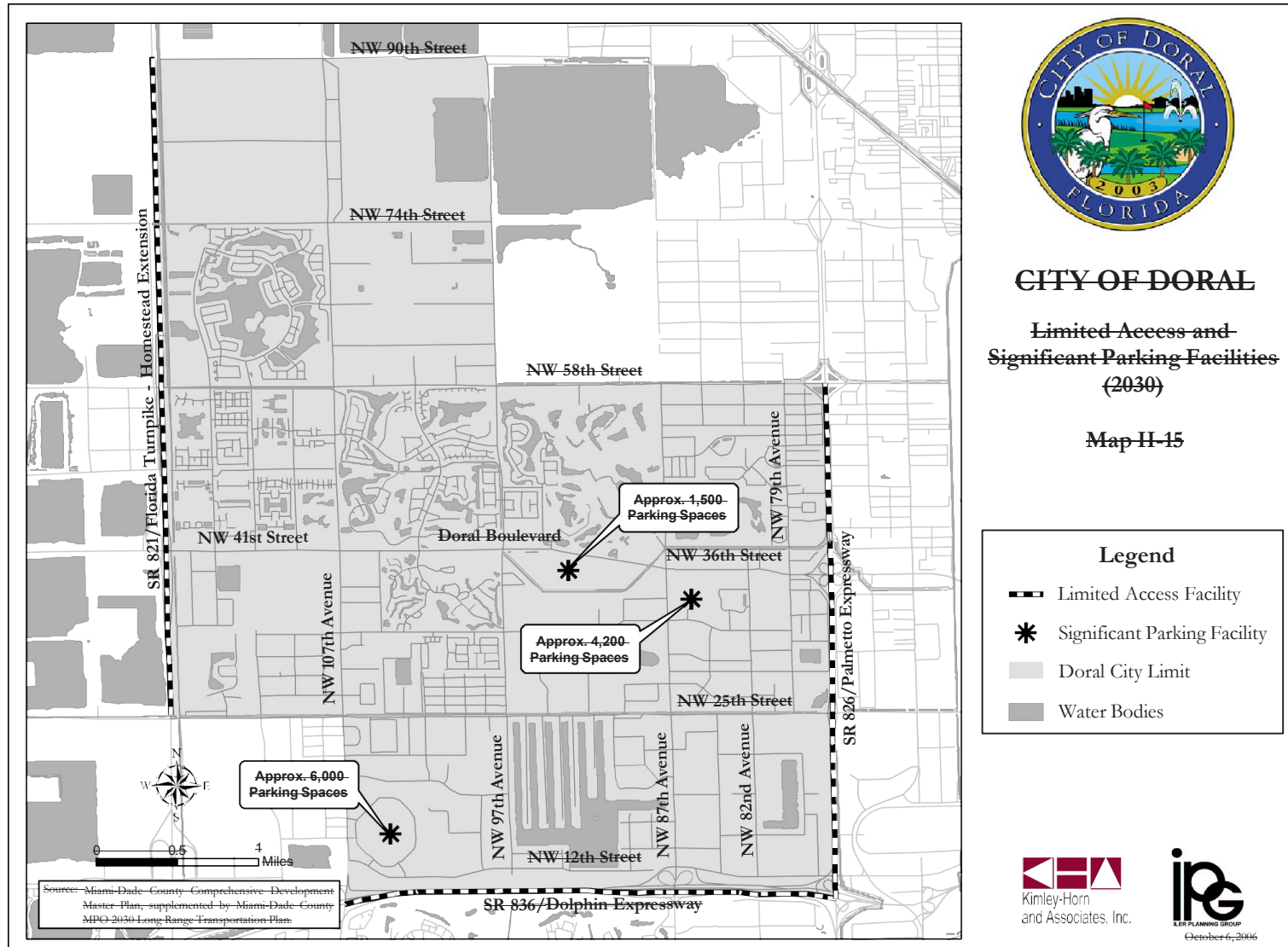
3. TRANSPORTATION



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



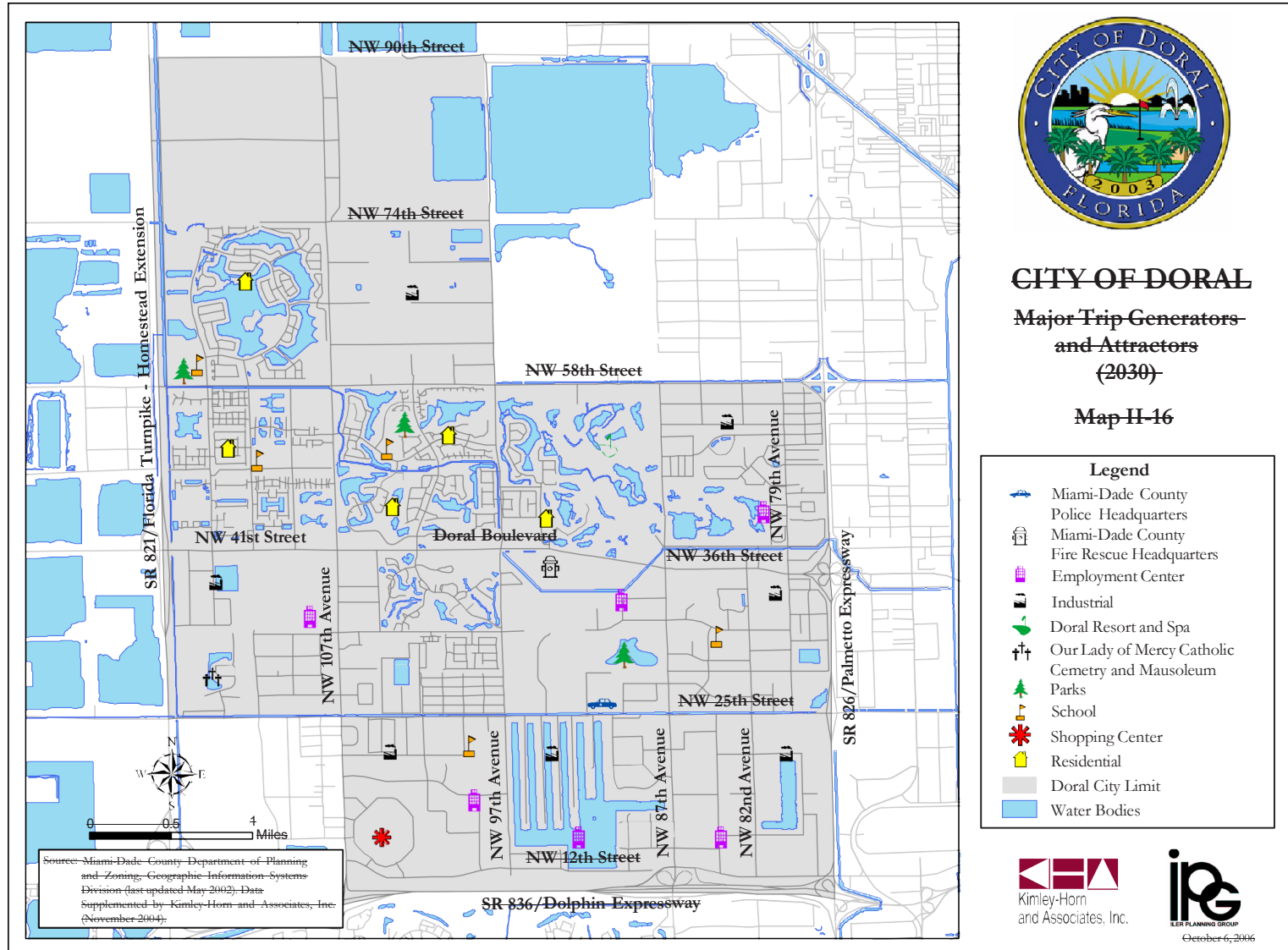
3. TRANSPORTATION



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



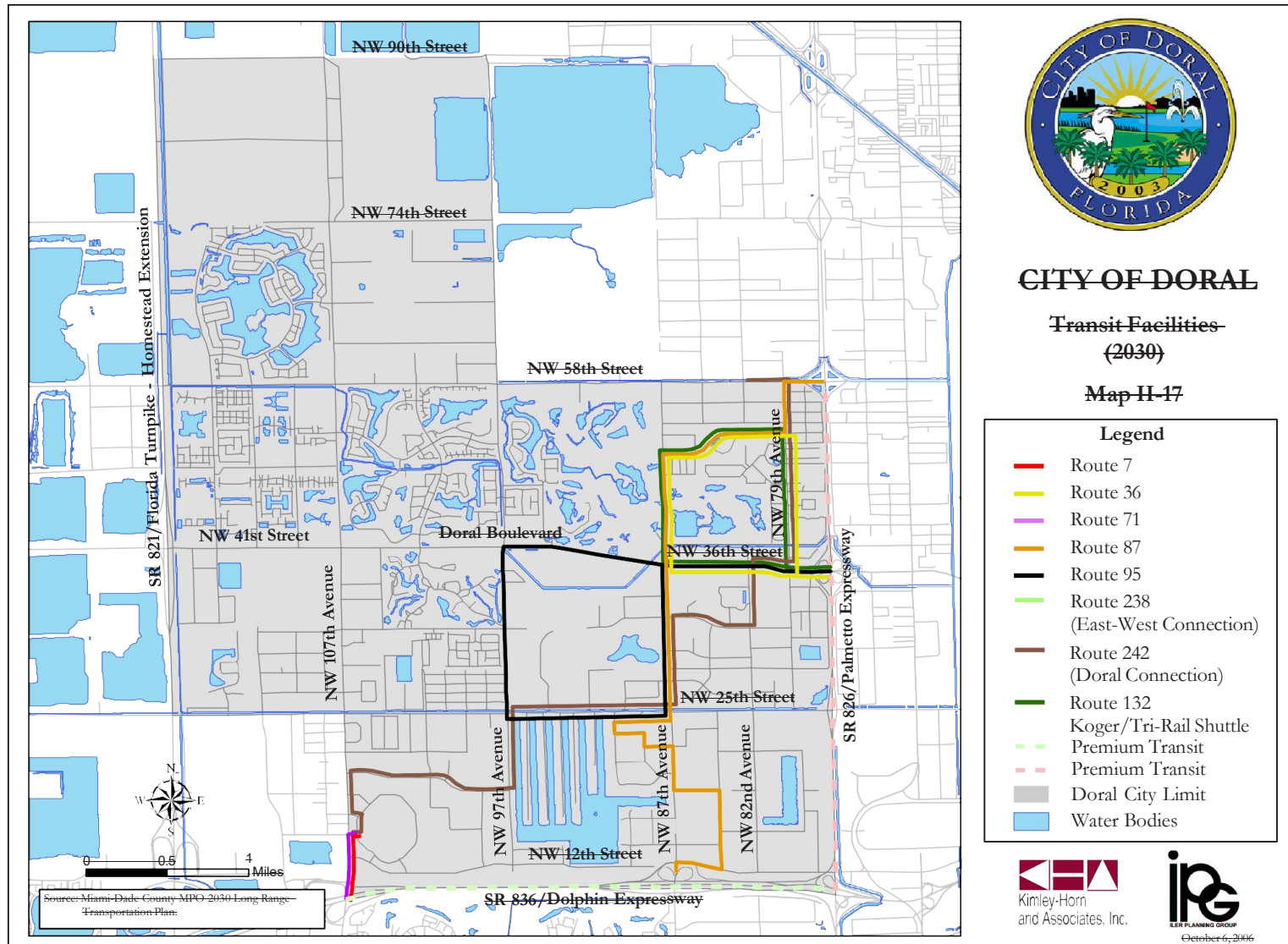
3. TRANSPORTATION



Map 2-17: Future Transit Facilities (2030)



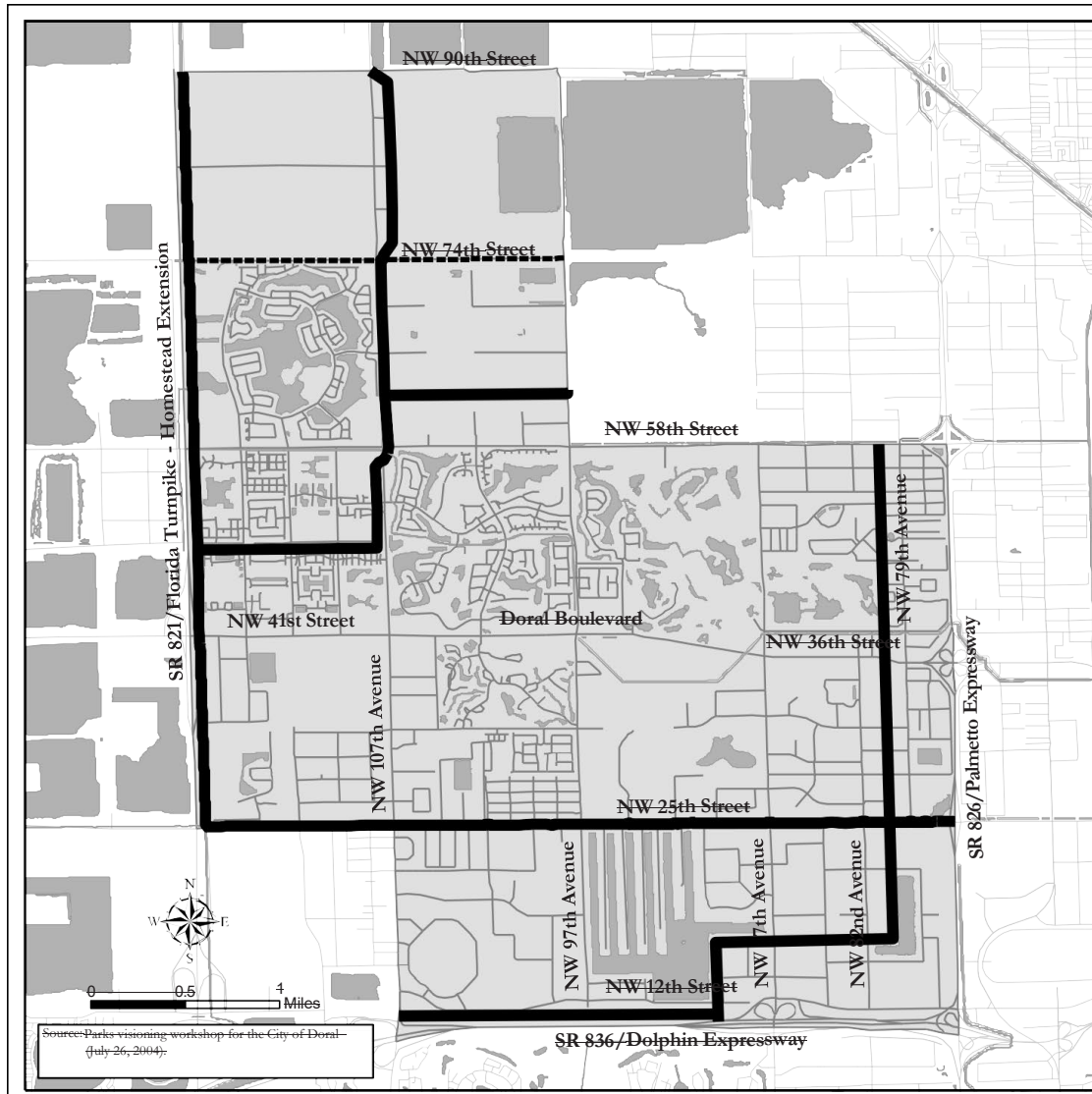
3. TRANSPORTATION



Map 2-18: Future Bicycle Facilities (2030)



3. TRANSPORTATION



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

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

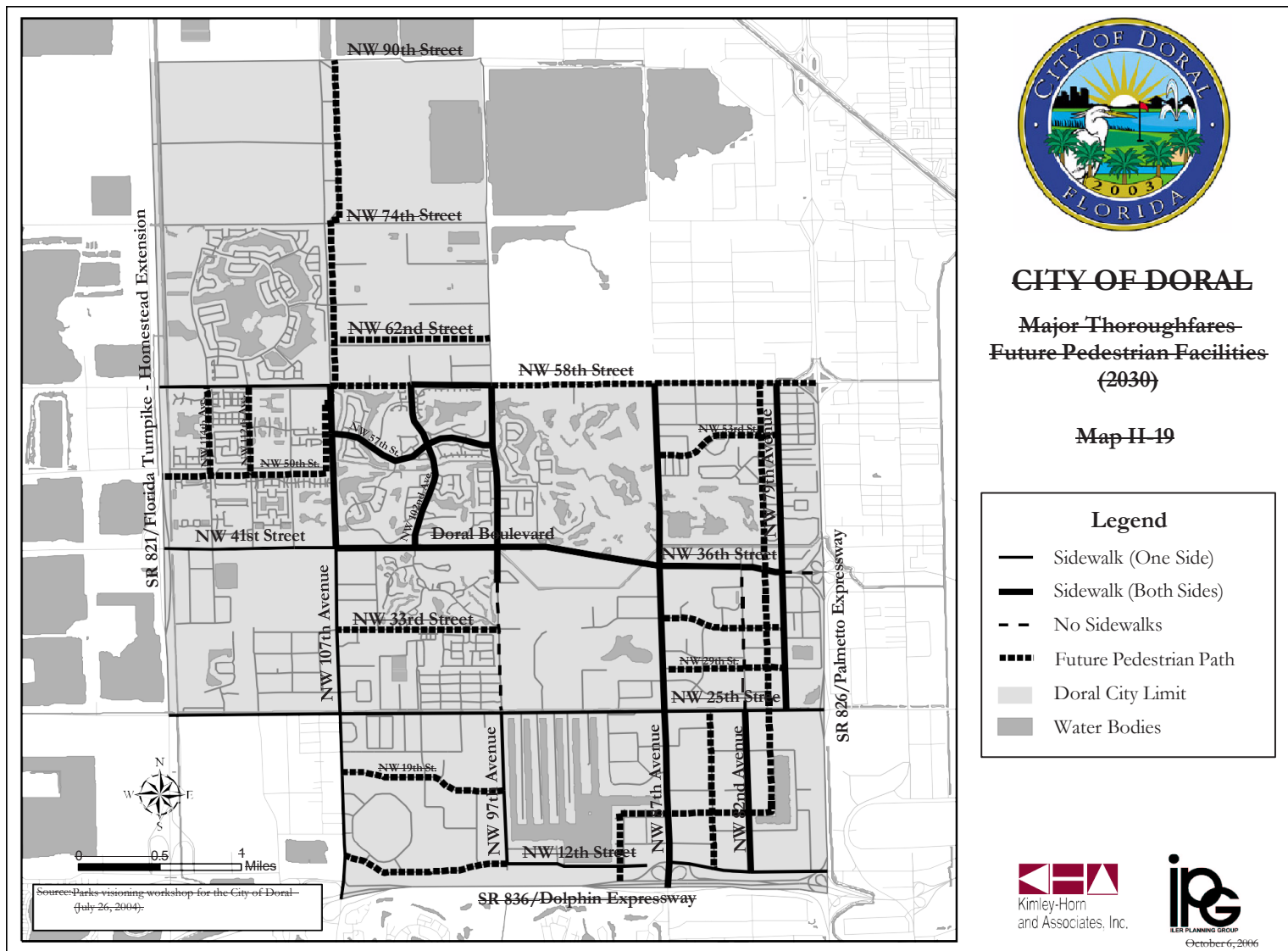
irg
ILLER PLANNING GROUP
October 6, 2006



Map 2-19: Future Pedestrian Facilities (2030)



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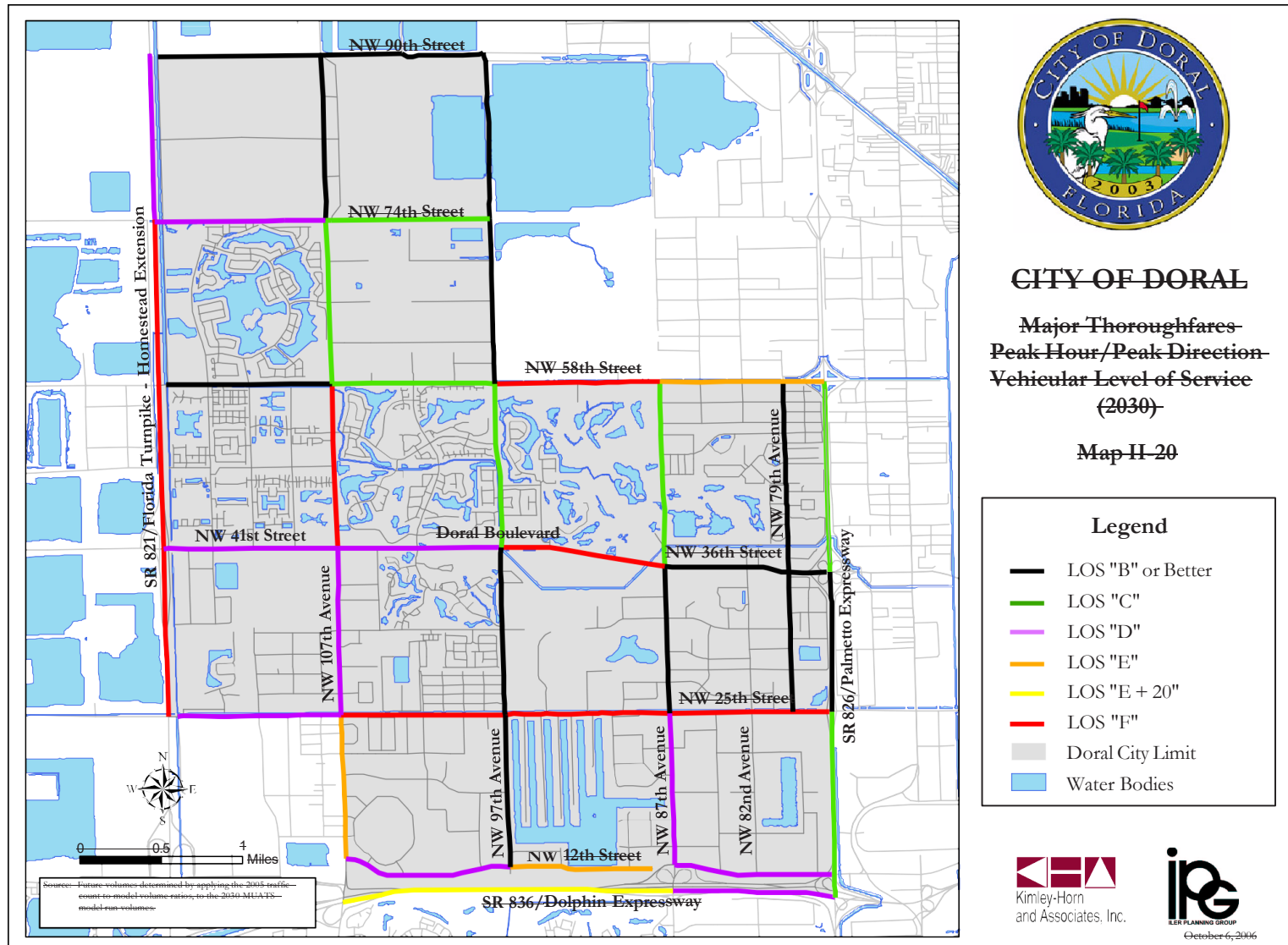


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~~Map 2-20: Future Vehicular Levels of Service (LOS) on Major Thoroughfares (2030)~~



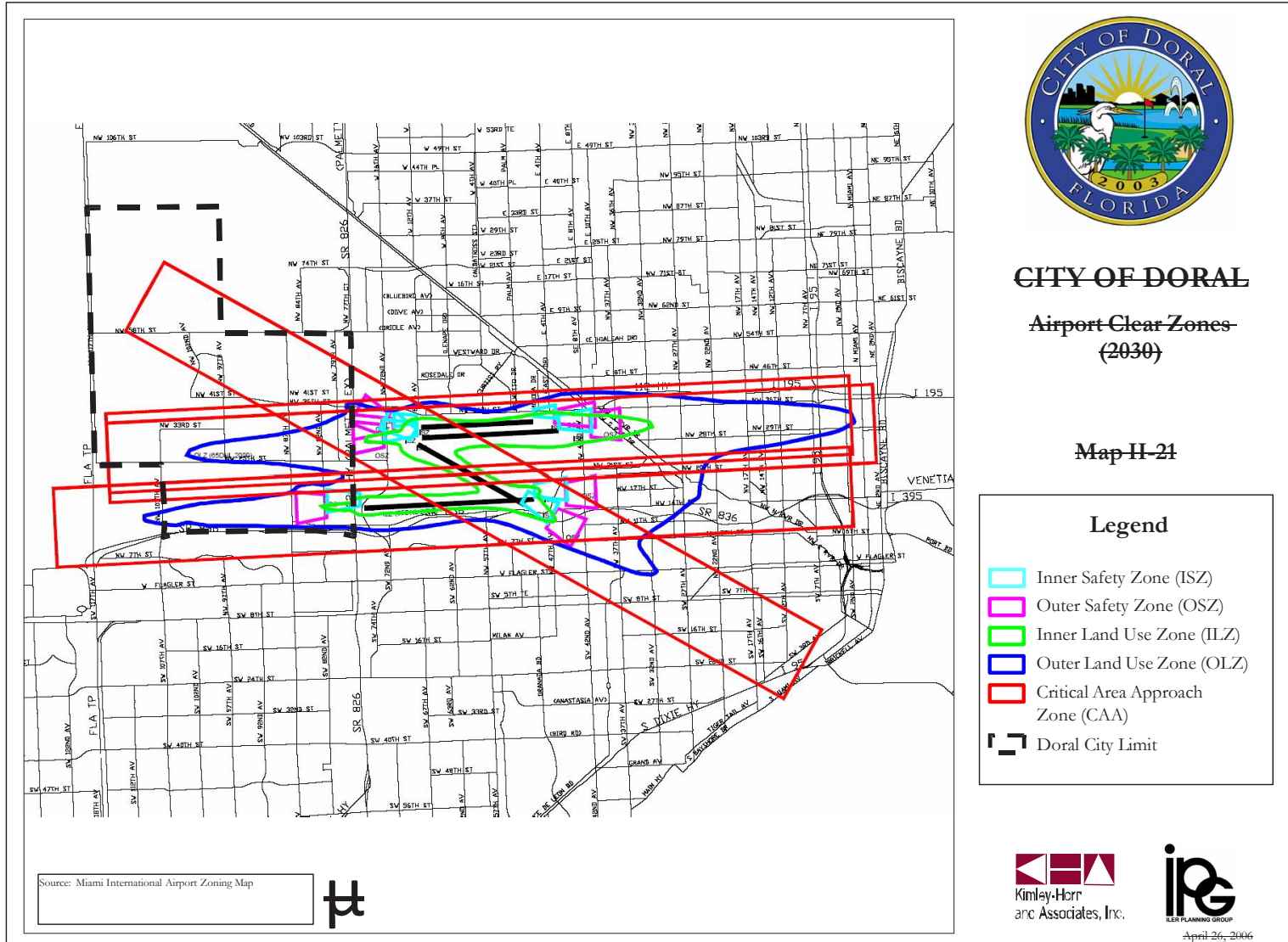
3. TRANSPORTATION



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



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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



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~~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.~~



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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 ⁴	2011 LOS
SR 826 (Dolphin Expressway)									
107th Avenue to 87th Avenue	D	12L-D	12,850	146,000	1.66%	158,083	6,772	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 826 to NW 25th Street	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 826 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	1,762	13,000	1.25%	13,814	605	0.34	B-or-Better
NW 107th Avenue to NW 97th Avenue	D	4L	1,762	18,000	1.60%	19,524	856	0.48	B-or-Better
NW 97th Avenue to NW 87th Avenue	D	4L	1,762	35,000	1.10%	33,988	1,480	0.84	D
NW 87th Avenue to SR 826	D	4L	1,762	32,000	0.84%	33,338	1,461	0.83	D
NW 41st Street/ NW 36th Street									
Hell 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	0.92%	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 ⁵	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	82,000	0.94%	84,449	2,386	0.88	D
NW 87th Avenue to SR 826	D	6L ⁷	2,710	46,000	1.68%	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	46,000	0.12%	46,225	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	1.20%	39,382	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	1.10%	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	1.73%	18,505	811	0.47	B-or-Better
NW 87th Ave									
NW 12th Street to NW 25th Street	E ⁶	6L	2,710	46,000	0.44%	47,018	2,060	0.76	C
NW 25th Street to NW 41st Street	E ⁶	6L	2,710	38,000	0.21%	38,408	1,683	0.62	B-or-Better
NW 41st Street to NW 58th Street	E ⁶	4L	1,800	25,000	1.80%	27,350	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	0.20%	15,214	667	0.39	B-or-Better
NW 41st St/36th St. to NW 58th St.	E ⁷	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.



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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 ⁴	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%	140,932	11,182	0.87	D
SR 826 (Palmetto Expressway)									
SR 826 to NW 25th Street	E+20 ⁵	10L-D	10,620	205,000	0.62%	238,197	8,491	0.80	E
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%	224,472	8,002	0.75	C
SR 821 (Florida's Turnpike)									
SR 826 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%	201,870	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	2.30%	31,730	1,291	0.79	E
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									
Left 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	3.50%	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	26,000	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	2,808	1.61	F
NW 58th Street to NW 74th Street	D	4L-D	1,800	12,000	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 ²	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.



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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.



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Data, Inventory and Analysis

- 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



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- ~~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.~~



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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-826 (Dolphin Expressway)									
107th Avenue to 87th Avenue	E+20 ⁴	12L-D	12,850	146,000	2.31%	252,815	10,829	0.84	E+20
87th Avenue to SR-826	E+20 ⁴	12L-D	12,850	92,500	1.55%	140,937	11,182	0.87	D
SR-826 (Palmetto Expressway)									
SR-826 to NW-25th Street	E+20 ⁴	10L-D	10,620	205,000	0.63%	238,192	8,491	0.80	C
NW-25th Street to NW-41st Street/36th Street	E+20 ⁴	10L-D	10,620	157,000	0.71%	186,213	6,628	0.63	B-or-Better
NW-41st Street/36th Street to NW-58th Street	E+20 ⁴	10L-D	10,620	175,500	1.03%	224,477	8,002	0.75	C
SR-824 (Florida's Turnpike)									
SR-826 to NW-41st St/26th St	D	10L-D	10,480	91,100	3.87%	227,507	12,181	1.26	F
NW-41st St/26th St to NW-74th St	D	10L-D	10,480	91,100	3.66%	201,879	11,606	1.12	F
North of NW-74th St	D	10L-D	10,480	91,100	2.46%	162,892	9,495	0.91	D
NW-58th Street									
NW-117th Avenue to NW-107th Avenue	D	4L-D	4,767	12,000	1.53%	18,050	820	0.42	B-or-Better
NW-107th Avenue to NW-97th Avenue	D	4L-D	4,767	18,000	2.39%	21,730	1,301	0.70	C
NW-97th Avenue to NW-87th Avenue	D+ ⁵	4L-D 6L-D ⁶	2,710	25,000	1.43%	48,169	2,111	0.78	C
NW-87th Avenue to SR-826	E ⁷	4L-D 6L-D ⁶	2,710	22,000	0.97%	40,221	1,762	0.65	B-or-Better
NW-41st Street/NW-26th Street									
Hebto NW-107th Avenue	D+E ⁸	6L-D	2,700	42,000	1.03%	52,681	2,352	0.84	D
NW-107th Avenue to NW-97th Avenue	D+E ⁸	6L-D	2,700	44,000	1.45%	57,841	2,525	0.91	D
NW-97th Avenue to NW-87th Avenue	D+E ⁸	6L-D 8L-D ⁹	3,540	54,000	1.12%	70,746	3,100	0.88	D
NW-87th Avenue to SR-826	E ⁷	6L-D	2,700	30,000	0.21%	41,022	1,708	0.64	B-or-Better
NW-25th Street									
NW-117th Avenue to NW-107th Avenue	E ⁷	4L-D	4,800	16,000	3.50%	37,321	1,625	0.91	D
NW-107th Avenue to NW-97th Avenue	E ⁷	4L-D 6L-D ⁶	2,710	25,000	1.25%	47,191	2,068	0.76	C
NW-97th Avenue to NW-87th Avenue	E ⁷	6L-D 8L-D ⁶	3,500	52,000	1.11%	67,825	2,072	0.85	D
NW-87th Avenue to SR-826	E ⁷	6L-D 8L-D ⁶	3,500	46,000	1.23%	62,090	2,760	0.70	C
NW-12th Street									
NW-107th Ave. to NW-97th Avenue	E+ ¹¹	4L-D	4,800	24,000	1.66%	25,649	1,562	0.87	D
NW-97th Ave. to NW-87th Avenue	E+ ¹¹	4L-D	4,800	26,000	1.58%	27,898	1,661	0.92	E
NW-87th Avenue to SR-826	E+ ¹¹	4L-D	4,800	26,000	0.13%	27,108	1,626	0.90	D
NW-107th Ave									
NW-12th Street to NW-25th Street	E ⁷	6L-D	2,710	48,000	0.91%	50,728	2,612	0.92	E
NW-25th Street to NW-41st Street	E ⁷	6L-D	2,710	37,000	1.72%	55,688	2,440	0.90	D
NW-41st Street to NW-58th Street	E ⁷	4L-D 8L-D ⁶	2,500	25,000	4.14%	66,125	2,898	0.83	D
NW-58th Street to NW-74th Street	D	4L-D	4,800	12,000	3.53%	20,857	1,308	0.73	C
NW-74th Street to NW-90th Street	D	4L-D	4,800	(4)		24,563	1,076	0.60	B-or-Better
NW-97th Ave									
NW-11th Street to NW-25th Street	D	4L-D	4,800	14,000	1.00%	22,130	981	0.55	B-or-Better
NW-25th Street to NW-41st Street	D	4L-D	4,800	15,000	2.47%	26,952	1,181	0.66	B-or-Better
NW-41st Street to NW-58th Street	D	4L-D	4,800	17,000	2.56%	21,156	1,265	0.76	C
NW-58th Street to NW-74th Street	D	4L-D	4,800	(4)		28,239	1,223	0.69	B-or-Better
NW-74th Street to NW-90th Street	D	4L-D	4,800	(4)		26,343	1,176	0.65	B-or-Better
NW-87th Ave									
NW-12th Street to NW-25th Street	E ⁷	6L-D	2,710	46,000	0.48%	51,555	2,250	0.82	D
NW-25th Street to NW-41st Street	E ⁷	6L-D	2,710	28,000	0.23%	40,080	1,756	0.65	B-or-Better
NW-41st Street to NW-58th Street	E ⁷	6L-D	2,710	25,000	2.83%	48,764	2,123	0.79	C
NW-25th Ave									
NW-25th Street to NW-36th Street	D+E ⁸	4L-D	4,800	15,000	0.30%	16,112	706	0.30	B-or-Better
NW-36th Street to NW-58th Street	E ⁷	4L-D	4,800	14,000	1.38%	19,472	852	0.42	B-or-Better
NW-24th Street									
SR-824 to NW-107th Ave	E+ ¹²	6L-D	2,710	(4)		50,511	2,213	0.82	D
NW-107th Avenue to NW-97th Ave	E+ ¹²	6L-D	2,710	(4)		48,766	2,123	0.79	E
NW-90th Street									
NW-107th Avenue to NW-97th Ave	D	4L-D	4,800	(4)		6,724	205	0.16	B-or-Better
NW-97th Avenue to NW-87th Ave	D	4L-D	4,800	(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.



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10. NW 41st Street/NW 36th Street is currently served by Miami Dade Transit regional bus service (Routes 36, 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



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~~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.~~



3. TRANSPORTATION

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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 826 Express Lanes	HEFT	SR 826/836	4 Lane Divided Express Lanes in Median of SR 826	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



II. Transportation Element

Data, Inventory and Analysis

~~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
	SR 826/Palmetto Expressway	North of NW 25 Street	NW 47 Street	Add Lanes & Reconstruct 8 to 10 Lanes	2004-2006
	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
	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
	SR 826 Westbound	SR 826	NW 57 Avenue	Add Auxiliary Lane in Westbound Direction	2004-2006
	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 policies of the Comprehensive Plan and the distribution and intensity of land uses reflected on the Future Land Use Map (FLUM).~~





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

4. HOUSING

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

☀ DATA, INVENTORY, AND ANALYSIS

I INTRODUCTION

This section presents the updated Data, Inventory and Analysis (DIA) for the housing sector in Doral. It is a key component of the Housing Element contained in the City's adopted Comprehensive Plan, providing technical and analytical support for the Goals, Objectives and Policies part of the Element. The population and housing data presented herein are is drawn primarily from the 2020 2010 U.S. Census and official Census estimates, which are the best available best-available sources.

When the City's original Comprehensive Plan was adopted in 2006, it contained an extensive Housing DIA report, which is available through the Doral Planning and Zoning Department, and remains as part of the DIA support for the Comprehensive Plan and its Housing Element. This 2025 2015 DIA section is intended to provide updated housing-related information for the 2025-2035 2006-2015 period, drawing heavily, as mentioned previously, on 2020 2010 Census data, and official projections and estimates.

I POPULATION CHARACTERISTICS

The City's official total population estimates and projections are contained in the Future Land Use Element DIA. The 2010 U.S. Census represented the first official count of Doral's total population since its 2003 incorporation and showed the City was home to 45,709 residents. That figure has now grown significantly to an estimated 55,660 persons in 2015; a 21.7% increase. The City's population is expected to grow strongly over the next 5 years to 71,282 in 2020, a 28% increase. In the 2020 U.S. Census, there were 75,874 residents. This represents a 66% increase from the 2010 U.S. Census, which counted 45,704 residents. The growth momentum has continued to increase with an estimated 2025 population of 86,615 residents of a 14.15% increase.

TABLE 4-1: POPULATION PROJECTIONS, 2020-2050

2020	2025	2030	2035	2040	2045	2050
75,874	86,615	99,083	110,124	120,175	129,730	138,904

Sources: Estimates and projections by Shimberg Center for Housing Studies, based on 2010 and 2020 U.S. Census data and population projections by the Bureau of Economic and Business Research, University of Florida.

Looking at Doral's socio-economic characteristics in 2020 2010, Table 4-2.5 presents the age of the population. The median age was 37 34 years, which is considered relatively "young" among cities. This is verified by the fact that 27% 31% of City residents were under 20 years of age, while those 65 years and older comprise only 9% 6% of the 201b population. However, 18% of the population is within the retirement zone between the ages of 50 and 64. This is a major increase since the last update of this plan, to which only 7% of the population was within retirement age. This is a similar trend to other municipalities in South Florida that have seen an increase in middle to late aged residents.



TABLE 4-2: AGE OF POPULATION

AGE RANGE	POPULATION	PERCENT
Total Population	86,615 45,704	100.0
Under 5 years	5,205 3,512	6.0% 7.7
5 to 9 years	5,613 3646	6.5% 8.0
10 to 14 years	5,706 3689	6.6% 8.1
15 to 19 years	6,438 3272	7.4% 7.2
20 to 24 years	5,769 2620	6.7% 5.7
25 to 29 years	6,096 3060	7.0% 6.7
30 to 34 years	6,990 3989	8.1% 8.7
35 to 39 years	7,639 4781	8.8% 10.5
40 to 44 years	2,025 4612	2.3% 10.1
45 to 49 years	6,414 3915	7.4% 8.6
50 to 54 years	6,375 2517	7.4% 5.5
55 to 59 years	4,941 1828	5.7% 4.0
60 to 64 years	4,235 1502	4.9% 3.3
65 to 69 years	2,863 1052	3.3% .3
70 to 74 years	1,998 755	2.3% 1.7
75 years and over to 79 years	3,288 494	3.8% 1.1
80 to 84 years	282	.6
85 years and over	178	.4
Median age (years)	37.0 34.0	(x)

Source: 2010 U.S. Census. Estimates and projections by Shimberg Center for Housing Studies, based on 2010 and 2020 U.S. Census data and population projections by the Bureau of Economic and Business Research, University of Florida.



Table 4-3 6 below shows the racial breakdown demographic composition by race of the City's population. White/Caucasian residents comprise 88.7% 54.6% of the population. The next largest racial group would be those who identify with two or more races, this represent 2/3rds (34.3%) of the total population. The next The following most prevalent racial categories are Asian, with 3.6% 2.3% of the total, and Black or African Americans, accounting for 2.5% 0.7%. Native Americans and Pacific Islanders make up less than 0.1% of the population.

TABLE 4-3 6: POPULATION BY RACE

RACE CATEGORY	# OF IN POPULATION	PERCENT
One Race	50,274	65.7%
Two or More Races	26,216	34.3%
White/Caucasian	41,787	54.6%
Black/African American	541	0.7%
Native American	94	>0.1%
Asian	1,757	2.3%
Native Hawaiian or Pacific Islander	20	>0.1%
Some Other Race	6,075	7.9%

Source: 2023: ACS 5-Year Estimates Data Profiles. Table DP05. U.S. Census Bureau.

RACE CATEGORY	POPULATION	PERCENT
Total Population	45,704	100
One Race	44,755	97.9
White	40,552	88.7
Black or African American	1,139	2.5
American Indian and Alaska Native	57	.1
Asian	1,633	3.6
Native Hawaiian and Other Pacific Islander	7	0.0
Some Other Race	1,367	3.0

The ethnicity of Doral's population is largely decidedly Hispanic or Latino with that group comprising 85.3% 79.5% of the City's residents as shown in Table 4-4 7. The Hispanic/Latino population identifies with several different heritages. The number of pPersons listing their ethnic heritage as Cuban accounts for 6,966 5,806 or 9.1% 12.7% of the population, and those listing Puerto Rican account for 3.2% , 4.9%. And those listing Mexican account for 1.4%. Residents with Hispanic or Latino heritage, but not of Mexican, Puerto Rican, or Cuban descent, make up make-up 59.4% 71.6% of Doral's population. This is a large difference from the last Comprehensive Plan, which labeled 59.4% of Hispanic/Latino residents as not claiming Cuban, Puerto Rican, or Mexican heritage. This highlights the changes in immigration trends seen in the last two decades.



TABLE 4-4-7: HISPANIC OR LATINO POPULATION

HISPANIC OR LATINO	# OF POPULATION	PERCENT
Hispanic/Latino (of any race)	65,286	85.3%
Mexican	1,069	1.4%
Puerto Rican	2,481	3.2%
Cuban	6,966	9.1%
Not Hispanic or Latino	11,222	14.7%

Source: 2023: ACS 5-Year Estimates Data Profiles. Table DP05. U.S. Census Bureau.

	POPULATION	PERCENT
Hispanic or Latino		
Total Population	45,704	100
Hispanic or Latino (of any race)	36,344	79.5
Mexican	1,152	2.5
Puerto Rican	2,238	4.9
Cuban	5,806	12.7
Other Hispanic or Latino (5)	27,148	59.4
Not Hispanic or Latino	9,360	20.5

Source: 2010 U.S. Census.

In 2010, the City had 15,244 households and the average household size was 3.0 persons. Table 8 shows that plus additional interesting household statistics. Households with a husband-wife family account for 58.3% of the City's total households; while 50.7% contain 1 or more children and 13.9% have individuals 65 years old and over.

As shown in Table 4-5, in 2023, the City had approximately 27,430 housing units. This represents a 55% increase in the number of housing units since the last update. Of the 27,430 housing units, approximately 90.9% are occupied and 9.1% are vacant.

TABLE 4-5 8: HOUSEHOLDS

HOUSING UNITS	# OF UNITS	PERCENT
Total Housing Units	27,430	100%
Occupied Housing Units	24,922	90.9%
Vacant Housing Units	2,508	9.1%

Source: 2023: ACS 5-Year Estimates Data Profiles. Table DP04. U.S. Census Bureau.



HOUSEHOLDS BY TYPE	POPULATION	PERCENT
Total households	15,244	100
Family households	12,111	79.4
Husband-wife family	8,890	58.3
Male householder, no wife present	863	5.7
Female householder, no husband present	2,358	15.5
Nonfamily households (7)	3,133	20.6
Male	1,155	7.6
Female	1,113	7.3
Households with individuals under 18 years	7,729	50.7
Households with individuals 65 years and over	2,112	13.9
Average household size	3.00	(x)
Average family size	3.33	(x)

Table 4-6 9 presents the occupancy characteristics of Doral's housing stock. Doral can be identified as a family-oriented City, with 60% of the households consisting of spouses residing together, and close to 20% of householders living with other relatives. In 2010, the City had a total of 17,785 housing units and 85.7% were occupied. It should be remembered that 2010 was a low point in what has been termed the country's "Great Recession" and thus the 14.3% in vacant units should be viewed as an aberration in the longer term. Normally, housing vacancy ranges between 4-8% in most years and that has been the case typically in Doral.

TABLE 4-6: OCCUPANCY CHARACTERISTICS

LIVING ARRANGEMENTS BY TYPE	# OF POPULATION	PERCENT
Lives Alone	3,479	6.1%
Householder Living With Spouse or Spouse of Householder	29,639	60.0%
Householder Living With Unmarried Partner or Unmarried Partner of Householder	3,223	5.6%
Child of Householder	7,727	13.5%
Other Relatives	11,063	19.4%
Other Nonrelatives	1,941	3.4%

Source: 2023: ACS 5-Year Estimates Data Profiles. Table B09021. U.S. Census Bureau



TABLE 4-7 9: HOUSING OCCUPANCY

HOUSING OCCUPANCY	TOTAL NUMBER	PERCENT
Average Household Size	3.04 (3 persons)	-
Occupied Housing Units	24,922	90.1%
Vacant Housing Units	2,508	9.1%
Owner-Occupied Units	11,164	44.8%
Renter-Occupied Units	13,758	55.2%
Owner Vacancy Rate	1.3	-
Renter Vacancy Rate	5.6	-

Source: 2023: ACS 5-Year Estimates Data Profiles, Table DP04. U.S. Census Bureau

HOUSING OCCUPANCY	POPULATION	PERCENT
Total housing units	17,785	100
Occupied housing units	15,244	85.7
Vacant housing units	2,541	14.3
For rent	528	3.0
Rented, not occupied	18	0.1
For sale only	329	1.8
Sold, not occupied	61	0.3
For seasonal, recreational, or occasional use	935	5.3
All other vacant	670	3.8
Homeowner vacancy rate	3.7%	(x)
Rental vacancy rate	7.1%	(x)

Source: 2010 U.S. Census.

1. Age of Housing Stock

Doral is a relatively 'new' city in terms of its housing stock. The City, like many other municipalities in Florida, has a young housing stock. Table 4-8 10 contains the estimated age of houses based on Census information. It's estimated that 80% of the City's housing stock was constructed between 1990 and 2020 2010. However, there are some older units. It is estimated that 56 46 units were built before 1940 and an additional 120 100 units were built in the 1950s. Most of these oldest units are located in the Vanderbilt Park neighborhood situated near NW 25th Street and NW 97th Avenue.



TABLE 4-8 10: AGE OF HOUSING STOCK

YEAR BUILT RANGE	# OF HOUSING UNITS	PERCENT
Total:	27,430	-
Built 2020 or later	969	3.53%
Built 2010 to 2019	9,268	33.79%
Built 2000 to 2009	6,964	25.39%
Built 1990 to 1999	5,569	20.30%
Built 1980 to 1989	3,151	11.49%
Built 1970 to 1979	1,205	4.39%
Built 1960 to 1969	120	0.44%
Built 1950 to 1959	120	0.44%
Built 1940 to 1949	8	0.03%
Built 1939 or earlier	56	0.20%

Source: 2023: ACS 5-Year Estimates Data Profiles, Table B25034. U.S. Census Bureau.

YEAR BUILT RANGE	HOUSING UNITS
Total Units:	17,702
Built 2010 or later	391
Built 2000 to 2009	8,360
Built 1990 to 1999	5,863
Built 1980 to 1989	1,913
Built 1970 to 1979	858
Built 1960 to 1969	171
Built 1950 to 1959	100
Built 1940 to 1949	0
Built 1939 or earlier	46

Source: 2011-2013 American Community Survey 3-year estimates, U.S. Census, 2015

The balance of owner-occupied and renter-occupied housing is an important indicator of a community's shelter health. Table 4-9 11 provides a snapshot of this factor for Doral. Owner-occupied units totaled 44.4% 55.1% of the City's 76,490 15,244 occupied housing while rentals comprised 55.7% 44.9%.



TABLE 4-9 11: OWNER & RENTER OCCUPIED UNITS

HOUSING TENURE	# OF HOUSING UNITS	PERCENT
Total:	76,490	-
Owner-occupied	33,927	44.35%
Renter-occupied	42,563	55.65%
Owner-occupied housing units	11,164	-
Average household size of owner-occupied units	2.63	-
Renter-occupied housing units	13,758	-
Average household size of renter-occupied units	2.26	-

Source: 2023: ACS 5-Year Estimates Data Profiles, Table B25008, Table B25009, and Table B25010. U.S. Census Bureau.

Housing Tenure	Units	Percent
Occupied housing units	15,244	100
Owner-occupied housing units	8,395	55.1
Population in owner-occupied housing units	25,417	(x)
Average household size of owner-occupied units	3.03	(x)
Renter-occupied housing units	6,849	44.9
Population in renter-occupied housing units	20,281	(x)
Average household size of renter-occupied units	2.96	(x)

Source: 2011-2013 American Community Survey 3-year estimates, U.S. Census, 2015

2. Housing Affordability

Trying to match the cost of housing with the income level of a community's population is one of the most challenging issues facing cities in Florida and around the country. In determining housing affordability, households spending 30% or more of their income on shelter are considered "cost burdened" while those spending 50% or greater for housing are classified as "severely cost-burdened."

Tables 4-10 12 and 4-11 13 below provide the ratio of housing cost-to-income for Doral's renters and owners based on Census (2023) ACS 5-Year Estimates survey estimates in 2011-13. For renters (Table 4-10 12), 66% 60% of households spent 30% or more of their incomes for housing and thus were "cost-burdened," while 42% of owners (Table 4-11 13) paid 30% or more. For all households, 56% 50.7% paid more than 30% of income for housing. Of "severely cost burdened" households, 36% 25.7% were renters and 20% 24.3% were owners.



TABLE 4-10 12: GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME

RENT INCOME PERCENT RANGE	HOUSEHOLDS
Total:	13,758
Less than 10.0 percent	90
10.0 to 14.9 percent	429
15.0 to 19.9 percent	1,039
20.0 to 24.9 percent	1,576
25.0 to 29.9 percent	1,256
30.0 to 34.9 percent	818
35.0 to 39.9 percent	984
40.0 to 49.9 percent	1,984
50.0 percent or more	4,844
Not computed	738

Source: 2023: ACS 5-Year Estimates Data Profiles, Table B25070, U.S. Census Bureau.

RENT INCOME PERCENT RANGE	HOUSEHOLDS
Total:	6,926
Less than 10.0 percent	84
10.0 to 14.9 percent	301
15.0 to 19.9 percent	611
20.0 to 24.9 percent	691
25.0 to 29.9 percent	663
30.0 to 34.9 percent	780
35.0 to 39.9 percent	476
40.0 to 49.9 percent	1,131
50.0 percent or more	1,786
Not computed	403

Source: 2011-2013 American Community Survey 3-year estimates, U.S. Census 2015



TABLE 4-11 13: MONTHLY OWNER COSTS AS PERCENTAGE OF HOUSEHOLD INCOME

COST TO INCOME PERCENT RANGE	UNITS
Total:	11,164
Housing units with a mortgage:	7,430
Less than 10.0 percent	407
10.0 to 14.9 percent	887
15.0 to 19.9 percent	808
20.0 to 24.9 percent	867
25.0 to 29.9 percent	791
30.0 to 34.9 percent	593
35.0 to 39.9 percent	543
40.0 to 49.9 percent	432
50.0 percent or more	2,050
Not computed	52
Housing units without a mortgage:	3,734
Less than 10.0 percent	1,010
10.0 to 14.9 percent	625
15.0 to 19.9 percent	454
20.0 to 24.9 percent	324
25.0 to 29.9 percent	93
30.0 to 34.9 percent	149
35.0 to 39.9 percent	69
40.0 to 49.9 percent	200
50.0 percent or more	627
Not computed	183

Source: 2023: ACS 5-Year Estimates Data Profiles, Table B25091. U.S. Census Bureau.



COST-TO-INCOME PERCENT RANGE	UNITS
Total:	7,714
Housing Units with a mortgage:	5,727
Less than 10.0 percent	238
10.0 to 14.9 percent	637
15.0 to 19.9 percent	668
20.0 to 24.9 percent	775
25.0 to 29.9 percent	609
30.0 to 34.9 percent	473
35.0 to 39.9 percent	242
40.0 to 49.9 percent	481
50.0 percent or more	1573
Not computed	31
Housing Units without a mortgage:	1,987
Less than 10.0 percent	584
10.0 to 14.9 percent	336
15.0 to 19.9 percent	255
20.0 to 24.9 percent	35
25.0 to 29.9 percent	104
30.0 to 34.9 percent	59
35.0 to 39.9 percent	97
40.0 to 49.9 percent	20
50.0 percent or more	299
Not computed	198

Source: 2011-2013 American Community survey 3-year estimates, U.S. Census 2015

3. Workforce Housing

As can be seen from the previous subsection, affordable housing need is a critical issue in Doral and the Miami metropolitan area in general. A key component of this issue where a city like Doral can have the largest impact is in the provision of affordable housing for its workforce. Workforce housing is generally defined as housing affordable to families and persons making between 60% 65% and 140% of median family of the area median income (AMI) according to the U. S, Department of Housing and Urban Development. According to the Census (2023) ACS 5-Year Estimates, the median family income is estimated to be \$101,495 \$49,900. Thus, using the income percentage range above, workforce housing in Doral should be affordable to families with income between \$60,900 \$32,400 and \$142,100 \$69,900.

One important method to encourage the construction of workforce housing is with the selected use of density bonuses. It is recommended such bonuses be made available to developers on parcels With high-density residential or mixed-use



land use and zoning. A density bonus of 30% should be considered with the developer required to provide 2/3 of the bonus units on site as workforce housing if the bonus is approved by the City Council. In addition, the workforce units should be affordable across the full range of family incomes in the 60-140% AMI range.

INNOVATIVE HOUSING DESIGN

Cities can also help facilitate the provision of affordable and workforce housing options by allowing creative and innovative housing options for smaller families and single persons such as:

- ☀ Allowing live-work units within mixed-use areas;
- ☀ Permitting single-room occupancy units as part of a diverse housing mix;
- ☀ Encouraging accessory dwelling units (ADUs);
- ☀ Reducing minimum residential floor area requirements;
- ☀ Expanding density bonus programs;
- ☀ Providing expedited permitting processes; and
- ☀ Reducing or waiving permit fees.
- ☀ Live-work units in mixed use areas;
- ☀ Single-room occupancy as part of development mix;
- ☀ Accessory apartments;
- ☀ Reduced minimum residential floor area regulations;
- ☀ Expansion of density bonus program;
- ☀ Expedited permitting; and/or
- ☀ Reduced permit fees.

Each of these options is currently incorporated into the goals, objectives and policies of the Housing Element either for direct implementation and/or future feasibility study.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

5. INFRASTRUCTURE

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

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~~1~~ 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.



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	1141	143.0	143.0
North District	88.5	112.5	135.0
South District	90.9-112	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

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 1146 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.

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 the 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 wastewater treatment plants shall operate with a physical capacity of no less than the annual average daily influent sewage flow for the preceding 12 months.



- b. Effluent discharged from wastewater treatment plants shall meet all federal, State, and County standards.
- c. The system shall maintain the capacity to collect and dispose of no less than 102 percent of annual average daily influent sewage flow for the preceding 5 years accounting for reserved capacity. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months. The annual average daily influent sewage flow shall be calculated as the average of the daily volume received at the facility over a 12-month period.
- d. The per capita Level of Service standard for sanitary sewer shall be 122 gallons per capita per day.
- e. 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



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

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.

The “user” portion of the county's adopted level of service standard is 100 gallons per capita per day. Based on 2020 Census data, Doral's current population of 20,438-75,874 generates approximately 10.5-2.04 MGD in wastewater impacts, or 0.45-1.8 percent of the countywide treatment capacity reported for the Year 2020.

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.



SOLID WASTE SUBELEMENT

The Solid Waste section of the Infrastructure Element was established based upon the 2003-2017 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. 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.

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The City of Doral solid waste, recycling and yard waste

collection is currently being handled by several companies known as private haulers. The City of Doral monitors the private haulers that operate within the City. They need to have a franchise to operate. The Miami-Dade County Solid Waste Management has neighborhood trash and recycling centers to do self disposal.

The City of Doral requires businesses engaging in the business of the collection of solid waste to obtain a franchise from the City of Doral Public Works Department and pay solid waste collection franchise fees. Please follow the link to download the guideline to apply online for the private hauler franchise.



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.



TABLE 4-2. WASTEWATER SYSTEM CAPACITY AND DEMAND COMPARISON, 1995 – 2020

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

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.

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



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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.

To assure adequate level of service, potable water and sanitary sewer facilities shall meet the following level of service standards:

Potable Water Supply:

(a) potable water treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year accounting for capacity that is reserved for development that is not yet completed (“reserved capacity”), and no less than an average daily capacity 2 percent above the average daily system demand for the preceding 5 years accounting for reserved capacity. The maximum finished water daily flow shall be determined by calculating the average of the highest five single day finished water flows for the previous 12 months. 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, Out of Cycle CDMP20220002 Ord. No. 23-6, Adopted 1-19-23, V-3 minimum fire flows based on the land use served shall be maintained as follows:

TABLE 5-1: MINIMUM FIRE FLOW REQUIREMENTS

LAND USE	MINIMUM FIRE FLOW
Single Family Residential Estate	500
Single Family and Duplex; Residential on minimum lots of 7,500 sf	750
Multi-Family Residential (Low Medium Density);	1,500
Semiprofessional Offices (Medium and High Density); Hospitals; Schools	2,000
Business and Industry	3,000



(b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

(c) Water quality shall meet all federal, state, and County primary standards for potable water.

(d) Countywide 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.

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.

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.

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



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 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.
- ☀ **Glogged 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.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

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DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

CITY OF DORAL WATER SUPPLY FACILITIES WORK PLAN

Section 1.0 – History and Statutory Overview

The City of Doral was incorporated in 2003 as Miami-Dade County's 34th municipality located in the west-central portion of the County. The City has a land area of approximately 15 square miles bounded by the Town of Medley and unincorporated Miami-Dade County to the north, unincorporated Miami-Dade County to the south, east, and west and the City of Sweetwater to the southwest. A map of the City's boundary is provided in Figure 1-1.

As one of the most diverse and dynamic municipalities in the State of Florida and the United States, the City of Doral is a multi-cultural community comprised of residential, recreational, business, and industrial neighborhoods.

The City's government has operated under the Mayor-Council-Manager form of government since incorporation. Policymaking and legislative authority are vested in a governing council consisting of the Mayor and four other Council Members. The City Council, which is elected at large, is responsible for passing ordinances and resolutions, adopting the annual budget, and appointing the City Manager, City Clerk and City Attorney. The City Manager is responsible for carrying out the policies and ordinances of the Council, for overseeing the daily operations of the government, and for appointing the heads of various departments.

Chapter 163.3177(6)(c)3, Florida Statutes (F.S.), requires local governments to prepare and adopt Water Supply Facilities Work Plans into their comprehensive plans within 18 months after the South Florida Water Management District (SFWMD) approves a regional water supply plan or its update. The Water Supply Facilities Work Plan must address the development of traditional and alternative water supplies and management strategies, including conservation and reuse. The data and analyses, including population projections and water demand, must span at least a 10-year planning period and be consistent with the 2023-2024 Lower East Coast Water Supply Plan Update.

The 2023–2024 Lower East Coast Water Supply Plan Update (2023–2024 LEC Plan Update) is the fourth update to the 2000 Lower East Coast Regional Water Supply Plan (2000 LEC Plan), which previously was updated in 2006, 2013, and 2018. The 2023-2024 Lower East Coast Water Supply Plan Update was approved by the SFWMD's Governing Board on September 23, 2024. Therefore, pursuant to Section 163.3177(6)(c)4., F.S., local governments within the Lower East Coast Region are required to amend their comprehensive plans to include an updated Water Supply Facilities Work Plan and related planning elements within 18 months of the plan's approval, or by March 23, 2026.

In order to meet water supply and water facilities planning requirements, local government comprehensive plans must address the following:

1. Coordinate appropriate aspects of the comprehensive plan with the appropriate water management district's regional water supply plan. [Section 163.3177(4)(a), F.S.]
2. Revise the Potable Water Sub-Element to adopt a water supply facilities work plan covering at least a 10-year planning period to meet existing and projected demand. The work plan must address those water supply facilities for which the local government has responsibility and include the facilities needed to develop alternative water supplies. The work plan must also identify conservation and reuse measures to meet future needs. [Section 163.3177(6)(c), F.S.]
3. Revise the Conservation Element to assess current and projected water needs and sources for at least a 10-year planning period. The analysis must consider the existing levels of water conservation, use, and protection, the applicable policies of the water management district, and the district's approved regional water supply plan. In the absence of an approved regional water supply plan, the analysis must consider the district's approved water management plan. [Section 163.3177(6)(d)3, F.S.]
4. Revise the Capital Improvements Element to identify capital improvements projects to be implemented in the first 5 years of the work plan for which the local



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government is responsible, including both publicly and privately funded water supply projects necessary to achieve and maintain adopted level of service standards; and adopt a five-year schedule of capital improvements to include those projects as either funded or unfunded, and if unfunded, assign a level of priority for funding. [Section 163.3177(3)(a)4, F.S.]

5. Revise the Intergovernmental Coordination Element to adopt principles and guidelines to be used to coordinate the comprehensive plan with the regional water supply authority (if applicable) and with the applicable regional water supply plan. [Section 163.3177(6)(h)1, F.S.]
6. During the Evaluation and Appraisal review, determine if comprehensive plan amendments are necessary to reflect statutory changes related to water supply and facilities

planning since the last update to the comprehensive plan. If necessary, adopt the plan amendments to incorporate the statutory changes as appropriate. [Section 163.3191(1) and (2), F.S.]

7. Ensure that adequate water supplies and facilities are available to serve new development no later than the date on which the local government anticipates issuing a certificate of occupancy and consult with the applicable water supplier prior to approving a building permit, to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy. [s.163.3180(2)(a), F.S., effective July 1, 2005.] Local governments should update their comprehensive plans and land development regulations as soon as possible to address this water supply concurrency requirement.



A detailed map of the Doral area in Miami-Dade County, Florida. The map shows a grid of streets from NW 90th Street to NW 25th Street and NW 74th Avenue to NW 87th Avenue. Key features include the Doral Golf Course and Costa Del Sol Golf Course. Major roads like US Highway 826 and SR 836 are also shown. A scale bar indicates distances up to 1 mile, and a north arrow is present. Two green icons labeled "FLORIDA'S TURNPIKE" are visible on the left side of the map.

— Doral Limits



Section 2.0 – Work Plan Goals and Objectives

The goal of the water supply planning process is to determine the local water needs and develop sound and workable solutions and policies to meet those needs and to ensure the long-term sustainability of potable water resources by maintaining or reducing the per capita water demand through implementation conservation measures, infrastructure improvements, and coordination with Miami-Dade Water and Sewer Department (MDWASD) and the South Florida Water Management District (SFWMD). The purpose of the City of Doral Water Supply Facilities Work Plan (Work Plan) is to identify and plan, in coordination with the Miami-Dade Water Sewer Department (WASD), water supply sources and facilities needed to serve existing and new development within the City over the next ten years.

The residents of the City of Doral obtain their potable water and sewer service directly from WASD, which is responsible for ensuring enough capacity to meet the water needs of existing and future water customers. In addition to serving the City, WASD is the designated regional supplier of potable water for most of the cities in Miami-Dade County. In that capacity, the WASD supplies the City of Doral's residential and non-residential property owners with potable water on a retail basis and bills these customers for this service. WASD owns, operates, and maintains a central potable water distribution system, along with the facilities for collection and treatment of water, which then transmits the potable water to its citizens throughout most of Miami-Dade County.

To maintain a water supply system and conservation program, the City recognizes there must be effective coordination with WASD and the SFWMD and has an excellent working relationship with both to ensure compliance with all regulations and guidelines. In addition, the City's Public Works and Planning and Zoning Departments, through the development approval process, coordinate with WASD to ensure enough water supply is available for existing and future customers and supporting infrastructure is adequately maintained.

The purpose of the City's Work Plan objectives is to ensure the implementation of potable water initiatives and/or programs that will reduce the per capita demand in the City of Doral, and aligns with states statutes, regional water supply plans, and comprehensive plan requirements.

- ☀ Promote the City's water conservation programs through education and proactive community programs.
- ☀ Require the adoption of Florida-Friendly Landscaping and irrigation efficiency through the site plan approval process, and development agreements
- ☀ Prioritize sustainable infrastructure improvements that ensure the long-term sustainability of potable water resources.
- ☀ Align water supply planning with Future Land Use Map and populations from comprehensive plan.
- ☀ Support alternative water supply development where feasible (i.e. reuse, etc.).
- ☀ Promote sustainable use of water resources and protect natural systems (i.e. aquifers, wetlands).
- ☀ Incorporate adaptive strategies for long-term sustainability.
- ☀ Develop a process to monitor water use, Gallons Per Capita per Day (GPCD), and infrastructure performance.
- ☀ Ensure transparency and community support for water supply strategies.
- ☀ Proactively participate in the County's Environmentally Endangered Land (EEL) Program, Florida Forever Program, Florida Community Trust and Save Our Everglades Program to secure public funding to establish a land banking program to voluntarily acquire land in the City to enhance open space, protect coastal wetlands, and water supply.



The City's residents and businesses obtain their water directly from Miami-Dade County. Therefore, the City's Water Supply Facilities Work Plan references the water demands and initiatives identified in the County's Miami Dade Water and Sewer Department 10- Year Water Supply Facilities Work Plan April 2022 provided in Appendix A. The City's Work Plan and comprehensive plan are consistent with State guidelines addressing traditional and alternative water supplies, service delivery, and conservation and reuse programs to serve existing and new development over the next 10 years.

The City's Work Plan is divided into seven sections:
Section 1 – History and Statutory Overview

Section 2 – Work Plan Objectives Section 3 – Provision of Water Supply

Section 4 – Water Supply Capital Improvements Section 5 – Regional Issues

Section 6 – Goals, Objectives, Policies Section 7 - References

Section 3.0 – Provision of Water Supply

Water Supply Provided by Local Government

The City of Doral does not provide water or sewer services to the residences and businesses within its jurisdictional boundaries. The water and sewer infrastructure serving the City is owned and operated by the WASD. The WASD distribution system supplies adequate water pressures within the City's boundaries so that high service pumps are not required to be owned or maintained by the City to maintain adequate delivery pressures. Within the City, there are no self-supplied water users other than permitted groundwater wells and on-site lakes that provide public supply and landscaping to a cemetery complex.

Water Supply Provided by Other Entities

The first 20-Year Water Use Permit (WUP) for Miami-Dade County was approved by the South Florida Water

Management District (SFWMD) Governing Board on November 15, 2007. Subsequent modifications have been submitted by WASD and approved by SFWMD, with the latest permit issued on March 8, 2022. The water use permit limits WASD's annual allocation to 148,018 million gallons (MG) (392.2 MGD Biscayne Aquifer and 13.33 MGD Floridian Aquifer) and the maximum monthly allocation to 12,954.61 million gallons through 2042 (20 years). These allocations are further limited by the wellfield operational plan, dependent on the C-51 Reservoir offset. Between March 12, 2042 and December 27, 2065, withdrawals from the Biscayne aquifer that are offset from the C-51 reservoir shall be limited to an annual allocation that shall not exceed 15 MGD. The C-51 reservoir project has been completed and operational since January 9, 2024.

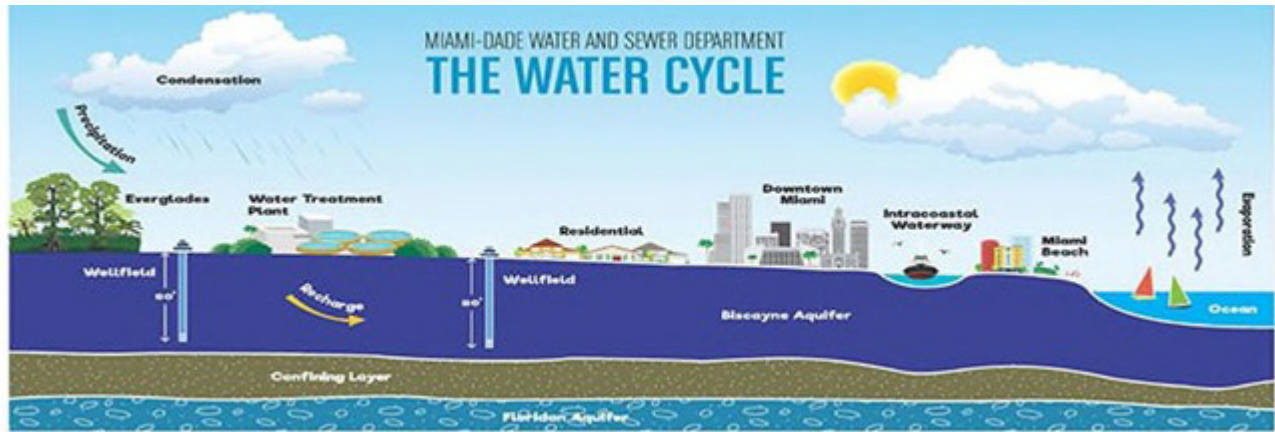
The water supply projects in WASD's current Water Use Permit (WUP), which expires in 2065 addresses anticipated demands in the County's 10-year (2020-2030) Work Plan. These projects will undergo further refinement as necessary as conditions evolve, and any updates to address longer-term demands will be reflected in future WUP modifications submitted to SFWMD.

The WASD provides drinking water to 2.4 million Miami-Dade County customers and is the designated regional supplier of potable water to the City of Doral. In that capacity, the WASD supplies the City of Doral's residential and non-residential property owners with potable water on a retail basis at a customer cost determined by WASD.

WASD owns, operates, and maintains a central potable water distribution system, along with the facilities for collection and treatment of water, which then transmits the potable water to its citizens throughout most of Miami-Dade County including those in Doral. A visualization of how Doral's residents obtain their potable water is provided in Figure 3-1. Some of Florida's rainfall slowly seeps, or percolates, into the ground to recharge, or refill the underground layers of sand, gravel, and rock. These layers, called aquifers, hold water. WASD drills wells into two of these aquifers, the Biscayne and the Floridan aquifers, to pump out water for treatment and distribution to its customers.



**FIGURE A-1: WATER CYCLE IN MIAMI-DADE COUNTY FL
(FROM MIAMI-DADE COUNTY, 2020)**



The WASD water service area, including its wholesale customers is depicted in Figure 3-2. WASD's water distribution system is supported by three regional treatment plants, five smaller treatment plants located in the southern

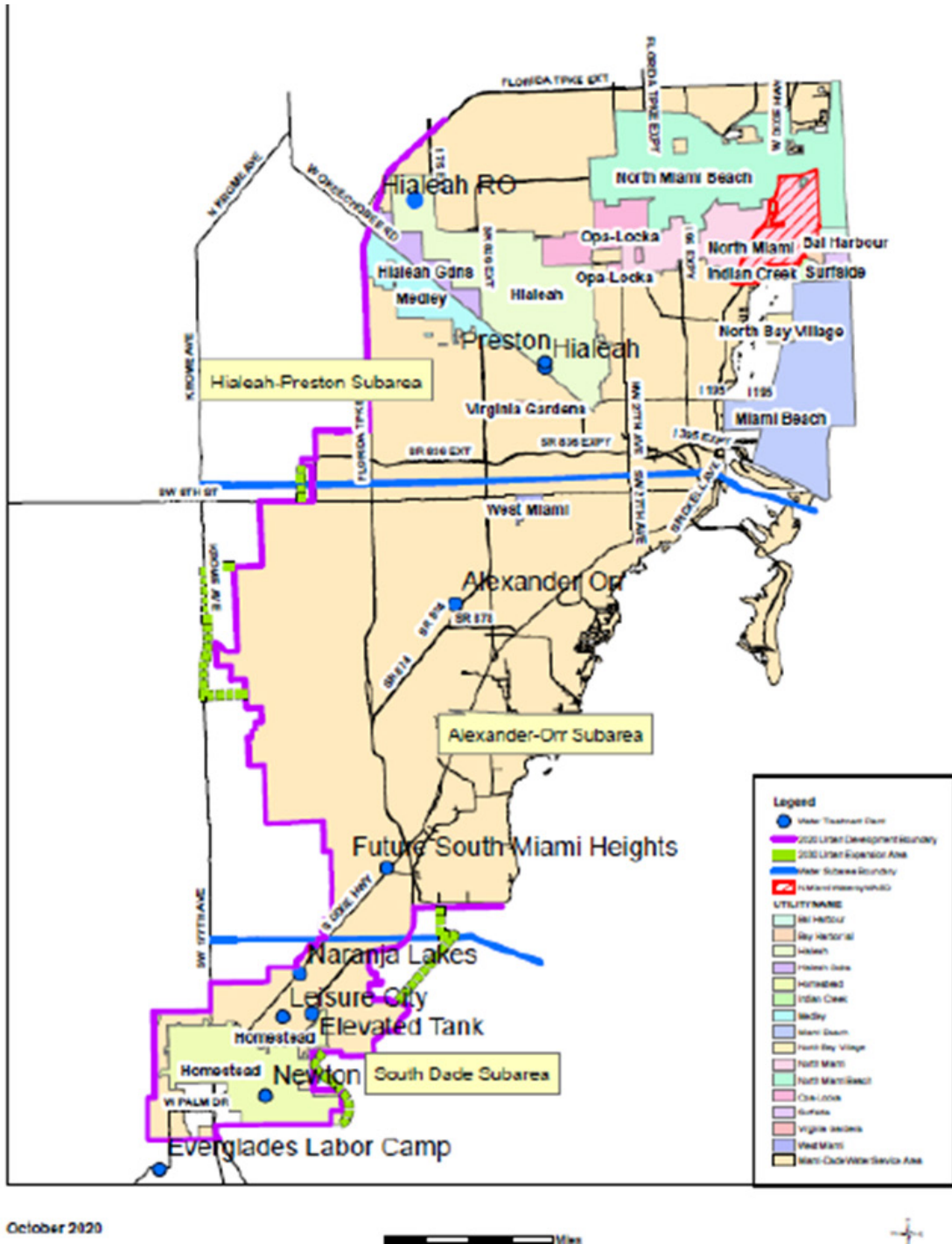
portion of Miami-Dade County, and the Hialeah Reverse Osmosis Water Treatment Plant. The distribution systems serving these treatment plants are comprised of loops and interconnected transmission lines.



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FIGURE A-2: WASD SUBAREAS, WATER TREATMENT PLANTS, AND WHOLESALE WATER CUSTOMERS

(FROM: MIAM AND SEWER DEPARTMENT, 2020 | DADE COUNTY WATER AND SEWER DEPARTMENT, 2020)



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The City of Doral is served by the Hialeah-Preston Subarea which is comprised of dedicated low-pressure pipelines, remote storage tanks, pumping facilities and high pressure, systems. The southwestern portion of the Hialeah-Preston water distribution facilities subarea, which includes the City of Doral, is supplied by a 36-inch diameter main that connects to the 54-inch diameter main heading out of the John E. Preston Water Treatment Plant at West 25th Street in Hialeah. The main heads west on NW 74th Street then turns south on NW 107th Avenue. It eventually interconnects with the Alexander Orr, Jr. subarea piping network on SW 56th Street around SW 117th Avenue.

As indicated in the Miami Dade Water and Sewer Department 10-Year Water Supply Facilities Work Plan April 2022, the water supply and treatment systems in the Hialeah- Preston Subarea have sufficient installed capacity to produce more potable water than is currently required to meet the needs of all WASD retail water customers in this Subarea, including the retail customers in the City of Doral. The supply capacity of the existing Hialeah-Preston Subarea wellfields is 343.43 mgd with a permitted raw water withdrawal allocation of 155.40 mgd. The capacity of the two Hialeah-Preston Subarea water treatment plants is 225.0 mgd. The design capacities of these water supply and treatment systems have been coordinated with future demands and allocations.

On February 9, 2015, the South Florida Water Management District approved a revision to WASD's Water Use Permit #13-00017-W (Application #14-627-12). The purpose of this modification was to provide WASD with a total annual allocation of 386.07 mgd (349.50 mgd from the Biscayne Aquifer and 36.60 mgd from the Floridan Aquifer). The most recent WUP modification was issued on March 8, 2022 with an expiration date of December 27, 2065. This update to the Water Supply Plan reflects updated demand projections based on most recent population data, and water supply projects within WASD's WUP.

The WASD service area includes all portions of Miami-Dade County within the Urban Development Boundary (UDB),

excluding all or portions of North Miami, Aventura, Sunny Isles Beach, Biscayne Park, Miami Gardens, Homestead and Florida City. The retail municipal customers served by WASD are those located in all or portions of Aventura, Coral Gables, Cutler Bay, Doral, El Portal, Key Biscayne, Miami, Miami Gardens, Miami Lakes, Miami Shores, Miami Springs, Palmetto Bay, Pinecrest, South Miami, and Sweetwater. WASD's wholesale water customers are the cities, towns, and villages of Bal Harbour, Bay Harbor Islands, Hialeah, Hialeah Gardens, Indian Creek Village, Medley, Miami Beach, North Bay Village, North Miami, Opa-Locka, Surfside, Virginia Gardens and West Miami. The areas within the County's Urban Expansion are included in the planning horizon.

WASD's current WUP provides the County with sufficient water supplies through 2042, and additional water supply projects will be pursued to address longer-term needs for WASD's customers and the environment.

In the 10-Year Work Plan, WASD is committed to meet the water demand for all municipalities within its service area. The City of Doral is primarily served by the J.E. Preston Water Treatment Plant. Along with the Hialeah Water Treatment Plant, these plants are interconnected and act as a single system. The plants operate under a Title V Florida Department of Environmental Protection (FDEP) permit number 0250281-0005-AV. Both facilities treat raw water from the Biscayne Aquifer under consumptive use permit number 13-00017-W and utilize the same basic process for water treatment. The treatment process includes lime softening, chlorination, ammonization, fluoride, filtration, and air stripping.

The Miami-Dade County Water Supply Facilities Work Plan dated April 2022 is hereby referenced in its entirety and is provided in Appendix A. The County Work Plan and subsequent revisions are incorporated into the City's Work Plan and Comprehensive Plan through Policy 5A.6.3. The intent of the County Work Plan is to meet statutory requirements and to coordinate the WASD's water supply initiatives with the SFWMD's Lower East Coast Water Supply Plan Update.



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SECTION 4.0 - WATER SUPPLY FACILITIES WORK PLAN COMPONENTS

Existing Land Use

The City does not anticipate increases in land area or any annexation. The City has no annexations in place at the time of development of the Water Supply Plan. The table below provides the existing land use categories, acreage and percentage of total land area.

TABLE A-1: EXISTING LAND USE DISTRIBUTION

RESIDENTIAL LAND USES		
Land Use	Acreage	Percent
Single-Family, Low-Density (Under 2 DU/Gross Acre).	1	0.01%
Single-Family, Med.-Density (2-5 DU/Gross Acre).	354	3.70%
Office Building.	242	2.53%
Single-Family, High Density (Over 5 DU/Gross Acre, other than Townhouses, Duplexes and Mobile Homes).	467	4.88%
Townhouses.	663	6.93%
Two-Family (Duplexes).	2	0.02%
Residential predominantly (condominium/ rental apartments with lower floors Office and/or Retail. High density > 15 dwelling units per ac, multi-story buildings (Generally more than 5 stories).	35	0.37%
Multi-Family, Low-Density (Under 25 DU/Gross Acre).	466	4.87%
Multi-Family, High Density (Over 25 DU/Gross Acre).	136	1.42%
Industrial intensive, Commercial Condominium type of use	242	2.53%
Sub-Total	2608	27.25%
OTHER LAND USES		
Land Use	Acreage	Percent
Beaches.	0.01	0.00%
Bus/Truck/Freight Forwarding Terminals.	137	1.43%
Canal right-of-way.	2	0.02%
Cemeteries.	158	1.65%
Colleges and Universities, Including Research Centers, Public and Private.	31	0.32%
Communications (Radio, TV, Cable, and Phone), excluding Antenna Arrays.	26	0.27%
Cultural (auditoriums, convention centers, exhibition centers, museums, art galleries, libraries).	3	0.03%
Electric Power (Generator and Substation, and Service Yards).	6	0.06%
Extraction, Excavation, Quarrying, Rock-Mining, excluding the resulting water body (see 917).	0	0.00%
Golf courses, Public and Private.	538	5.62%



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Table Continued

OTHER LAND USES		
Land Use	Acreage	Percent
Governmental/Public Administration (Other than Military or Penal).	114	1.19%
Highways and Expressways right-of-way and associated open and landscaped areas excluding paved expressways and ramps.	17	0.18%
Hospitals, clinics, medical offices and/or dental facilities	46	0.48%
Houses of Worship and Religious, and associated uses (parking, retreat houses, residencies, childcare, etc.).	17	0.17%
Industrial Extensive	38	0.39%
Industrial Intensive, heavy-light manufacturing, and warehousing-storage type of use	1311	13.70%
Industrial Intensive, Office type of use	117	1.22%
Inland water bodies (Lakes, Ponds, and Watercourses) associated with industrial areas, industrial parks and new industrial development.	244	2.55%
Inland water bodies (Lakes, Watercourses) associated with residential developments.	409	4.27%
Major Approved Projects.	54	0.57%
Major Transmission Lines.	170	1.78%
Military Facilities.	54	0.57%
Municipal Operated Parks	137	1.43%
Nursing homes, Assisted living facilities, and Adult congregate living quarters	1	0.01%
Other inland water bodies (Lakes, Ponds, Watercourses other than rivers and canals), including road borrow pits.	230	2.40%
Parking - Public and Private Garages and Lots.	5	0.06%
Pasture (Grazing, Animal Farming, Dairy Farms and Animal Feed Lots), excluding Horse and Poultry.	176	1.84%
Paved Highways, Expressways and Ramps.	5	0.05%
Private Drives.	198	2.07%
Private Recreational Facilities Associated with private Residential Developments, except marinas/yacht basins, includes landscape and open spaces associated to residential, commercial and office developments.	90	0.94%
Private Schools, Including Playgrounds (K-12, Vocational Ed., Day Care and Child Nurseries).	28	0.30%
Public Schools, Including Playgrounds (K-12, Vocational Ed., Day Care and Child Nurseries).	107	1.12%
Railroads - Terminals, Trackage, and Yards.	35	0.37%
Rivers and Canals.(Water)	98	1.03%
Road Maintenance and Storage Yards, and Motor Pools.	3	0.03%
Sales and Services (Wholesale facilities, Spot commercial, strip commercial, neighborhood shopping centers/plazas). Excludes office facilities.	462	4.82%



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Table Continued

OTHER LAND USES		
Land Use	Acreage	Percent
Shopping Centers (Regional and Community).	7	0.07%
Social Services, and Charitable institutions (Shrines, Elks, Moose, Lions Club).	5	0.05%
Solid Waste Disposal and Transfer (Includes Dumps, Solid Waste Land Fills, Resource Recovery Plants and Facilities, Trash Transfer Stations).	152	1.59%
Street right-of-way and entrance features both public and private, and utility easements.	34	0.35%
Streets and Roads, except Expressways and Private Drives.	1055	11.02%
Transient-Residential (Hotel-Motel)	149	1.56%
Vacant Government owned or controlled.	164	1.72%
Vacant, Non-Protected, Privately-Owned.	210	2.19%
Vacant, Protected, Privately-Owned. Proposed and designated EEL sites until acquired, or protected under any other conservation or environmental mechanism.	121	1.26%
Sub-Total	6966	72.77%
Total	9574	100.00%

RETAIL WATER DEMAND FORECAST IN THE CITY OF DORAL

The City of Doral population and water demand projections provided by Miami Dade Water and Sewer Department are provided in Table 3.1. Table 3.1 provides an overview of the 2024 Systemwide Per Capita-Gallons Per Capita Per Day (GPCPD) and projected water demand for the City. The 2024 Systemwide Per Capita -GPCD method is used by water

management districts and utilities in Florida to project the average daily water use per person in utility services area or region. The GPCD is calculated by dividing the Total Finished Water Supplied (MGD) by Permanent Population Served times 1,000,000 divided by 365 days. The GPCD provided by WASD for the 10 year planning horizon is anticipated to be constant at 118 GPCD. The projected water demand will be between 9.14 and 10.47. The City will work with WASD to proactively implement water efficiency and conservation initiatives.

TABLE A-2: CITY OF DORAL PER CAPITA, POPULATION AND WATER DEMAND PROJECTIONS

YEAR	TOTAL POPULATION ¹	2024 SYSTEMWIDE PER CAPITA - GALLONS PER CAPITA PER DAY (GPCD)	PROJECTED WATER DEMAND (MGD)
2020	77,578		
2024	78,008	118	9.14
2025	80,160	118	9.19
2030	82,312	118	9.46
2035	84,465	118	9.71
2040	86,617	118	9.97
2045	88,769	118	10.22
2050	77,578	118	10.47

Note: 1) Population projections prepared with the 2020 TAZ Population Projections provided by Miami-Dade County Transportation Planning Organization, based on the 2020 Census data



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The projected water demand and conservation trends presented in this Work Plan represent different planning metrics and should not be interpreted as indicating a decline in water use efficiency. Table 3.1 presents projected per capita potable water demand used for long-range water supply planning purposes, while Table 3.2 reflects projected per capita conservation savings associated with ongoing conservation measures and programs.

The relatively stable per capita demand projections through 2050 are based on regional planning assumptions, population projections, and water demand forecasts developed in coordination with the Miami-Dade County Water and Sewer Department (MDWASD) and the South Florida Water Management District's 2023-2024 Lower East Coast Water Supply Plan Update. These projections assume continued implementation of existing conservation measures, including Florida-Friendly Landscaping practices, irrigation efficiency standards, water-efficient plumbing fixtures, public education programs, and other conservation initiatives implemented by MDWASD, SFWMD, and local governments.

As conservation programs mature, additional incremental

reductions in per capita water use become more difficult to achieve because many of the most effective and readily implemented conservation measures have already been incorporated into development regulations, building codes, utility programs, and consumer practices. Accordingly, projected conservation savings gradually level off over the planning horizon. This trend reflects the long-term effectiveness and maturity of existing conservation programs rather than a reduction in conservation efforts or a decline in water use efficiency.

The City of Doral does not operate an independent potable water utility system and receives potable water service from MDWASD. As a result, operational performance measures such as system water loss percentages, unaccounted-for water, and gallons per connection per day are monitored and reported by MDWASD rather than the City. The City will continue to support regional conservation efforts through implementation of applicable Comprehensive Plan policies, land development regulations, public outreach initiatives, and ongoing coordination with MDWASD and SFWMD to promote efficient water use and maintain long-term water supply sustainability.



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TABLE A-3: MIAMI-DADE WATER AND SEWER DEPARTMENT SYSTEMWIDE PER CAPITA AND POPULATION AND WATER DEMAND PROJECTIONS

YEAR	SYSTEMWIDE BASELINE PER CAPITA (GPCD) (1)	POPULATION (2)	PROJECTED DEMAND (MGD)	YEARLY WATER CONSERVATION (MGD) (3)	CUMULATIVE RE- MAINING WATER CONSERVATION (MGD) (3)	DEMAND WITH CONSERVATION (MGD)	SYSTEMWIDE CONSERVATION PER CAPITA (GPCD)	CITY OF HOMESTEAD FINISHED WATER DEMAND (MGD) (4)	PORT OF MIAMI FINISHED WATER DEMAND (MGD) (5)	TOTAL FINISHED DEMAND WITH HOMESTEAD AND PORT OF MIAMI (MGD)
2020		2,301,505								
2025	137.83	2,396,448	330.30	0.26	0.26	330.04	137.72	0.75	1.00	331.79
2030	137.83	2,491,392	343.39	0.26	1.56	341.83	137.20	0.75	1.00	343.58
2035	137.83	2,586,335	356.47	0.26	2.86	353.61	136.72	0.75	1.00	355.36
2040	137.83	2,681,278	369.56	0.26	4.16	365.40	136.28	0.75	1.00	367.15
2045	137.83	2,776,222	382.65	0.26	5.46	377.19	135.86	0.75	1.00	378.94
2050	137.83	2,871,165	395.73	0.26	6.76	388.97	135.48	0.75	1.00	390.72

Notes:

(1) Baseline per capita is based on the average of past three years (2022, 2023, 2024) finished water per capita as reported to SFWMD.

(2) Population served prepared with the 2020 TAZ population projections provided by Miami-Dade County TPO (Transportation Planning Organization), based on the 2020 Census and 2020 MSA Projections prepared by Miami-Dade RER Planning. The population distribution within WASD's service area was prepared utilizing the 2018 population distribution GIS module by AECOM.

(3) A systemwide total of 0.26mgd/year conservation and leak repairs is planned through 2050, for a cumulative total from 2025-2050 of 6.76mgd in 2040. This conservation will be achieved implementing the current BMPs (toilet, shower, faucet rebates, showerhead giveaway & exchanges, irrigation rebates) and the Leak Detection and Repair Program.

(4) The City of Homestead has a water use agreement with WASD to purchase up to 3 MGD to meet the demands of its retail water customers. Through January 2024, the City purchases an annual average of 2.25 mgd, and a total of 0.75 mgd is planned for future demands.

(5) Anticipated demand for the expansion of the Port of Miami.



WASD WATER TREATMENT PLANTS

WASD owns and operates four main water treatment plants and five smaller water treatment plants located throughout the county. A brief description of the four main water treatment plants is as follows.

The Hialeah Water Treatment Plant is located at 700 West 2nd Avenue, Hialeah, Florida and was originally constructed in 1924, with upgrades in 1935, 1946 and 1991. This facility has a maximum installed design capacity of 60.0 million gallons per day. The treatment process includes lime softening with sodium silicate activated by chlorine, re-carbonation, chlorination, ammonization, fluoridation, filtration, and air stripping. There are plans to rerate and upgrade this plant to a capacity of 70.0 mgd, if necessary.

The source water for Hialeah WTP is from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. The Hialeah WTP has a current rated capacity of 60 MGD. The treatment process includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small and is surrounded by residential areas.

The Hialeah Reverse Osmosis (RO) Water Treatment Plant was released for operation by the Florida Department of Environmental Protection (FDEP) in November 2013. The design, construction and operation of this plant is part of a Joint Participation Agreement (JPA) between the City of Hialeah and Miami-Dade County. The plant is approved to operate at a capacity of 7.5 mgd. An additional 2.5 mgd was scheduled to be completed by December 31, 2022. The main source of water for the Hialeah RO WTP is the Floridan Aquifer. Currently, this plant serves the City of Hialeah and unincorporated areas within WASD's service area. This plant is located at 4250 W. 114th Terrace, Hialeah, Florida. The Hialeah RO plant is currently in operation serving 50% of its water capacity to the City of Hialeah and 50% to unincorporated areas within the WASD's service area.

The John E. Preston Water Treatment Plant is located at 1100 West 2nd Avenue, Hialeah, Florida and was originally

designed as a 60 mgd plant in 1968, with upgrades in 1980 (upgraded to 110 mgd), 1988 and 1991. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove volatile organic compounds (VOCs). In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on-line. The current rated capacity is 165 mgd with a treatment process similar to the Hialeah Water Treatment Plant.

The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 MGD with a treatment process like that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also cited in a residential area of Hialeah.

The Alexander Orr, Jr. Water Treatment Plant is located at 6800 SW 87th Avenue, Miami, Florida and was originally constructed in 1954. The Alexander Orr, Jr. Water Treatment Plant was expanded on several expansions over the past 50 years. This facility has a maximum installed design capacity of 256mgd with a rated capacity of 214.74 mgd. This plant receives its source water from the Alexander Orr, Jr. Wellfield, Snapper Creek Wellfield, Southwest Wellfield, and the West Wellfield. The plant's treatment process is very similar to the process used at the Hialeah and John E. Preston Water Treatment Plants.

The Alexander Orr, Jr. WTP can also receive groundwater from five Upper Floridan Aquifer wells located in the West Wellfield and the Southwest Wellfield. Finished water is distributed to a service area generally delineated as south of Flagler Street.

WASD PUBLIC POTABLE WATER WELLS

There are no private potable water facilities in the City of Doral. WASD's wellfields and their corresponding Cones of Influence are in or near the City. These wellfields consist of 45 individual wells and have a total designed installed capacity of approximately 295 mgd. Of these wells, 23 provide raw water to the Hialeah Water Treatment Plant



while the remaining 22 wells service the J.E. Preston Water Treatment Plant. Groundwater modeling indicates

that even considering high levels of projected sea level rise, WASD's wellfields will not be impacted by saltwater intrusion. Further modeling is currently underway to extend the planning scenarios through the year 2070. These simulations incorporate anticipated impacts from climate change, such as increases/decreases in annual precipitation and extreme weather events. To protect the quality of the groundwater in the area, the City of Doral has adopted the Miami-Dade County Wellfield Protection Program, which restricts the types of land uses allowed within the area of the wellfield cones of influence. The following are some of the restrictions associated with the Wellfield Protection Program:

- ☀ Only uses that do not generate hazardous waste are allowed within the Cone of Influence.
- ☀ All permitted land uses within the Cone of Influence shall be required to connect to the WASD central sewer collection system.
- ☀ Developments within the Cone of Influence shall be required to meet the minimum requirements for percentages of pervious area.
- ☀ Land uses within the Cone of Influence shall be restricted to those uses that do not create water pollution.

WASD FINISHED WATER STORAGE FACILITIES

The Hialeah-Preston Finished Water Storage Facilities combine reservoir ground storage, clear wells, and ground and elevated storage tanks to provide a total of 64 million gallons of storage.

Section 5.0 - Water Conservation

The City shall promote and further the County's Water Efficiency Use Plan which requires compliance with water

use efficiency standards for new residential, commercial, and industrial development and allows for sub-metering in multi-family residential developments. The requirements set forth in Miami-Dade County Ordinance became effective July 1, 2009. Miami-Dade WASD implements all Best Management Practices included in the Water Efficiency Use Plan in addition to various irrigation, Florida Friendly Landscaping, and plumbing fixture efficiency ordinances.

All residences and businesses in the City of Doral receive potable water from Miami-Dade County and are subject to the County's ordinances regarding water conserving practices. The City does not have access to the accounts or the water use data of the County's water customers, including those located in the City of Doral. Therefore, many water conservation practices instituted in the City of Doral are those that follow the County's water use efficiency plan and its ordinances pertaining to the efficient use of water including year-round landscape irrigation restrictions, landscape standards, use of sub-metering, and the use of water conservation rate structures. The City enforces these ordinances through its code compliance department and, in 2024 the City adopted mandatory year-round landscape irrigation conservation measures and variances consistent with the requirements of Chapter 40E-24, F.A.C. In addition, the City has adopted ordinances that address water use related to building construction and landscape design.

These plans and ordinances are summarized as follows.

Miami-Dade County Water Conservation Plans and Ordinances

The City of Doral, located in Miami-Dade County, is subject to the following County plans and ordinances.

Miami-Dade Water Use Efficiency Plan: The Miami-Dade WASD's 20-year Water Use Efficiency Goal-Based Plan (Efficiency Plan) was approved by the SFWMD in May 2007. Included in the Efficiency Plan is the Water Conservation Best Management Practices (BMP) Implementation Schedule, Costs, and Savings Projections through the year 2026. The Water Use Efficiency Plan also includes a water loss reduction component which implements an



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annual leak detection survey of the county's entire water distribution system.

Advanced technology (i.e. implementation of mobile/fixed network systems) is used to detect leaks which are followed up by repairs.

WASD is implementing the BMPs included in the 2019 Annual Report for the Water Conservation Plan to improve the management of traditional water supplies, encourage development of alternative water supplies and improve water use efficiency. Several initiatives were adopted by WASD to encourage efficient use of water by residential and non-residential users. Some initiatives included plumbing retrofits, landscape irrigation evaluations, and residential and commercial water use evaluations and rebates.

To ensure future water savings, the Water Use Efficiency Standards for new residential and commercial developments enacted by the Miami-Dade Board of County Commissioners on January 1, 2009 are being implemented through local building codes. The standards include technical amendments to the Building Code to require maximum water conservation flow rates for plumbing fixtures. Because of these efforts, as of December 31, 2019, the County saw an 18.6 mgd reduction in finished water demand from the year prior to the implementation of the Efficiency Plan in 2006 (from 341.62 mgd to 323.04 mgd).

Miami-Dade County Water Conservation Plans and Development Codes: The County adopted a Water Conservation Plan that was added to its Water Use Efficiency Section as mandated by County Ordinance 06-177, Section 32-83.1 of the Miami-Dade County Code. The Plan identifies BMPs for the service area.

Since January 1, 2009, the county's building code, specifically Section 8-31 and 32-84, requires the installation of water efficient fixtures and high efficiency appliances. In 2007, the County developed a water conservation program that provides rebates to residents that install high efficiency faucets, toilets and

showerheads in properties constructed prior to 1996. It also includes rebates for water efficient upgrades to irrigation systems in single family and large properties throughout the County.

Miami-Dade County Permanent Landscape Irrigation Restriction: Lawn and landscape irrigation throughout the county has been limited to two days per week year-round as required by Section 32-8.2 of the Miami-Dade County Code of Ordinances. Irrigation is not permitted between the hours of 10:00 a.m. and 4:00 p.m.

Miami-Dade County Landscape Standards: Development within the county must comply with landscape standards in Sections 18-A and 18-B of the County Code which encourages Florida Friendly Landscaping to reduce outdoor water use.

Miami-Dade County Multi-Family Sub-Metering: The County Code was also modified to authorize the use of submetering in multifamily residential developments, requiring a meter be installed in each individual dwelling unit for water billing purposes instead of being billed using a single master meter. Use of submeters enhances water use monitoring and encourages water conservation.

Water Conservation Based Rate Structure: Miami-Dade County has adopted a water conservation-based rate structure for its retail water customers.

City of Doral Ordinances and Codes Promoting Water Conservation

The City has adopted the following ordinances and codes to promote water conservation by the City's residents. Because the City does not have access to customer water use data, the City is unable to develop estimates of the amount of water conserved.

Use of Florida-Friendly Landscape Principles: The City of Doral Comprehensive Plan and Land Development Code recommends use of Florida-Friendly landscape materials and the minimum percent of required pervious area that must follow the principles of Florida Friendly



Landscape provisions as set forth in the South Florida Water Management District's Xeriscape Plant Guide II.

Requirement of High Efficiency Plumbing Fixtures in New Construction: The City of Doral has adopted the Florida Building Code (FBC) which contains plumbing flow restriction requirements. The County Code prohibits the cities within its jurisdiction from enacting standards less stringent from the FBC. The City of Doral Building and Inspection Services also includes, in their procedures, provisions for new construction to have water conservation control devices installed per the Florida Plumbing Code, as a condition for granting certificates of occupancy.

Rain Sensor Overrides for New Lawn Sprinkler Systems: The City of Doral has adopted the FBC, which requires the installation of rain sensors on new irrigation systems.

Additionally, the City of Doral abides by all County's landscape Code requirements, including the use of rain sensors on automatic lawn sprinklers systems.

City of Doral Adoption of the SFWMD's Water Shortage Restrictions: In 2007, the City of Doral adopted Ordinance No. 2007-13 entitled "Water Restrictions" to protect the water resources of the City from harmful effects of over-utilization during periods of water shortage and to assist the SFWMD as it implements its water shortage plan. The provisions are found in Chapter 47 – Division 2. – Water Restrictions of the City of Doral Code of Ordinances. This ordinance applies to all persons using the City's water resources that are subject to the "water shortage" or "water shortage emergency" as determined by the SFWMD, whether from a publicly- or privately-owned water utility system, private wells, or private connections with surface water bodies. The use of treated effluent or saltwater is excluded from the requirements of this ordinance. The ordinance references the South Florida Water Management District's Water Shortage Plan as provided in Chapter 40E-21, Florida Administrative Code.

This ordinance includes requirements for restrictions on water use during times an "emergency situation"

is declared by the SFWMD or when the City Council determines a reduction in water consumption is necessary to alleviate a local water shortage within the WASD water system. Water restrictions may include reduction of hours and days allowed for irrigation and the prohibition on the washing of vehicles and outdoor surfaces, the operation of ornamental fountains and air conditioning systems that do not recirculate the water. Other restrictions include limitations on filling and using swimming pools, limitations on water leakage through defective plumbing, restrictions on hotels and restaurants as to the minimum amount of water necessary to conduct operations and other restrictions, as necessary.

City of Doral's Public Information Program: The City distributes information regarding the importance of water conservation and best practices to its residents and businesses through the City's webpage and publications of the WASD and the SFWMD. City staff include professionals with in-depth knowledge of water resources who are available to speak to local schools and community groups who are interested in promoting water conservation and management initiatives. The City also supports and promotes "Green" events through the local schools or community groups.

WATER REUSE

Historically, Florida's utilities, local governments, and water management districts have led the nation in implementing water reuse programs that increase the quantity of reclaimed water used and public acceptance of reuse programs. Section 373.250(1), F.S. provides that "water reuse programs designed and operated in compliance with Florida's rules governing reuse are deemed protective of public health and environmental quality." In addition, Section 403.064(1), F.S., provides that "reuse is a critical component of meeting the state existing and future water supply needs while sustaining natural systems."

According to WASD's 2022 Water Supply Facilities Plan Update, Section 4.5.1.2 Wastewater Reuse, "The County's projected finished water demands are now markedly lower than anticipated when the first 20-year water use permit



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application was submitted. As such, wastewater reuse to address water supply demands is no longer required, and other alternative water supplies (Floridan aquifer, water conservation, C-51 reservoir, etc.) have been determined to be more viable and shall be considered in the future. WASD is currently implementing a total of 16.49 MGD of reuse at each of the Wastewater Treatment Plants, primarily for in-plant (process water) use. In addition, WASD will be providing up to 15 MGD of reclaimed water from the South District Wastewater Treatment Plant to the FPL facilities at Turkey Point, per Miami-Dade County Resolution No. R-579-20 approved by the BCC on June 16, 2020.”

WASD is currently implementing a total of 18.42 MGD of reuse at each of the Wastewater Treatment Plants, primarily for in-plant (process water) use. WASD is also pursuing a new industrial reuse strategy at the three Wastewater Treatment Plant (WWTP) based on the use of Effluent Energy Recovery Systems, to provide cooling to buildings and energy intensive processes at the WWTPs. There are no water reuse projects identified in the City’s Capital Improvement Element.

The City of Doral supports water reuse initiatives under consideration by the SFWMD and Miami-Dade County and WASD’s efforts to implement reuse projects. The City supports the County’s implementation of new regulations or programs that are cost-effective and environmentally sustainable, which are designed to increase the volume of reclaimed water used and public acceptance of reclaimed water.

INTERGOVERNMENTAL COORDINATION

The City will continue to coordinate future water supply planning and water conservation efforts with WASD and the SFWMD. Specifically, the City will continue to coordinate with Miami-Dade County and WASD regarding the following issues.

COORDINATION WITH THE COMPREHENSIVE PLAN

Sections 373.709 and 163.3177(6)(c)3, F.S., require local governments to adopt the water supply recommendations as either goal, objective and policies (GOPs) from the

adopted Water Supply Work Plans into the corresponding elements (i.e. Future Land Use, Conservation, Infrastructure, Capital Improvement, and Intergovernmental Coordination Elements) of their respective comprehensive plan. In addition, sec. 163.3177, F.S., also requires the local governments to coordinate with the comprehensive plan text amendment with the water management districts.

- ☀ Work with the Miami-Dade County WASD to examine opportunities within Doral to utilize reclaimed water on area golf courses, parks and medians, and if feasible, identify an initial public demonstration project .
- ☀ Ensure that the City’s potable water demand is included in the Miami-Dade County Comprehensive Development Master Plan (CDMP) and WASD’s 10-Year Water Supply Facilities Work Plan
- ☀ Coordinate with the Miami-Dade County WASD to provide potable water facilities to meet existing and projected demands based on Level of Service (LOS) standards
- ☀ Ensure that potable water facility deficiencies under control of the City are corrected to maintain the adopted level of service standards
- ☀ Ensure that potable water service continues to be planned and provided in conformity with the City’s Future Land Use Element and the Miami-Dade County CDMP
- ☀ Coordinate future land use designations to ensure that sufficient water supply is available to serve existing and projected demand
- ☀ Coordinate with Miami-Dade County WASD to meet existing and future demands
- ☀ Coordinate raw water wellfield expansion and well locations

Coordinate with Miami-Dade County to identify the County’s commercial and industrial enterprises that utilize, produce, or dispose of hazardous chemicals as a means to track



potential sources of water contaminants

- ☀ Annually communicate the projected population and non-residential growth to WASD to ensure long term demand is reflected in WASD's water supply reports and permits with the SFWMD and other Federal and State agencies.
- ☀ Encourage the creation and expansion of storage and distribution facilities for reclaimed water to institutional, commercial, and residential properties to reduce the use of potable water for irrigation
- ☀ As needed, coordinate with Miami-Dade County WASD to implement a leak detection program that would identify users with unaccounted for water loss greater than 10 percent
- ☀ Coordinate with Miami-Dade County WASD to develop strategies to improve the resiliency of existing water resources to protect future water quality and minimize the potential for flood damage and water shortage.
- ☀ The City coordinates with Miami-Dade County and the SFWMD regarding the following issues.
- ☀ Implement comprehensive water conservation measures citywide to ensure that a sufficient supply of water is available to meet current and future demand for potable water
- ☀ Promote public information programs sponsored by the SFWMD to increase public awareness and acceptance of water conservation techniques through newsletters, public service announcements, and displays at public awareness events
- ☀ Determine and assess impacts of proposed developments on the County's potable water supply
- ☀ Implement water restrictions and implement emergency water conservation measures when necessary

- ☀ Conserve and maintain sufficient fresh water supplies, especially during dry periods and implementing water demand management policies and programs
- ☀ Distribute water conservation booklets and brochures produced by the SFWMD and other environmental agencies at City Hall and other public facilities

Coordination with the South Florida Water Management District

The Work Plan is required to be consistent with Sections 373.709 and 163.3177, F.S.; the Miami-Dade County Water Supply Facilities Plan; and the South Florida Water Management District's (SFWMD) 2023–2024 Lower East Coast (LEC) Water Supply Plan Update. The LEC Water Supply Plan was previously updated in 2006, 2013, and 2018, and the most recent update was approved by SFWMD in September 2024. As a result, the City is required to update its 10-Year Water Supply Facilities Work Plan within 18 months of the SFWMD LEC Water Supply Plan update. Accordingly, the City must prepare and adopt its Water Supply Facilities Work Plan by March 2026, in accordance with Section 163.3177(6)(c), F.S., to ensure coordination with the SFWMD Lower East Coast Water Supply Plan Update.

Coordination with Miami Dade County Water and Sewer Department (WASD)

The City recognizes that proactive water conservation requires effective coordination with the Miami-Dade County Water and Sewer Department (MDWASD). As a retail customer of MDWASD, the City maintains an ongoing working relationship with the Department. The City's Public Works Department coordinates with MDWASD to ensure sufficient water supply capacity to serve both existing and future customers. In support of these efforts, the City references water conservation initiatives identified in Miami-Dade County's 10-Year Water Supply Facilities Work Plan Update (2023) and the text amendments to the Comprehensive Development Master Plan adopted on January 19, 2023 (Ordinance No. O-23-6 and Amendment No. 22-01ER).



The City will continue to ask the SFWMD to review drafts of its Water Supply Facilities Work Plan Update each time the LEC Water Supply Plan is updated.

The City has continuous communication with Miami-Dade County, WASD and the SFWMD with respect to the issues listed above and as new issues arise. As it becomes evident that new issues will become important to water resource, demand, or supply management, they will be incorporated into future Water Supply Facility Work Plan Updates.

Section 6.0 – Water Supply Capital Improvements

CAPITAL IMPROVEMENTS SCHEDULE

The Miami Dade Water and Sewer Department 10-Year Water Supply Facilities Work Plan April 2022 describes the water supply facilities that are planned to meet future water demands through 2030. The County's current forecast of finished water demand is significantly lower than was anticipated when its 20-year water use permit (WUP) application was submitted to the SFWMD in 2007. The decrease in water demand is due to factors internal and external to WASD that significantly reduced Miami-Dade County's per capita water consumption and overall drinking water production over the past 10 years. As such, the development of reclaimed water to address alternative water supply is no longer required or needed. The reduced water demand forecast can primarily be attributed to the following factors.

- ☀ The population growth rate has been lower than originally forecast.
- ☀ WASD's water conservation program reduced per capita water consumption.
- ☀ Water use for irrigation fell after residential and

commercial year-round irrigation restrictions became permanent by the SFWMD and the County.

- ☀ Landscape watering requirements fell after the County adopted ordinances requiring Florida Friendly Landscaping.
- ☀ Florida Building Code changes requiring higher efficiency fixtures for new construction increased customer water use efficiency.
- ☀ Evolving trends in housing demographics (apartment development versus single family homes), and water use practices reduced the demand for potable water.
- ☀ Water demand fell due to increases in water and sewer rates.

The Miami-Dade County Schedule of Capital Improvements for Sewer Facilities and Water Facilities is provided in Appendix B of the County Work Plan and in the County's Adopted FY 2025-2034 Capital Budget and Multi-Year Capital Plan. The purpose of the capital improvements is to upgrade and improve the system; renovate and upgrade existing facilities; improve the wellfields and pump stations; automate the water treatment plants; acquire land, extend the system; and prepare engineering studies.

The status of the County's alternative water supply (AWS) projects that may benefit the County's retail customers in the City of Doral is provided in Table 4-1. These projects will undergo further refinement as needed and updates to address longer-term demands will be reflected in future WUP modifications submitted to SFWMD. All planned projects are based on current wholesalers remaining on the WASD system through 2040.



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TABLE A-4: WASD ALTERNATIVE WATER SUPPLY PROJECTS IN WASD'S WUP, EXHIBIT 7, MARCH 8, 2022

COMPLETION DATE	ANNUAL AVERAGE FINISHED WATER QUANTITY IN MGD AND SOURCE		
Completed	7.50	Hialeah Floridan Aquifer RO WTP-Phase 1-a, 10 MGD & 6 Floridan Aquifer supply wells	AWS
12/31/2022	2.50	Hialeah Floridan Aquifer RO WTP-Phase 1-b, 4 Floridan Aquifer supply wells	AWS
10/31/2022	15.00	C-51 Reservoir	AWS
12/31/2026	12.45	South Miami Heights WTP Back-Up Phase 1 (RO portion)	AWS
12/31/2033	5.00	South Miami Heights WTP Back-Up Phase 2 (RO portion)	AWS
Total	42.45		

FUNDING

The City of Doral has not identified any financial responsibilities related to the collection, storage, or distribution of potable water, including water conservation. The costs of operating, maintaining, and improving the WASD water and sewer systems, including the County's conservation programs, are offset by County-established water and sewer rates, County bonds, and government grants provided to the County. The retail customer's water bill is based on the established water rates and the volume of water measured by water meters installed at each customer's service location.

The WASD water and sewer system is financed through an enterprise fund of Miami-Dade County. This fund is separate from all other county funds. The County annually reviews the water and sewer rates charged to customers and adjusts these rates as needed to provide sufficient revenues to offset the administrative, operation and maintenance, debt service and other expenses set forth in the Miami-Dade County WASD annual budget.

Section 7.0 – Regional Issues

CITY OF DORAL, FLORIDA WATER SUPPLY FACILITIES WORK PLAN

The City is aware of and studies the regional issues that

impact or have the potential to impact water supply, water demand, and utility infrastructure. The City works with other local governments and utilities within the region to address these issues. This section summarizes the regional issues being followed by the City including:

- ☀ Regional Climate Action Plan;
- ☀ Climate Change;
- ☀ Sea Level Rise;
- ☀ Saltwater Intrusion;
- ☀ Extreme Weather Events;
- ☀ Infrastructure Development;
- ☀ C-51 Reservoir;
- ☀ Lake Okeechobee Surface Water Allocation Limitations;
- ☀ Lowering Lake Okeechobee Level; and,
- ☀ Use of brackish groundwater from the Floridan Aquifer.

Each regional issue is presented in the subsections that follow.



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REGIONAL CLIMATE ACTION PLAN

Southeast Florida's unique geographic characteristics make it one of the most vulnerable regions to be impacted by climate change and sea level rise. These characteristics include low land elevations, flat topography, a porous geology, and dense coastal development.

In combination, climate change and sea level rise are expected to present significant challenges relating to water resource planning, management, and infrastructure for communities throughout the region, which includes Palm Beach, Broward, Miami-Dade and Monroe counties. These communities have agreed to partner in regionally-

coordinated climate mitigation and adaptation strategies as part of the Southeast Florida Regional Climate Change Compact (Compact) and have jointly developed and adopted a Regional Climate Action Plan (RCAP) including 21 recommendations that address "Water Supply, Management, and Infrastructure".

The water supply-related recommendations from the Regional Climate Action Plan 2.0 are summarized in Table 5.1.¹ These recommendations are intended to advance water management strategies and infrastructure improvements needed to mitigate the adverse impacts of climate change and sea level rise. The RCAP was last updated November 2022.

¹ <http://southeastfloridacclimatecompact.org/regional-climate-action-plan/>

TABLE A-5: WATER SUPPLY RECOMMENDATIONS OF THE 2022 | REGIONAL CLIMATE CHANGE ACTION PLAN

ITEM	RECOMMENDATIONS
WS-1	Practice integrated water resources management.
WS-2	Foster innovative water management.
WS-3	Advance water resource management research
WS-4	Coordinate regional investments in water management.
WS-5	Expand use of green infrastructure and net zero solutions.
WS-6	Use consistent future conditions water management scenario planning.
WS-7	Assess climate impacts on water infrastructure.
WS-8	Modernize water infrastructure development standards.
WS-9	Ensure a resilient regional flood control system.
WS-10	Integrate surface and groundwater impacts on infrastructure.
WS-11	Increase resilient water infrastructure and water quality.
WS-12	Phase out septic systems.
WS-13	Coordinate saltwater intrusion mapping.
WS-14	Develop a database of resilient water projects.
WS-15	Support the Comprehensive Everglades Restoration Plan (CERP)
WS-16	Expand surface water storage.
WS-17	Support private property adaptation.

Source: <http://southeastfloridacclimatecompact.org/regional-climate-action-plan/>, 2022



As WASD is the water supplier to the City of Doral residents and businesses, Miami-Dade County has incorporated these recommendations into its Comprehensive Planning. The recommendations being implemented by the City of Doral are those that are within the City's authority. They are incorporated throughout this Water Supply Facilities Work Plan Update and related comprehensive planning element updates.

City Specific Actions, Programs, Regulations or Ordinances

The actions that the City of Doral has taken to address the recommendations of the Southeast Florida Regional Climate Change Compact are summarized as follows.

City's Green Statement: The City of Doral has been a leader statewide and nationally since 2003 when, at the City's founding, the new City leaders began work on a new Comprehensive Plan. This Plan took the existing urban sprawl-type development pattern that had developed in Miami-Dade County and transformed the Doral area into a city with downtown focus, mixed use opportunities, business orientation, local transit, and traditional neighborhoods.

Under the strong green leadership of Mayor Juan Carlos Bermudez and the City Council, the Mayor signed the U.S. Mayor's Climate Protection Agreement in 2005. The City continued its green push in 2008 with the development and approval of its "Green Master Plan" which was awarded the 2009 Excellence in Planning Award by the Florida Chapter of the American Planning Association and the 2009 Outstanding Planning Innovation Award of the Florida Planning and Zoning Association. The City now has updated the Comprehensive Plan Green Element to include resiliency policies.

Florida Green Building Coalition (FGBC): The City of Doral is FGBC Certified (Silver certification level). In keeping with the organization's mission, FGBC has developed green certification programs that apply to construction projects and local government operations. Seeking FGBC certification demonstrates a commitment to providing your customers with products or services that

are green and sustainable. Local Florida governments have found that this program protects the environment and improves operational efficiencies that reduce the taxpayer's cost of government.

Green Master Plan: The City of Doral published its Green Master Plan in 2008. The goal of this Plan is to conserve natural resources, enhance quality of life, bolster economic vitality, and leave a sustainable legacy to future generations of City residents. Preparing for a future with limited resources is one of the most important planning challenges that decision makers face. Confronted with this challenge, the City of Doral realized the necessity to plan for a sustainable future. The City has signed the U.S. Mayors' Climate Protection Agreement and has developed the Green Master Plan to guide operations and growth in an environmentally responsible manner. This far-reaching approach builds on the City's previous environmental efforts with the goal to conserve natural resources, enhance quality of life, bolster economic vitality, and leave a sustainable legacy to future generations of City residents.

Green/Resiliency Element of the Comprehensive Plan: In 2011, the City of Doral's Comprehensive Plan (CP) was amended to include the City's Green Element. The "Element" is composed of two parts: (1) Goals, Objectives & Policies (GOPs), and (2) Data, Inventory, and Analysis (DIA). In this Element, the words "green" and "sustainable" are synonymous and when used in the Comprehensive Plan denote "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition was developed as part of the Brundtland Commission Report in 1987 and is an accepted industry standard. Included in this update are updates to the Green Element now titled Resiliency Element.

The placement of the Green Element as the initial element in the City's Comprehensive Plan is intended to send the very real signal that the Green Element is the "glue" that gives sustainable purpose and guidance to the other Comprehensive Plan elements, including land use. The City's Resiliency Element component of the Comprehensive Plan meets and exceeds the requirements of State House Bill 697



5. INFRASTRUCTURE | APPENDIX A

which requires cities and counties to include consideration of greenhouse gas emissions and energy efficiency in their local comprehensive plans (Section 163.3177, F.S.).

The City is in support of SFWMD and Miami-Dade County water conservation and reuse projects. The Table below is a summary of water conservation sections in the County Code.

TABLE A-6: MIAMI-DADE COUNTY WATER CONSERVATION REGULATIONS

SECTION	TITLE
7-1	Water Conservation District
8A-381	Remetering
8-31	Plumbing Fixtures
18-A and 18-B	Landscape Irrigation
32-8	Regulation of Water Use During and Actual or Potential Drought Situations
32-8.1	Water Shortage Emergency Restrictions
32-8.2	Permanent Year-Round Landscape Irrigation Restrictions
32-83.1	Water Conservation Plans
32-84	Water Use Efficiency Standard Manual
32-86	Water Use Efficiency and Conservation Education and Outreach

5.1 Climate Change

Investigations and evaluations conducted at the national, regional, and local levels have reinforced the need to plan for the predicted impacts of more frequent and severe drought and increases in tidal and storm-related flooding. To protect the City's water supply infrastructure, ongoing planning efforts should be flexible to adapt to these climate changes.

The City of Doral, together with its municipal and regional partners, understands that local governments and water utilities must integrate water supply and climate change considerations through coordinated planning efforts. The City works to provide relevant updates to the Water Supply Facilities Work Plan and to enhance the Goals, Objectives, and Policies (GOPs) of its comprehensive plan.

The City is a leader in developing planning tools and identifying achievable and cost-effective goals that meet the needs of its community. In 2013, the City signed a resolution endorsing the Mayor's Climate Action Pledge in support of the Southeast Florida Regional Climate Change Compact and the Regional Climate Action Plan.

The City remains a participant in the Southeast Florida Regional Climate Change Compact. The Compact outlines an ongoing collaborative effort among the Compact participants to foster sustainability and climate resilience on a regional scale. The Compact participants include local communities, regulatory agencies, and the counties of Broward, Miami-Dade, Monroe, and Palm Beach.

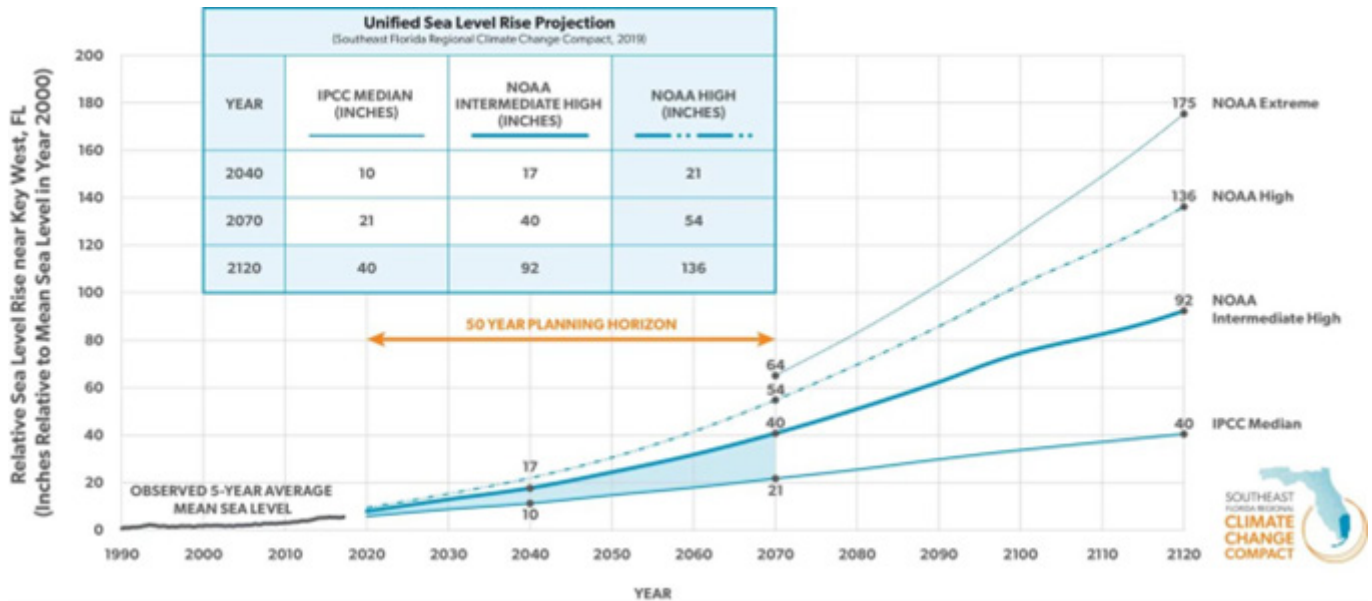
5.2 Sea Level Rise

The City of Doral is located well-inland from the Atlantic Ocean and, at this time, no impacts are expected from sea level rise. However, development of cost-effective sea level rise adaptation strategies to ensure the sustainability of the water supply in Miami-Dade County is critical to the wellbeing of all county residents, including those residents in Doral. A unified projection by the Southeast Florida Regional Climate Change Compact developed in 2019, is illustrated in Figure 5-1. It shows a 10 to 17-inch increase in sea level in the near term, and a 21 to 40 inch rise by mid-century.

In terms of infrastructure, every aspect that is underground or touches the ground will need to be assessed for its



**FIGURE A-3: SEA LEVEL RISE PROJECTION
(SOUTHEAST FLORIDA REGIONAL CLIMATE CHANGE COMPACT, 2019)**



vulnerability and, if necessary, protected. This includes basic services, such as provision of drinking water, sewage treatment, electricity and waste disposal.

5.3 Saltwater Intrusion

The Biscayne Aquifer is WASD's, and therefore the City's, primary water supply. This aquifer is shallow, surficial, and highly transmissive. Coastal saltwater intrusion of the aquifer has occurred in eastern parts of Miami-Dade County. In 2018, the U.S. Geological Survey (USGS), in cooperation with Miami-Dade County, mapped the approximate inland extent of saltwater intrusion in eastern Miami-Dade County. This approximation required acquisition and compilation of data collected by the FDEP, Florida Keys Aqueduct Authority, Florida Power & Light Company, MacVicar Consulting Inc., Miami-Dade County Regulatory and Economic Resources,

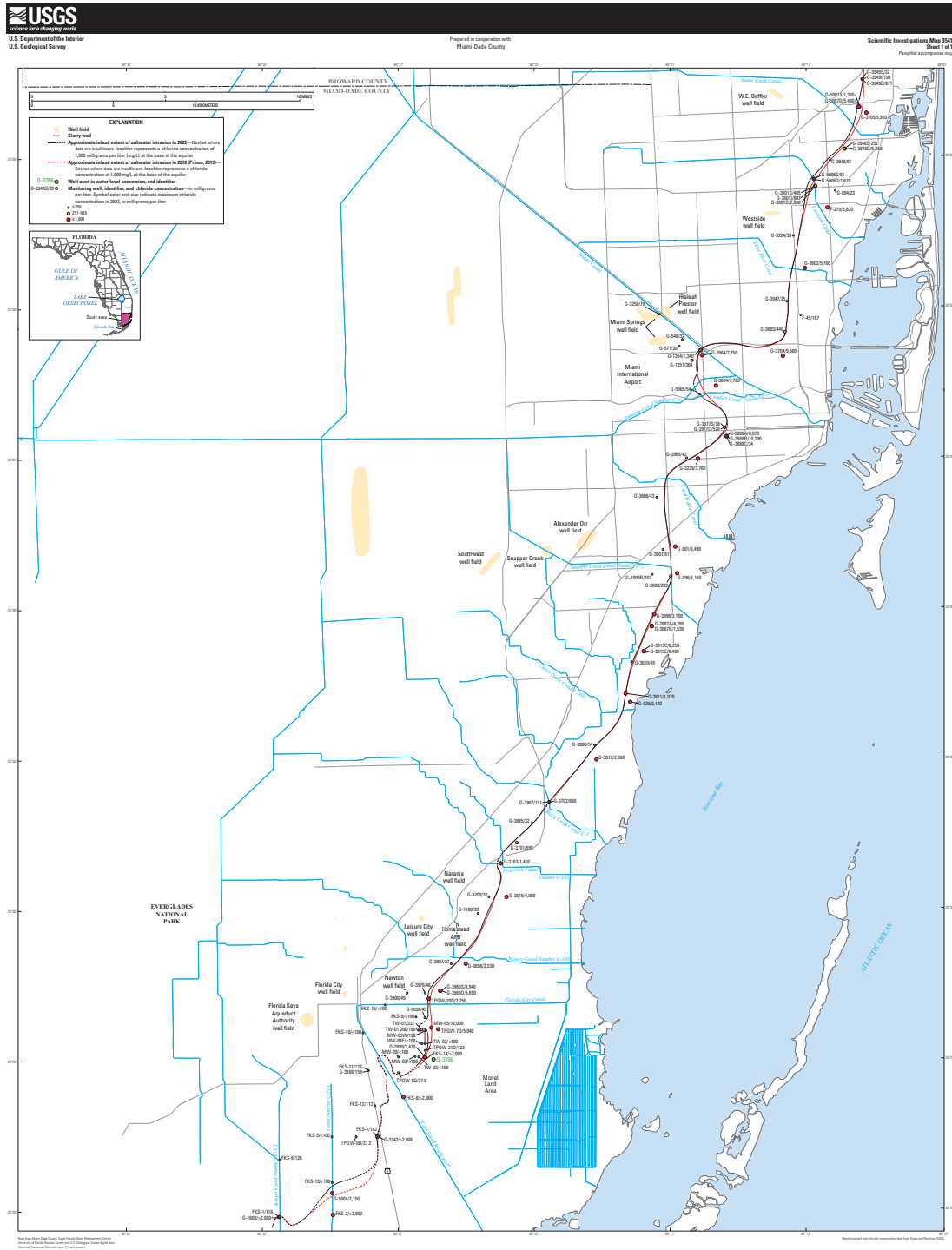
the SFWMD, and the USGS. Data from the selected monitoring wells were entered into a geographic information system (GIS) for analysis and mapping.

The approximate saltwater interface is represented by the 1,000-mg/L isochlor at the base of the Biscayne aquifer. The word "approximate" is used because the spatial distribution of monitoring wells is generally insufficient to create a precise representation. The resulting 1,000 mg/L Isochlor Line in Miami-Dade County is illustrated in Figure 5-3 along with the location of the water supply wellfields owned by WASD and several self-supplied cities. At the toe of the saltwater front, chloride concentrations exceed 1,000 mg/L and thus may restrict the use of and/or require abandonment of wellheads located east of the saltwater intrusion line. Miami-Dade County monitors its movement and the potential impact on the County's water supply.



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FIGURE A-4: 1,000 MG/L ISOCHLOR LINE IN MIAMI-DADE COUNTY (USGS, 2022)



Section 8.0 – Goals, Objectives, and Policies (GOPs)

There are several elements (Resiliency, Infrastructure, Conservation, Intergovernmental Coordination, and Capital Improvement) in the City of Doral Comprehensive Plan that directly address water resources conservation and management. As part of the update of the City's Water Supply Facilities Work Plan, the City will revise and add new objectives and policies to the Comprehensive Plan to ensure consistency with Miami-Dade Water and Sewer Department Water Supply Facilities Work Plan dated April 2022 and the SFWMD's Lower East Coast Regional Water Supply Plan, adopted on September 23, 2024.

The intent is to evaluate the City's Comprehensive Plan adopted water conservation GOPs to ensure consistency with the 10-Year Water Supply Facilities Plan, WASD and SFWMD Lower East Coast Water Supply Facilities Plan. The following GOPs have been adopted in the original Work Plan and have been reviewed to see if updates or revisions are needed.

- ☀ Coordination of land uses and future land use changes with the availability of water supplies and water supply facilities
- ☀ Revision of potable water level of service standards for residential and non- residential uses
- ☀ Provision for the protection of water quality in traditional and alternative water supply sources
- ☀ Revision of priorities for the replacement of facilities, correction of existing water supply and facility deficiencies, and provision for future water supply and facility needs
- ☀ Provision for conserving potable water resources, including the implementation of reuse programs and potable water conservation strategies and techniques
- ☀ Provisions for improved or additional coordination between a water supply provider and the recipient

local government concerning the sharing and updating of information to meet ongoing water supply needs

- ☀ Coordination between local governments and the water supply provider in the implementation of alternative water supply projects, establishment of level of service standards and resource allocations, changes in service areas, and potential for annexation
- ☀ Coordination of land uses with available and projected fiscal resources and a financially-feasible schedule of capital improvements for water supply and facility projects
- ☀ Additional revenue sources to fund water supply and facility projects
- ☀ Coordination with the respective regional water supply plan
- ☀ Update the Work Plan within 18 months following the approval of a regional water supply plan
- ☀ Concurrency requiring water supplies at the building permit stage

The City of Doral established a Concurrency Management System (CMS) to ensure the availability and sufficiency of public facilities and services when development impacts occur and provide a program to prevent the levels of service (LOS) from falling 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 improvement expenditures and taxing structures for capital improvements; and,



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- ☀ Reduce the possibility of damage to the environment from the use of overburdened facilities.

The Concurrency Management System, which is incorporated in the Land Use Element and Capital Improvement Element, includes guidelines for interpreting and applying LOS standards to applications for development orders and development permits. It also establishes development review procedures in the City's Land Development Code. These procedures may make development approval contingent on the City's ability to provide facilities and services or may require that the developer provide facilities and services to maintain adopted LOS standards. Petitioners must supply public facility impact information with their development applications. City staff reviews and verifies the project information, comparing it with public facility capacity data and anticipated committed development impacts to ensure that adopted LOS standards will be maintained if the development application is approved. If LOS will not be maintained, the petition is denied unless the applicant presents revised plans demonstrating that the new development shall:

- ☀ Be served with all requisite public facilities concurrent with the impacts of development;

- ☀ Provide LOS for all requisite facilities that are compliant with the City's adopted LOS standards; and

- ☀ Shall not cause a reduction in the levels of service from existing infrastructure below minimum adopted thresholds.

The proposed amendments to the policies relevant to the provision of water supply to City of Doral residents and businesses, including water conservation practices, are contained in the City of Doral Comprehensive Plan.

Section 9.0 – Capital Improvement Projects and Schedule

Presently the City has no water facility project programmed in their 5-year Schedule of Capital Improvements. The table below is of the County proposed capital projects.

The federal and state governments have contributed to the restoration of the Everglades and Biscayne Bay ecosystems in partnership with SFWMD and US Army Corps of Engineers to restore protect and preserve water resources in southern Florida.



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TABLE A-7: WATER SUPPLY CAPITAL IMPROVEMENT PROJECTS (MIAMI-DADE WASD)

NO.	FUNCTIONS	HIALEAH/ PRESTON WTP	ALEXANDER ORR JR. WTP	VARIOUS WATER TRANSMISSION MAINS	WATER DISTRIBUTION SYSTEM EXTENSION	WATER SYSTEM UPGRADES	SMALL DIAMETER WATER MAINS ENHANCEMENTS PROGRAM	WATER MASTER PLAN
1	Project Number	1050	1051	1055	1060	1067	1084-101678	1084-102193
2	Current Bond/ Fund Allocation	\$ 179,379,613	\$292,774,945	\$5,163,420	\$ 287,572,335	\$ 150,744,000	\$ 271,477,620	\$ 5,089,440
3	Expenditures as of 9.30.2020	\$ 24,357,212	\$ 30,698,857	\$ -	\$ 4,826,213	\$ 34,595,500	\$ 12,253,828	\$ 33,665
4	Remaining Bond/Fund Allocation	\$ 155,022,401	\$262,076,088	\$5,163,420	\$ 282,746,122	\$ 116,148,500	\$ 259,223,792	\$5,055,775
5	Projections							
5.1	2024-2025	\$ 11,359,671	\$ 13,089,519	\$2,500,000	\$ 28,787,657	\$ 28,095,500	\$ 14,900,000	\$1,500,000
5.2	2025-2026	\$ 27,823,589	\$ 22,766,558	\$ 598,664	\$ 33,596,439	\$ 24,803,000	\$ 15,900,000	\$ 1,000,000
5.3	2026-2027	\$ 19,095,402	\$ 21,851,631	\$300,000	\$ 27,000,000	\$ 10,650,000	\$ 17,100,000	\$ 789,440
5.4	2027-2028	\$ 17,463,655	\$ 17,062,633	\$ 529,328	\$ 26,800,000	\$ 10,650,000	\$ 17,700,000	\$ 800,000
5.5	2028-2029	\$ 17,795,286	\$ 22,946,980	\$1,235,428	\$ 27,362,026	\$ 10,650,000	\$ 19,700,000	\$ 966,335
5.6	2029-2030	\$ 20,850,000	\$ 29,897,621	\$ -	\$ 26,600,000	\$ 10,650,000	\$ 21,200,000	\$ -
5.7	2030-2031	\$ 20,000,000	\$ 31,490,342	\$ -	\$ 26,600,000	\$ 10,650,000	\$ 37,253,846	\$ -
5.8	2031-2032	\$ 20,634,798	\$ 30,000,000	\$ -	\$ 26,000,000	\$ 10,000,000	\$ 49,000,000	\$ -
5.9	2032-2033	\$ -	\$ 43,000,000	\$ -	\$ -	\$ -	\$ 37,500,000	\$ -
5.1	2033-2034	\$ -	\$ 29,970,804	\$ -	\$ -	\$ -	\$ 28,969,946	\$ -
6	Future	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Total	\$ 155,022,401	\$ 262,076,088	\$5,163,420	\$ 222,746,122	\$ 116,148,500	\$ 259,223,792	\$5,055,775

Source: Miami Dade Water and Sewer Department. Adopted 2025-2034 Capital Budget and Multi-Year Capital Plan Projections by Project and Sub-Project: by Year - Water As of September 30, 2024.



Section 10.0 – Plan Implementation and Monitoring

The City of Doral Water Supply Facilities Work Plan with its 10 year planning horizon will be updated every five years

based on the 18 month timeframe of the adopted Lower East Coast Regional Supply Plan. The City will monitor the implementation of the plan as it does with its Comprehensive Plan. The review will also ensure consistency with the Miami Dade County WSP and the SFWMD Lower East Coast WSP.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

6. CONSERVATION

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

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 9-15.013(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. This section identifies and analyzes water bodies, wetlands, ground waters, air and water quality, floodplains, commercially valuable mineral deposits, soil problems, vegetative communities, wildlife habitats, and endangered species found within the City. Physical natural resources are presented first, and then followed by the biological natural resources. 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 the 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. Doral is projected to have approximately 56.2 inches of rainfall per year by 2050.

 **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 5.1, Map V-1. Surface water monitoring for the loads and concentrations of the 12 different indicator pollutants is 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. To remain in compliance, total phosphorus must not exceed 0.33 mg/l; Nitrate-Nitrite must not exceed 0.68 mg/l; Total suspended solids must not exceed 40 mg/l; and BOD5 must not exceed 9 mg/l.



FIGURE 6-1: MIAMI-DADE COUNTY SURFACE WATER QUALITY TESTING SITES

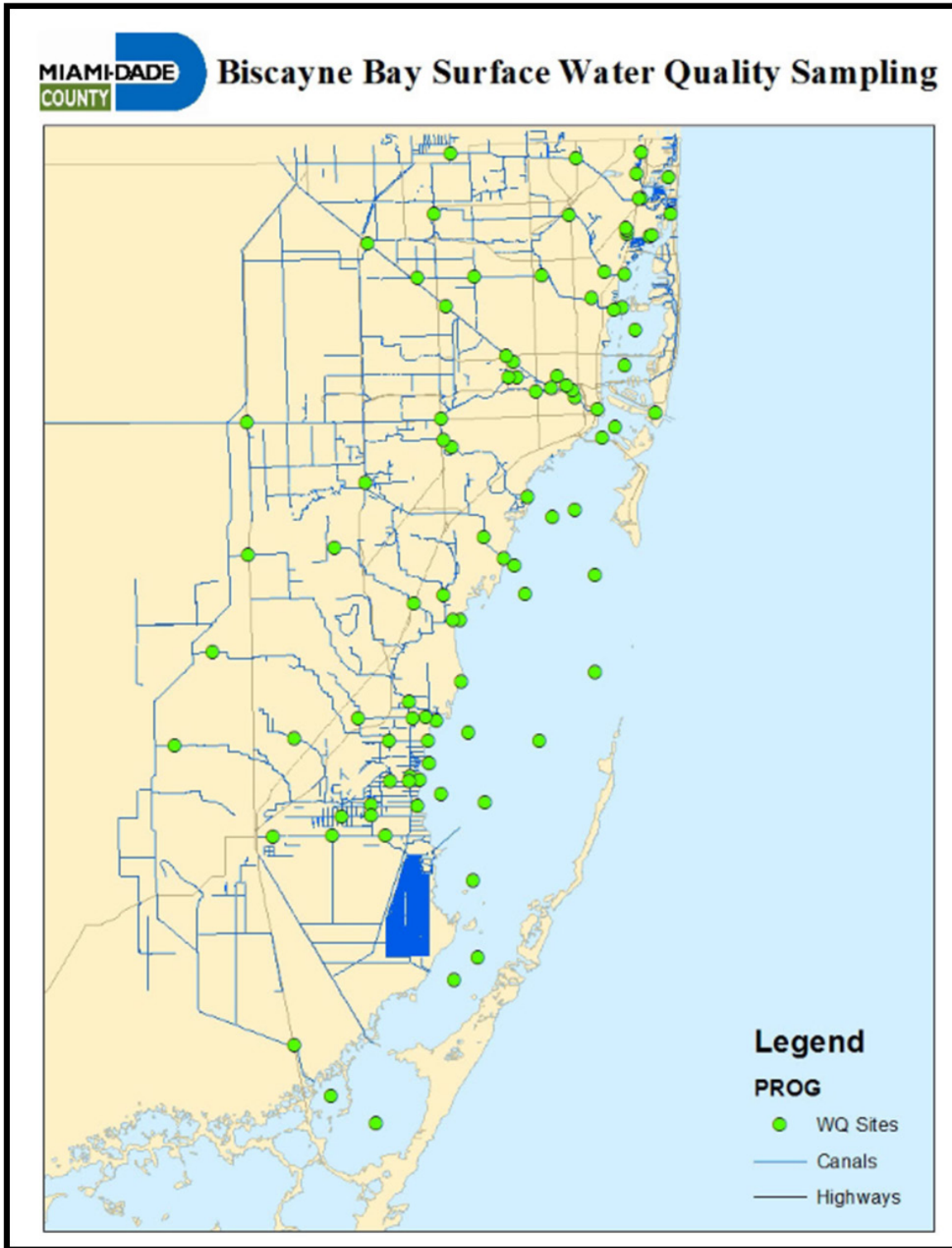


TABLE 6-1: WATER QUALITY LEVEL OF SERVICE PRIORITY INDICATOR POLLUTANTS

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
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- 0.10	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 finalized is currently finalizing a Stormwater Master Plan for the C-6 Drainage Basin in 2009.

The ranking and prioritization of stormwater problem areas that will be were identified in the DERM report will have helped 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. The City of Doral adopted a Stormwater Management Master Plan in 2009. This plan outlined the city's watershed characteristics, basin performance, and capital improvement priorities. See the attached Stormwater Management Master Plan in the Appendix section.

The C-6 Canal Drainage Basin is part of the South Florida Water Management District's monitoring network. Recent data show ongoing challenges with nutrient loading of phosphorus and nitrogen. This has led to periodic exceedances of bacterial monitoring in urbanized areas. The main source of pollutants in the C-6 Drainage Basin is stormwater runoff.

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 Clean Air Act requires the Environmental Protection Agency (EPA) to set NAAQS for six common air pollutants. Harmful to human health and the environment, these commonly found air pollutants consist of particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur dioxides, nitrogen dioxides, and lead. Of the six pollutants, particle pollution and ground-level ozone pollution are the most common health threats. 2023 EPA air quality data showed that the county attained attainment status for all monitored pollutants.

The Air Quality Index (AQI) ratings show that Miami-Dade County maintained good to moderate AQI levels for 85% to 90% of days between the years 2015 and 2023. Ozone exceedances have been extremely rare, with only one recorded in recent history occurring in 2020. This was due to unusual weather conditions that trapped pollutants for a short period. Overall, ozone formation potential remains due to heavy mobile sources such as automobiles and air travel. In addition, increased maritime activity in the area increases



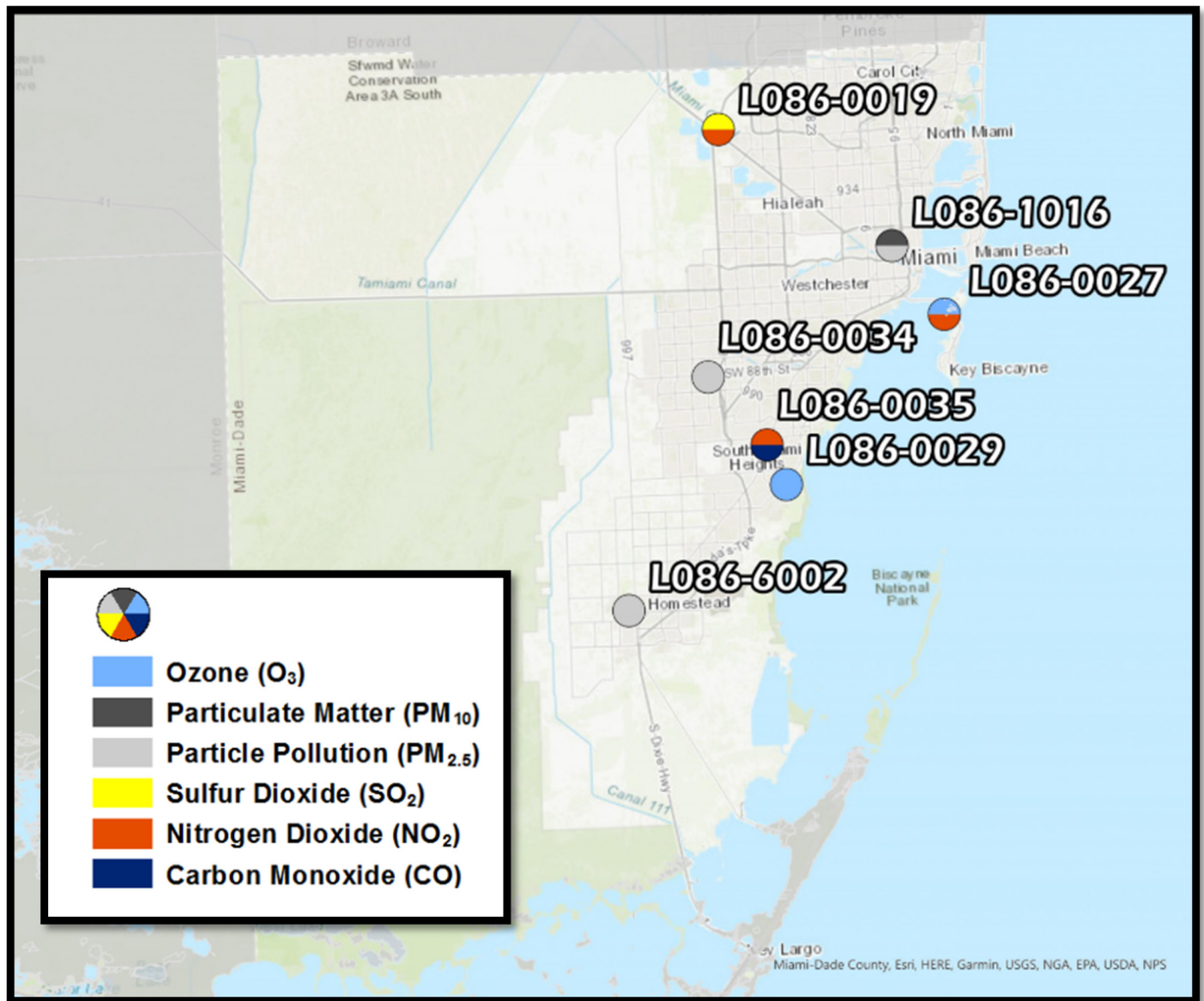
this risk. PM2.5 continues to cause regional issues that affect the weather and residents' health. The heavy buildup of PM2.5 is due to dust events over the ocean, not solely to anthropogenic sources.

The Miami-Dade County DERM currently maintains 12 air quality monitoring locations. Map 5.2 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. There is no station specifically monitoring Doral's industrial corridor and increasing development, so 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.



FIGURE 6-2: MIAMI-DADE COUNTY AIR QUALITY MONITORING STATIONS



FLOODPLAINS

The 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

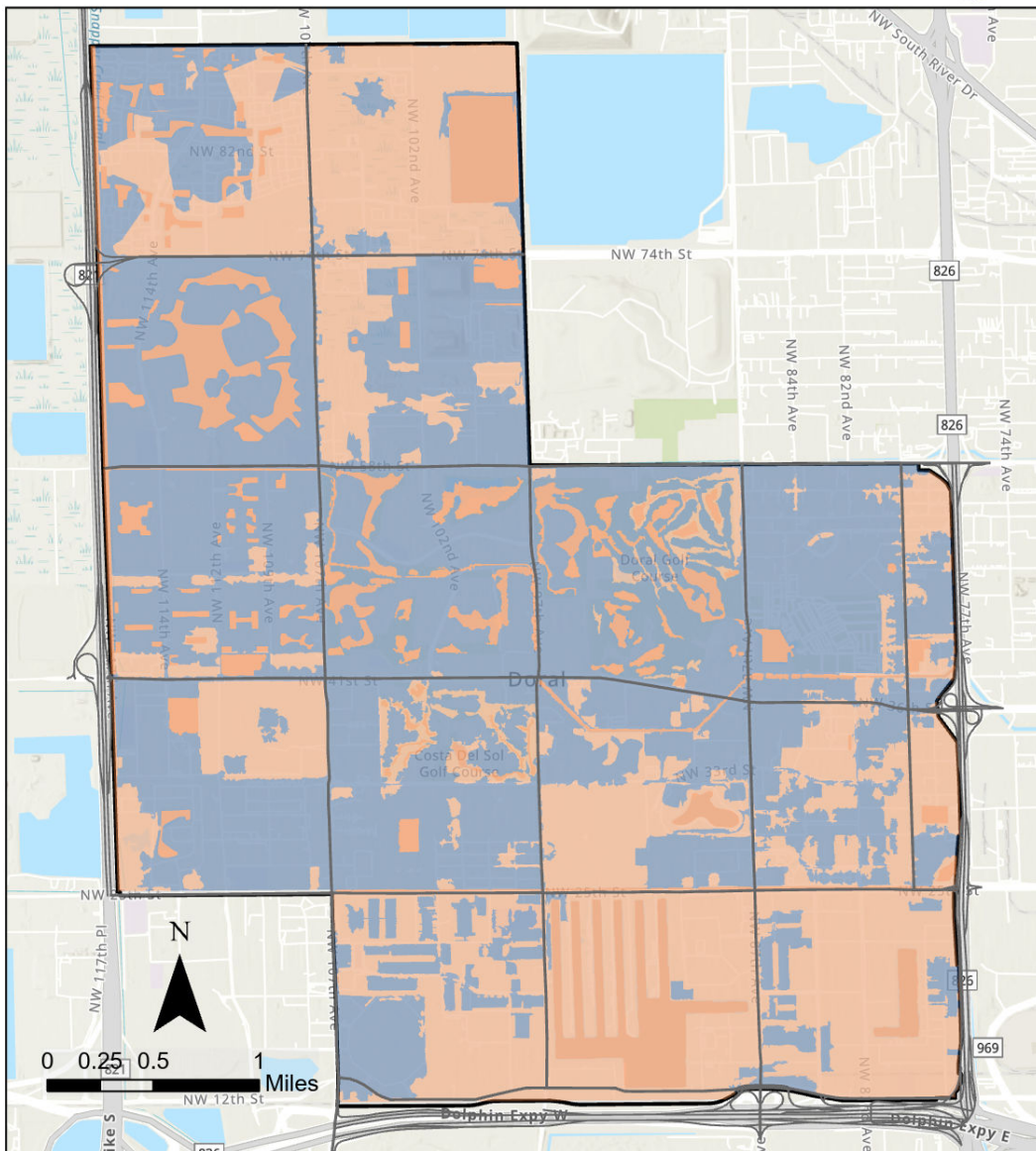
- ☀ **Zone X**—Areas determined to be outside 500-year floodplain

As shown in **Map 5.3**, the city of Doral does not include every FEMA-designated flood zone. The three FEMA flood zones present within the City are Zones X, AH, and AE. Zone X represents areas of no to minimal flood risk and is located outside the mapped 0.2% annual chance floodplain. This is commonly referred to as the 500-year floodplain. Zone AH is a high-risk Special Flood Hazard Area (SFHA) with a 1% annual chance in the 100-year floodplain model of flooding and is characterized by shallow ponding, typically with flood depths between 1 and 3 feet, for which Base Flood Elevations (BFEs) are established. Zone AE is also a high-risk SFHA within the 1% annual chance floodplain, where detailed hydraulic analyses have been conducted, and Base Flood Elevations are established to guide development and floodplain management standards. About 85% of the city is categorized in this flood zone.





MAP 6-1: FEMA FLOOD ZONES (2024) IN DORAL, FL



Legend Flood zones

- | | | | |
|--------------------------|--------------------------|-------------------------|--------------|
| AE - 100 year floodplain | AH - 100 year floodplain | X - 500 year floodplain | Doral Limits |
|--------------------------|--------------------------|-------------------------|--------------|



Source: FEMA National Flood Hazard Layer (NFHL), 2024.



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.

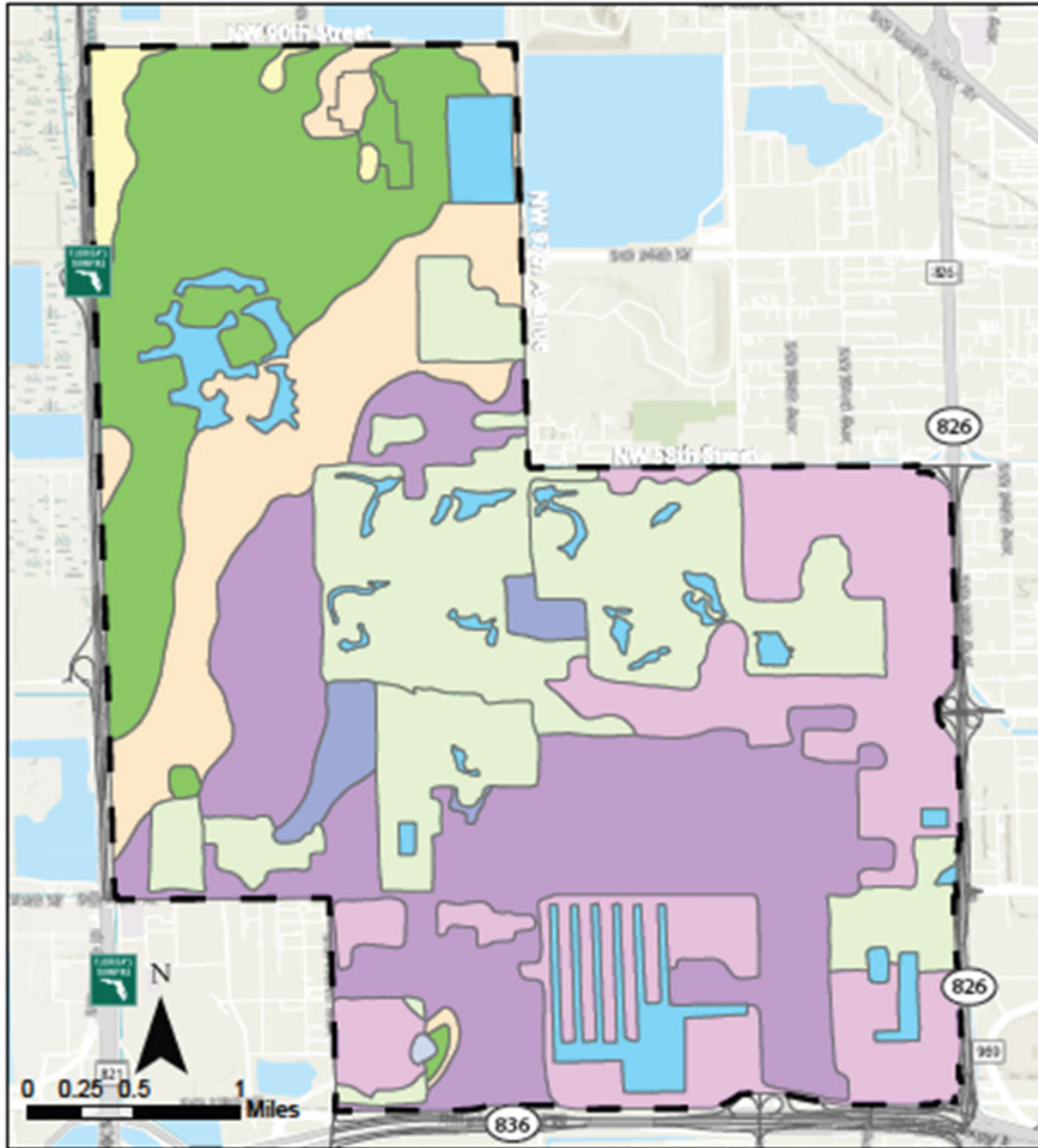
There is also some potential for soil erosion within the City of Doral during boat traffic and increased water circulation, which triggers erosion of these dredged banks and informal channels. Marine patrol enforcement of speed limits is the principal mitigation for this type of erosion.

As shown in **Map 5.4**, the majority of the natural soil composition in Doral is Hallandale, followed by Udorthents. Urban land comprises a large swath of the city, but is largely in the central and southern areas, with no reports in the northern parts of Doral.





MAP 6-2: SOILS TYPOLOGY IN DORAL, FL



Legend

- | | | | |
|-------------|--------------|------------|----------------------|
| Cooper Town | Plantation | Udorthents | [- -] Doral Limits |
| Hallandale | Shark Valley | Urban Land | |
| Macks Camps | Tamiami | Water | |

Source: Natural Resources Conservation Service (NCRS) Soil Survey, 2024.



ECOLOGICAL COMMUNITIES

No known plant (Flora) or animal (Fauna) studies have been completed for the City of Doral specifically. Table 5.2 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.

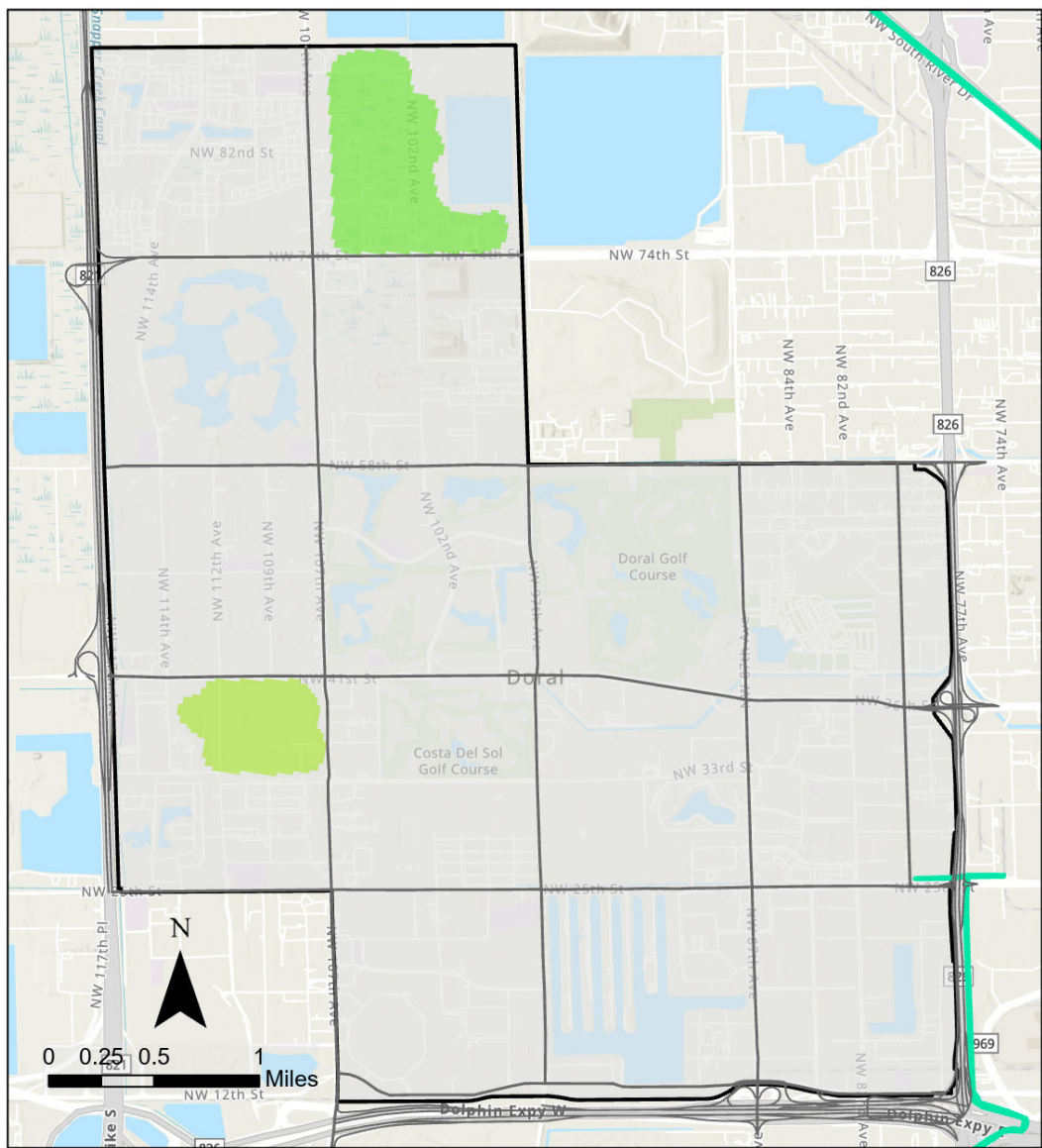
As shown in **Map 5.5**, there are only two areas that

are considered to be core habitat zones within the city. These are located in the central west and the northeast of the city. The northeast area is part of a remediation project, and future plans continue to conserve this land for wildlife. The Florida Manatee travels up to the city's border, but only along its southeast border. Given this, efforts to promote the cleanliness of surface water are encouraged to support this threatened species.





MAP 6-3: WILDLIFE HABITAT AREAS AND MANATEE CRITICAL AREAS



Legend

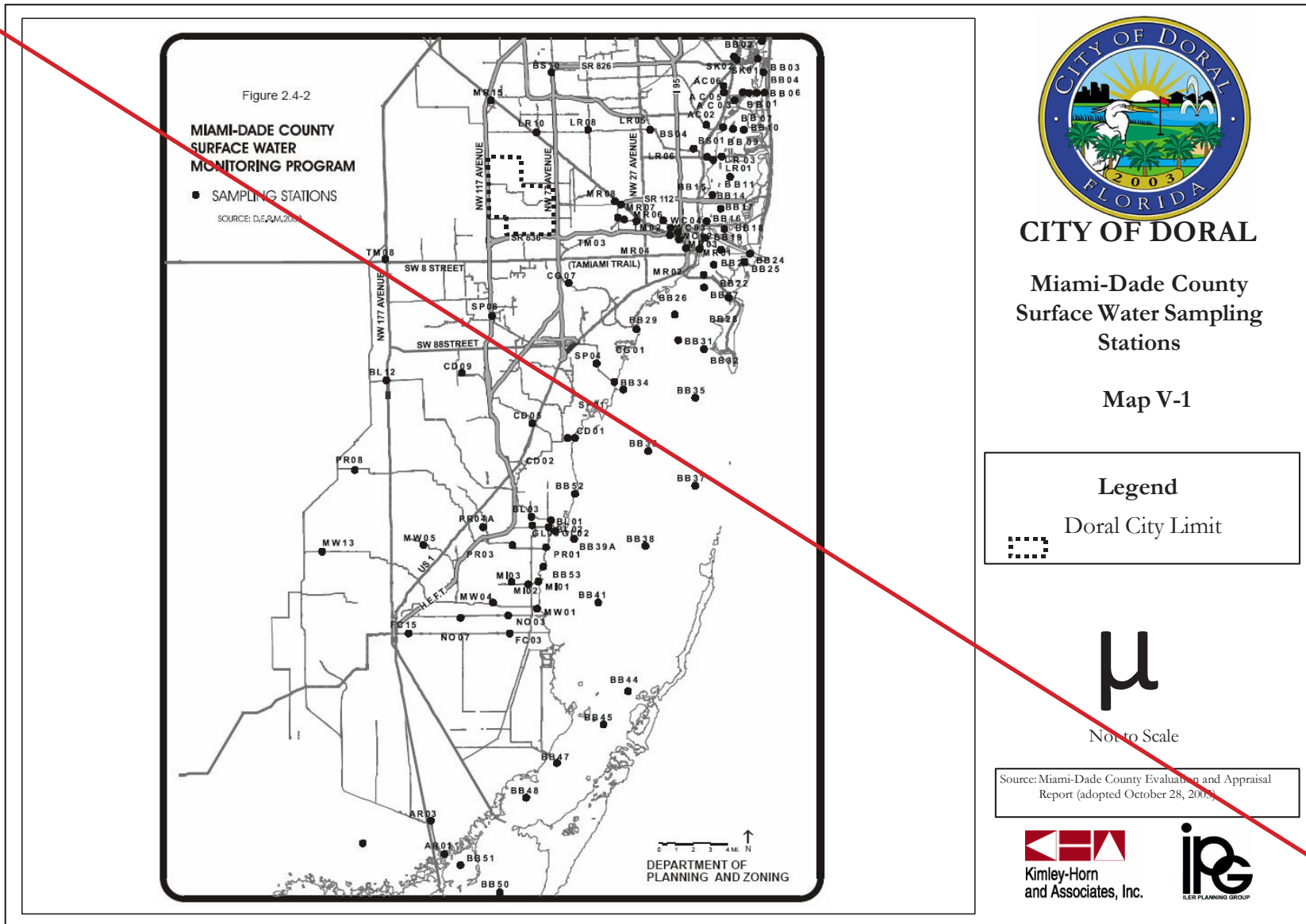
Wildlife Habitat Area Description

- | | |
|------------------------------------|---------------------------|
| Mostly Deciduous Forest | Critical Habitats Manatee |
| Mostly Needleleaf/Evergreen Forest | Doral Limits |

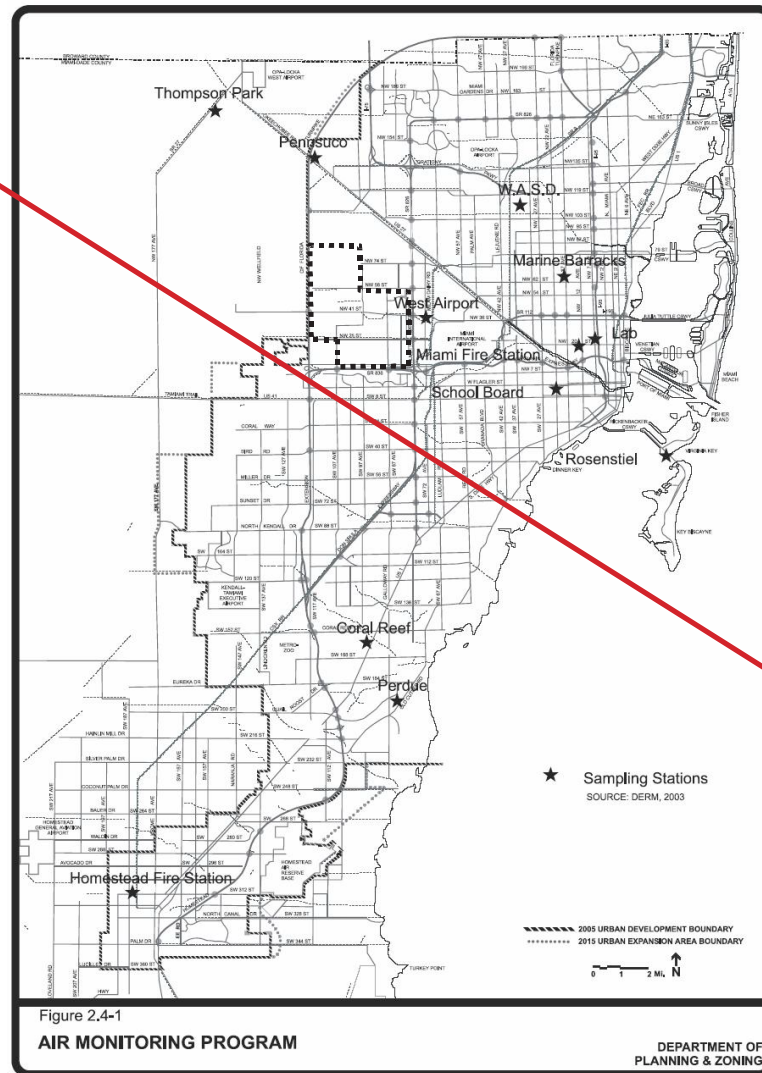
Source: US Fish & Wildlife Service, Environmental Conservation Online System, 2024.



6. CONSERVATION



6. CONSERVATION



CITY OF DORAL

Miami-Dade County Air Monitoring Stations

Map V-2

Legend

Doral City Limit

μ

Not to Scale

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



Kimley-Horn
and Associates, Inc.



6. CONSERVATION

TABLE 6-2: 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	TNL	G2 NL
Centropomus	Common snook	SSC NL	SSC NL
Cyprinodon variegatus hubbsi	Lake Eustis pupfish	NL	NL
Etheostoma histrio	Harlequin darter	SSC SSCNL	SSC SSCNL
Etheostoma olmstedii 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 NL	T (S/A
Caretta caretta	Atlantic loggerhead turtle	T	T
Chelonmyia mydas mydas	Atlantic green turtle	E	E
Crocodylus acutus	American crocodile	E-I	E
Dermochelys coriacea	Leatherback (=leathery) turtle	E	E
Drymarchon corais couperi	Eastern indigo snake	T	T
Elaphe guttata guttata	Red rat snake; corn snake	SSCNL	T
Eretmochelys imbricate imbricate	Atlantic hawksbill turtle	E	E
Gopherus polyphemus	Gopher turtle	SSC T	G2 NL
Kinosternon bauri	Striped mud turtle	ENL	NL
Lepidochelys kempi	Atlantic ridley turtle	E	E
Ophisaurus compressus	Island glass lizard	NL	G2 NL
Pituopijis melanoleucus mugitus	Florida pine snake	SSC I	G2 NL
Pseudobranchius striatus lustricolus	Gulf hammock dwarf siren	NL	G2 NL
Rana capito (= reolate) aesopus	Florida gopher (=crewfish) frog	SSCNL	G2 NL
Sceloporus woodi	Florida scrub lizard	NL	G2 NL
Storeria dekayi victa	Florida brown snake	T	NL
Tantilla oolitica	Miami black- headed; rimrock crowned snake	T	G2 NL
Birds			
Ajaja ajaja	Roseate spoonbill	SSC I	NL



6. CONSERVATION

Table Continued

SCIENTIFIC NAME	COMMON NAME	STATE STATUS (GFC)	FEDERAL STATUS (FWS)
<i>Ammodramus maritimus juncicola</i>	Cape Sable seaside sparrow	E	E
<i>Ammodramus maritima peninsulae</i>	<u>Scotts' seaside sparrow</u>	E	E
<i>Ammodramus savannarum floridanus</i>	Florida grasshopper sparrow	E	E
<i>Aphelocoma coerulescens coerulescens</i>	Florida scrub jay	T	T
<i>Aramus guarauna</i>	Limpkin	SSC	
<i>Campephilus principalis</i>	Ivory-billed woodpecker	E	E
<i>Charadrius melodus</i>	Piping plover	NL	NL
<i>Cistothorus palustris griseus</i>	<u>Worthington's marsh wren</u>	E	E
<i>Circus cyaneus</i>	Marsh hawk; northern harrier	NL	NL
<i>Columba leucocephala</i>	White-crowned pigeon	FE	E
<i>Dendroica kirtlandii</i>	Kirtland's warbler	E	E
<i>Egretta caerulea</i>	Little blue heron	SSG I	NL
<i>Egretta rufescens</i>	Reddish egret	SSG I	NL
<i>Egretta thula</i>	Snowy egret	SSG I	NL
<i>Egretta tricolor</i>	Tricolored (=Louisiana) heron	SSG E	NL E
<i>Eudocimus albus</i>	White ibis	SSGI	NL
<i>Falco columbarius</i>	Pigeon hawk or merlin	NL	NL
<i>Falco sparverius paulus</i>	Southeastern American kestrel	T	NL
<i>Haliaeetus leucocephalus</i>	Bald eagle	T	T NL
<i>Lanius ludovicianus</i>	Loggerhead shrike	C2 NL	NL
<i>Mycteria americana</i>	Wood stork	E T	E T
<i>Pandion haliaetus</i>	Osprey	SSCT	NL
<i>Pelecanus occidentalis</i>	Brown pelican	SSCT	NL
Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
<i>Rallus longirostris insularum</i>	Mangrove clapper tail	NL	G2 NL
<i>Rostrhamus sociabilis</i>	Snail kite	E	E
<i>Rynchops niger</i>	Black skimmer	SSGI	NL
<i>Speotyto cunicularia</i>	Burrowing owl	SSGI	NL
<i>Sterna antillarum</i>	Least tern	T	NL
<i>Vermivora bachmanii</i>	Bachman's warbler	E	E
Mammals			
<i>Felis concolor coryi</i>	Florida panther Magaptera	E	E



6. CONSERVATION

Table Continued

SCIENTIFIC NAME	COMMON NAME	STATE STATUS (GFC)	FEDERAL STATUS (FWS)
<i>novaengliae</i>	Humpback whale	E	E
<i>Mustela vison evergladensis</i>	Everglades mink	T	
<i>Neofiber alleni</i>	Round tailed muskrat	NL	G2 NL
<i>Odocoileus virginianus clavium</i>	Key deer; toy deer <i>Peromyscus</i>	E	E
<i>polionotus niveiventrus</i>	Southeastern beach mouse	T	T
<i>Physeter catodon</i>	Sperm whale; cachalot	E	E
<i>Plecotus rafinesquil</i>	Southeastern big eared bat	NL	G2 NL
<i>Podomys floridanus</i>	Florida mouse	SSC	G2 NL
<i>Sciurus niger avicennia</i>	Big Cypress fox squirrel	SSC	G2 NL
<i>Trichechus manatus</i>	West Indian/Floridamanatee	E I	E I
<i>Ursus americanus floridanus</i>	Florida black bear	T	NL
<i>Anaea troglodyte floridalis</i>	Florida leafwing butterfly	C2 E	NL E
<i>Aphodisu troglodytes</i>	Aphodius tortoise commensal scarab beetle	NL	G2 NL
<i>Atrytone arogos arogos</i>	Eastern beard grass skipper	NL	G2 NL
<i>Ceracoclea floridana</i>	Florida ceraclean longhorn caddisfly	NL	G2 NL
<i>Cyclocephala miamiensis</i>	Miami roundhead sacrab beetle	NL	G2 NL
<i>Eumaeus atala florida</i>	Florida atala butterfly	NL	G2 NL
<i>Micronaspsis floridana</i>	Florida intertidal firefly	NL	G2 NL
<i>Mixogaster delongi</i>	DeLong's mixogaster flowerfly	NL	G2 NL
<i>Mycotrupes pedester</i>	Scrub Isle burrowing scarab beetle	NL	G2 NL
<i>Onthopheagus polyphemi</i>	Tortoise Commensal scarab	NL	G2 NL
<i>Oxyethira florida</i>	Florida oxyethiran micro-caddisfly	NL	G2 NL
<i>Photuris brunnipennis floridana</i>	Everglades brownwing firefly	NL	G2 NL
<i>Strymon acis bartrami</i>	Bartram's hairstreak butterfly	NL	G2 NL
Crustaceans			
<i>Crangonyx gradimanus</i>	Florida cave amphipod	C2NL	NL
<i>Crangonyx hobbsi</i>	Hobb's cave amphipod	C2NL	NL
Molluscs			
<i>Liguus fasciatus</i>	Florida tree snail	SSC	NL



6. CONSERVATION

Table Continued

SCIENTIFIC NAME	COMMON NAME	STATE STATUS (GFC)	FEDERAL STATUS (FWS)
Plants			
Acrostichum aureum	Golden leather fern	E	NL
Adiantum melanoleucum	Fragrant maidenhair fern	E	NL
Adiantum 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	G2NL
Asplenium dentatum	Slender spleenwort	E	NL
Asplenium serratum	Bird's nest spleenwort, wild birdnest fern	E	NL
Bourreria cassinifolia	Little strongback	E	NL
Brassia caudata	Long-tailed spider orchid	T	NL
Brickellia eupatoriodes	Florida brickell- bush Florida boneset	E	G2NL
Byrsonima lucida DC	Not listed	E	NL
Calyptanthus zuzygium	Not listed	E	NL
Campyloneurum 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	G2NL
Cereus gracilis var. simpsonii	Simpson's prickly apple	E	G2NL
Cereus pentagonus	Dilldoe cactus	T	NL
Chamaesyce deltoidea	Wedge spurge	E	E
Chamaesyce garberi	Garber's spurge	E	T
Chamaesyce porteriana	Porter's hairy- podded spurge	E	G2NL
Chamaesyce porteriana var. scoparia	Porter's broom spurge	E	G2NL
Cheilanthes microphylla	Southern lip fern	E	NL
Chrysophyllum oliviforme	Satinleaf	E	NL
Coccothrinax argentata	Silver palm	CE	NL
Culubrina cubensis	Not listed	E	NL



6. CONSERVATION

Table Continued

SCIENTIFIC NAME	COMMON NAME	STATE STATUS (GFC)	FEDERAL STATUS (FWS)
<i>Conradina grandiflora</i>	Large-flowered rosemary	E	G2NL
<i>Cordia sebestena</i>	Geiger tree	E	NL
<i>Crossopetalum ilicifolium</i>	Quailberry	E	NL
<i>Crossopetalum rhacoma</i>	Rhacoma	E	NL
<i>Cucurbita okeechobeensis</i>	Okeechobee gourd; Indian pumpkin	E	E
<i>Cyrtopodium punctatum</i>	Cowhorn orchid	E	NL
<i>Digitaria pauciflora</i>	Two spiked finger	NL	G2
<i>Elytraria carolinensis</i> var. <i>angustiflora</i>	Narrow leaved Carolina scalystem	NL	G2NL
<i>Encyclia boothiana</i> var. <i>erythroniodes</i>	Dollar (dogtooth) orchid	E	NL
<i>Eriochloa michauxii</i> var. <i>simpsonii</i>	Longleaf (=Simpson's) cup grass	T	G2NL
<i>Ernodia littoralis</i>	Beach creeper	T	NL
<i>Eugenia confusa</i>	Redberry ironwood	T	NL
<i>Eugenia rhombea</i>	Red stopper	E	NL
<i>Forestiera segregate</i> var. <i>pinetorum</i>	Pinewood narrow- leaf Florida) privet	NL	G2NL
<i>Galactia pinetorum</i>	Narrow-leaf milkpea	NL	G2NL
<i>Galactia smallii</i>	Small's milkpea	E	E
<i>Gossypium hirsutum</i>	Wild cotton	E	NL
<i>Guaiacum sanctum</i>	Lignum-vitae tree	E	NL
<i>Guzmania monostachia</i>	Fuch's bromeliad	E	NL
<i>Halophila johnonii</i>	Johnson's seagrass	T	NL
<i>Helianthus debilis</i> ssp. <i>Vestitus</i>	Hairy cucumber-leaf sunflower; hairy beach sunflower	NL	G2NL
<i>Hippomane mancinella</i>	Manchineel	T	NL
<i>Ionopsis utricularioides</i>	Delicate ionopsis; violet orchid	E	NL
<i>Ipomoea microdactyla</i>	Wild potato morning glory	E	NL
<i>Ipomoea tenuissima</i>	Rocklands morning glory	E	NL
<i>Jacquemontia curtissii</i>	Pineland clustervine	E	E
<i>Jacquemontia reclinata</i>	Beach clustervine	E	E
<i>Jacquinia keyensis</i>	Joewood	T	NL
<i>Lantana depressa</i>	Pineland Lantana	NL	G2NL



6. CONSERVATION

Table Continued

SCIENTIFIC NAME	COMMON NAME	STATE STATUS (GFC)	FEDERAL STATUS (FWS)
<i>Lechea divaricata</i>	Pine pinweed	E	G2NL
<i>Licaria triandra</i>	Licaria	E	NL
<i>Linum arenicola</i>	Sand flax	E	G2NL
<i>Linum carteri</i> var. <i>carteri</i>	Miami (=Carter's small-flowered) flax	E	G2NL
<i>Linum carteri</i> var. <i>smallii</i>	South Florida (=Carter's large-flowered) flax	E	G2NL
<i>Lomariopsis kunseana</i>	Holly fern	T	NL
<i>Lythrum flagellare</i>	Lowland loosestrife	NL	G2NL
<i>Mallotonia gnaphalodes</i>	Sea lavender	E	NL
<i>Melanthera parvifolia</i>	Small-leaved (S. FL.) cat tongue	NL	G2NL
<i>Microgramma heterophylla</i>	Polypody fern (unnamed)	T	NL
<i>Myrcianthes fragrans</i> var. <i>simpsonii</i>	Simpson's stopper; twinberry	NL	G2NL
<i>Okenia hypogaea</i>	Burrowing four o'clock	E	NL
<i>Ophioglossum plamatum</i>	Hand adder's tongue fern	T	NL
<i>Peperomia humilis</i>	Peperomia (unnamed)	E	NL
<i>Peperomia magnoliifolia</i>	Magnolia-leaved peperomia	E	NL
<i>Phoradendron rubrum</i>	Mahogany mistletoe	E	NL
<i>Peperomia obtusifolia</i>	Florida peperomia	E	NL
<i>Polygala smallii</i>	Tiny (=Small's) milkwort	E	E
<i>Polyrrhiza lindenii</i>	Ghost orchid; palm polly	E	NL
<i>Pseudophoenix sargentii</i>	Buccaneer (=Sargent's cherry) palm	E	NL
<i>Pteris longifolia</i>	Ladder brake fern	T	NL
<i>Pteroglossapis</i>	Wild coco; false coco (<i>Eulphia</i>) <i>ecristata</i>	T	G2NL
<i>Remirea maritime</i>	Beach star	E	NL
<i>Rhipsalis baccifera</i>	Mistleoe cactus	E	NL
Scientific Name	Common Name	State Status (GFC)	Federal Status (FWS)
<i>Rhynchosia cinerea</i>	Not listed	E	NL
<i>Roystonea elata</i>	Florida royal palm	E	NL
<i>Sabal miamiensis</i>	Not listed	E	NL
<i>Sachsia bahamensis</i>	Bahama sachsia	E	NL



6. CONSERVATION

Table Continued

SCIENTIFIC NAME	COMMON NAME	STATE STATUS (GFC)	FEDERAL STATUS (FWS)
Schizaea gemanii	Ray (=tropical curly-grass) fern	E	NL
Spiranthes polyantha	Florida Keys (=Fort George; =green) ladies' tresses	E	G2NL
Stillingia sylvatica ssp. Tenuis	Slender queen's delight	NL	G2NL
Surian maritime	Bay cedar	E	NL
Swietenia mahogany	West Indian mahogany	T	NL
Tectaria coriandrifolia	Hairy (Hattie Bauer) Halberd fern	NL	C2NL
Tectaria xamesiana	Not listed	T	NL
Tephrosia angustissima	Narrow-leaved (=coastal) hoary pea	E	G2NL
Tetrazygia bicolor	Tetrazygia	T	NL
Trichomanes krausii	Filmy fern (unnamed)	T	NL
Trichomanes punctatum	Filmy fern (unnamed)	T	NL
Tripsacum floridanum	Gama grass	NL	G2NL
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	G2NL
Verbena (=Glandularia) tampensis	Tampa vervain	E	G2NL
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

G=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

G2=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 coordinates 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 continues 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.

All development within wellfield protection areas requires DERM approval. Prohibited uses include gas stations, dry cleaners, auto repair facilities, and industries handling hazardous materials. This had led to enhanced requirements for water quality and aquifer recharge. As of 2023, there are 15 ambient groundwater monitoring stations in the wellfield area.

| WETLANDS

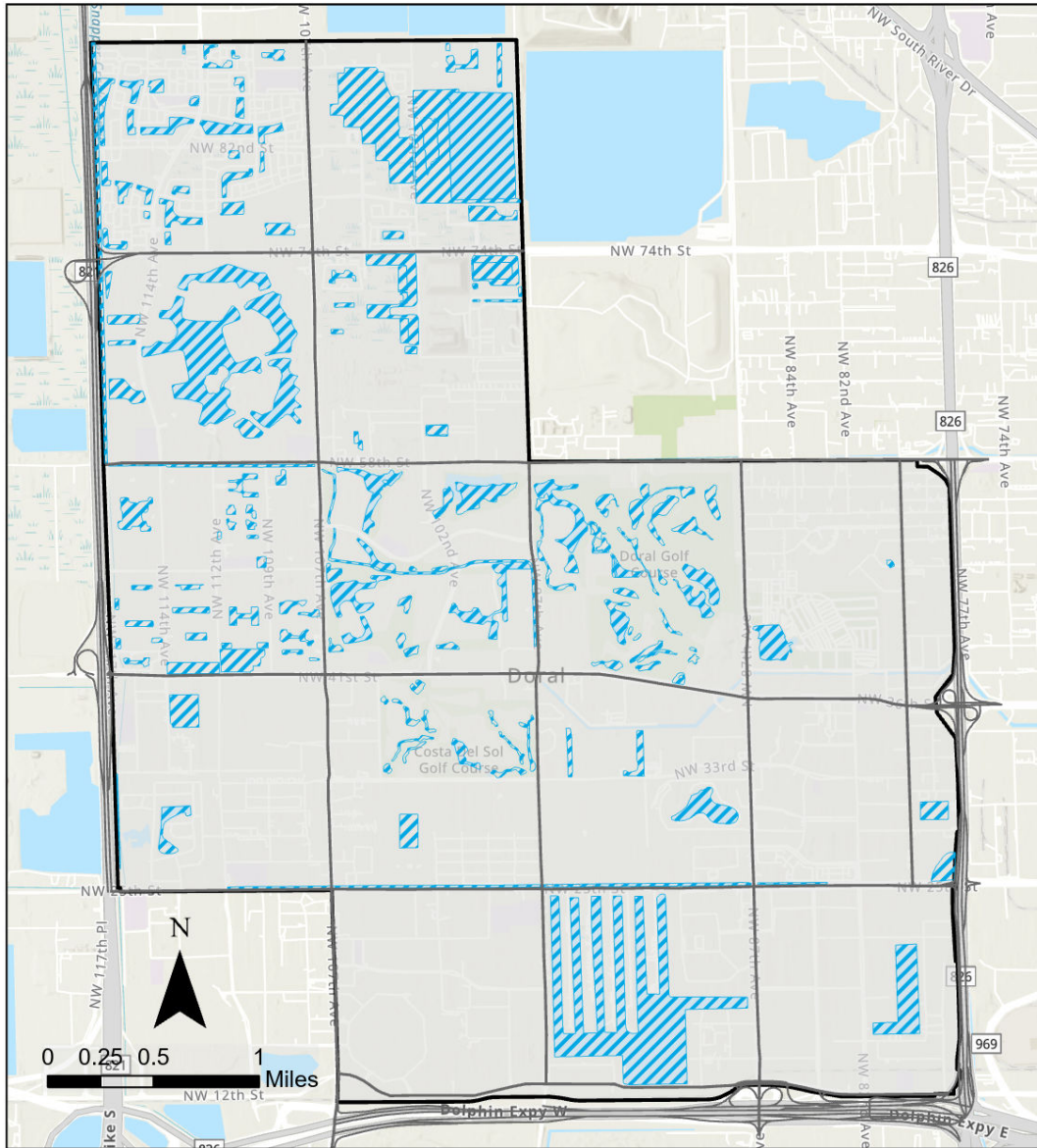
Wetlands are generally classified as areas where the water table is near or above the surface except during extended dry periods. Wetlands are typically adjacent to natural water bodies and man-made lakes, and in low-lying depressions, and have poorly drained, level, organic, or marl soils. Wetlands 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. Since the last update of this plan, the city now has approximately 120 acres of jurisdictional wetlands. ~~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.~~ These wetlands are primarily freshwater marshes, forested wetlands from cypress dome remnants, and herbaceous wetlands. The 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 programs to preserve their wetland values.

The majority of the city’s wetlands remain in private ownership but have conservation easements and mitigation requirements in place to protect them. All wetlands require DERM review and approval prior to any permitting. The existing wetland as of 2024 is shown in Map 5.6.





MAP 6-4: WETLAND AREAS IN DORAL, FL



Legend

-  Wetlands
-  Doral Limits

Source: US Fish & Wildlife Service, National Wetlands Inventory Mapper, 2024.



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 approximately 12 to 15 formally designated sites for Hazardous Waste Remediation in or adjacent to Doral. These sites potentially consist of abandoned gas stations, small chemical packaging plants, and other sites acquiescent to remediation. See Map V-4 Map 5.7 for description and illustration.





MAP 6-5: WASTE MANAGEMENT IN DORAL, FL



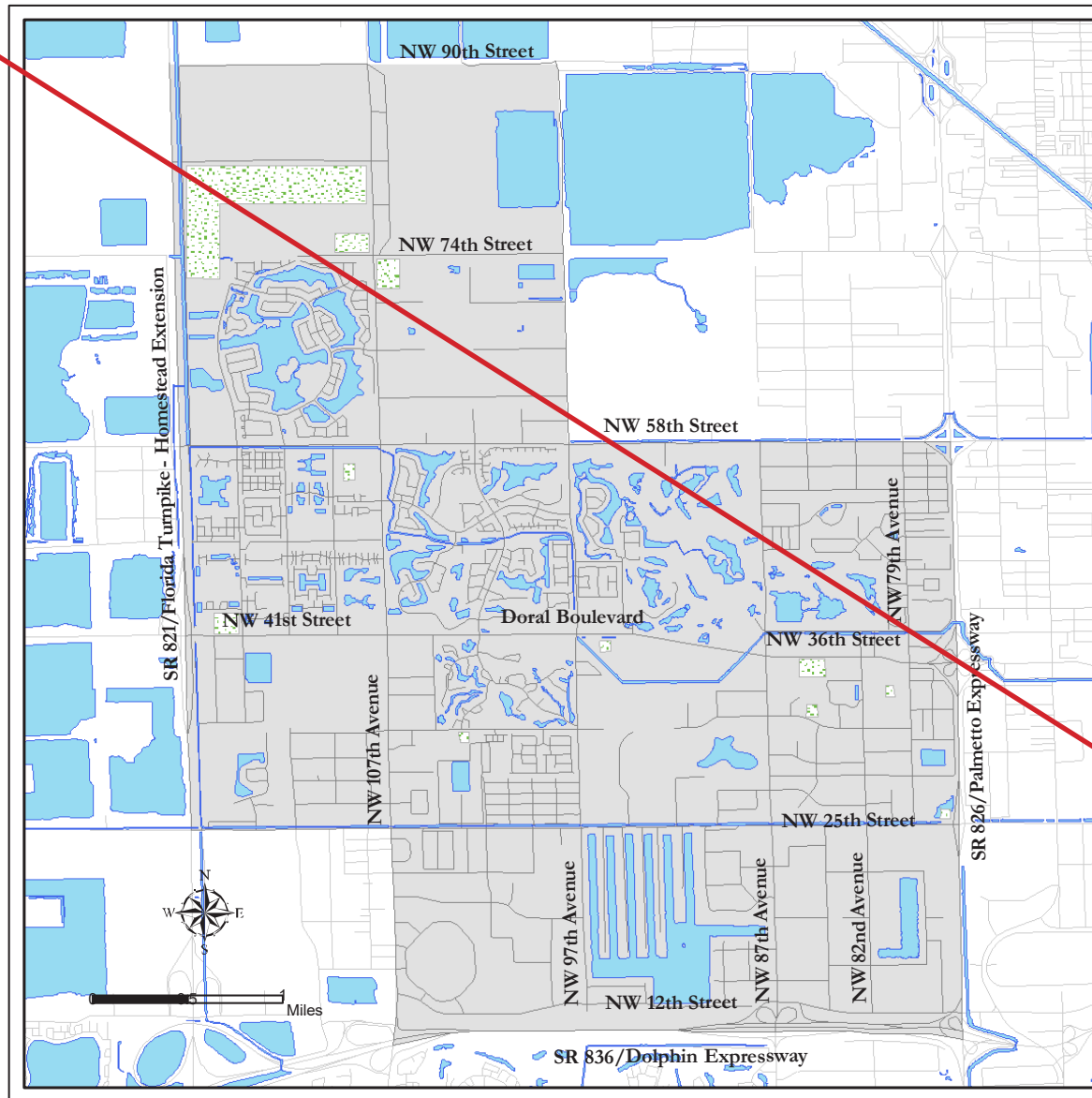
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- | | | |
|------------------------------------|-------------------|--------------|
| Resources Recovery Facility | Land Fills | Doral Limits |
| West Dade Home Chemical Collection | DOH Septic System | |

Source: Homeland Infrastructure Foundation-Level Data (HIFLD) Solid Waste Facilities and DOH Septic Systems (OSTDS), 2020 & 2025.



6. CONSERVATION



CITY OF DORAL DERM Permitted Privately Owned Wetlands

Map V-3

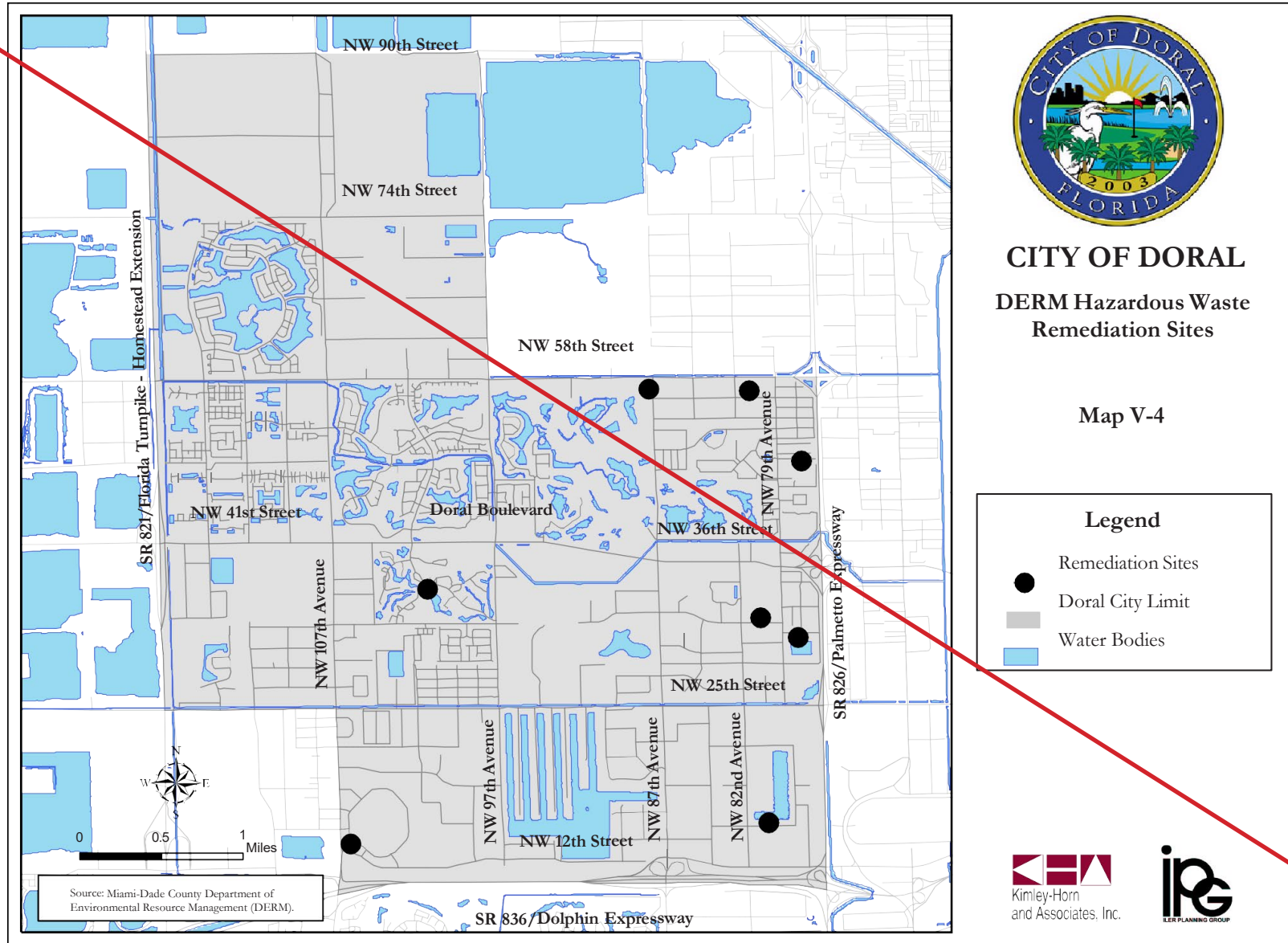
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-  Wetland Sites
-  Doral City Limit
-  Water Bodies

Source: Miami-Dade County Department of
Environmental Resource Management (DERM).



6. CONSERVATION



EXISTING AND POTENTIAL CONSERVATION AND USE OF NATURAL RESOURCES

~~Rule 9-J5.013(1)(b) The Florida Administrative Code~~ 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 CO2 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 groundwater 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 5.8 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:

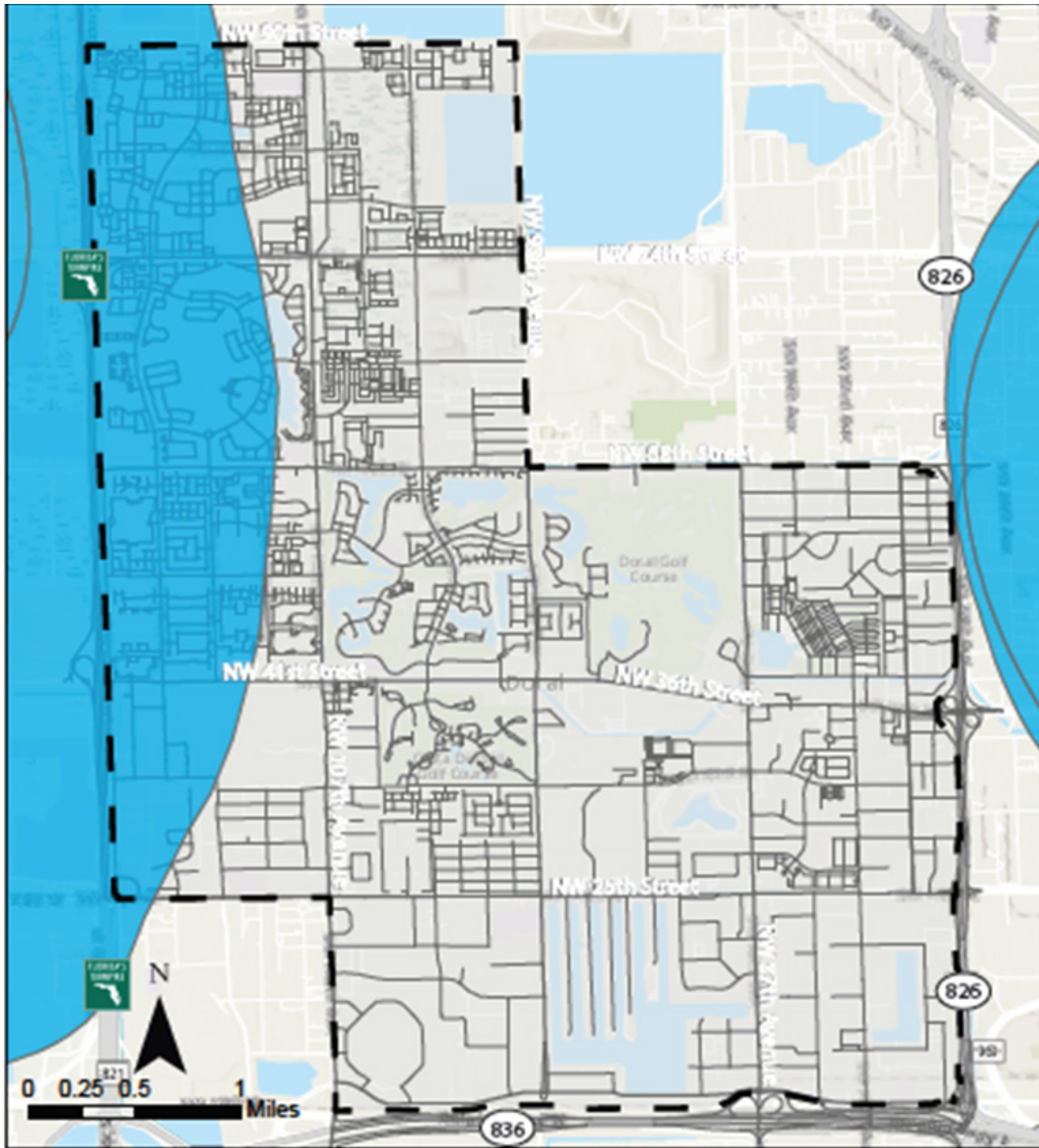
- ☀ Provide stormwater management systems in industrial and heavy commercial areas, and in areas with large concentrations of small hazardous waste generators.
- ☀ Mitigate basins and sub-basins that fail to meet the target criteria for the 12 NPDES priority pollutants listed under “Surface Water Quality.”
- ☀ 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





MAP 6-6: WELLFIELD PROTECTION AREAS IN DORAL, FL



Legend



Northwest & Hialeah Preston Wellfields



Doral Limits



CORRADINO

Source: Miami-Dade County (MDC) Wellfield Protection Areas, 2025.



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 2050 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:

The City of Doral participates in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). This participation enables property owners within the city to purchase federally-backed flood insurance.

Floodplain Management Ordinance: In accordance with NFIP requirements, the City of Doral has adopted and enforces a floodplain management ordinance that:

- ☀ Regulates development in Special Flood Hazard Areas (SFHA) to minimize flood damage.
- ☀ Requires new construction and substantial improvements in SFHA to be elevated to or above the Base Flood Elevation (BFE).
- ☀ Requires flood-resistant materials for construction in flood zones.
- ☀ Requires anchoring of manufactured homes to resist flotation.
- ☀ Prohibits encroachments in the regulatory floodway that would cause increases in flood levels.
- ☀ Requires floodplain development permits for all development in SFHA.

Community Rating System (CRS): The City of Doral is an active participant in the NFIP Community Rating System and currently holds a Class 7 rating (as of 2023). This rating provides residents with a 15% discount on flood insurance premiums for policies in SFHA. The CRS rating is based on the city's implementation of floodplain management activities that exceed minimum NFIP requirements, including:

- ☀ Flood hazard information dissemination;
- ☀ Flood protection and assistance measures;
- ☀ Stormwater management and floodplain regulations;
- ☀ Open space preservation and flood warning programs.

Flood Insurance Requirements:

- ☀ **Mandatory Purchase:** Properties located in Special Flood Hazard Areas (Zones A, AE, AH, AO, or VE) with



federally-backed mortgages are required to carry flood insurance.

- ☀ **Coverage Limits:** Standard NFIP policies provide up to \$250,000 for building coverage and \$100,000 for contents coverage for residential properties; higher limits available for commercial properties.
- ☀ **Preferred Risk Policy:** Properties outside SFHA may be eligible for lower-cost Preferred Risk Policies.
- ☀ **Elevation Certificates:** The City of Doral requires Elevation Certificates for all new construction and substantial improvements in Special Flood Hazard Areas to document compliance with floodplain management regulations and to determine appropriate insurance rates.

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.

Soil Types:

The primary soil type present in Doral is Urban land complex, which is highly disturbed and has mixed fill of materials. Prior to development, area was dominated by:

- ☀ Perrine marl (calcium carbonate soil)
- ☀ Rockdale outcrop (limestone bedrock near surface)
- ☀ Krome very gravelly loam (well-drained, limestone substrate)

Most natural soils have been extensively modified by development activities.

Erosion Potential Assessment:

- ☀ **Overall Risk:** Generally low to moderate due to flat topography

High Risk Areas include:

- ☀ Canal banks (especially along C-6 Canal and tributaries)
- ☀ Construction sites (temporary erosion during active development)
- ☀ Areas adjacent to major roadways (from runoff)
- ☀ Wetland edges during dry periods

Erosion Control Measures:

- ☀ **Construction Sites:** Required silt fencing, erosion control blankets, and temporary stabilization
- ☀ **Canal Banks:** Littoral zones, native vegetation, and riprap protection.
- ☀ **Public Areas:** Green infrastructure practices, bioswales, and rain gardens.
- ☀ **Private Development:** Required stormwater management systems and landscaping standards.

Soil Limitations for Development:

Limestone Bedrock:

- ☀ **Shallow bedrock:** the shallow bedrock limits deep foundations and underground utilities.
- ☀ **Poor Drainage:** Some areas have high water tables and poor drainage.
- ☀ **Fill Material:** Extensive use of imported fill for raising elevations in flood-prone areas.



- ☀ **Soil Stability:** Generally stable, but some areas require compaction and preparation.

Urban Soils:

- ☀ **Compacted:** High compaction in developed areas limits infiltration.
- ☀ **Contamination:** Potential contamination from historic land uses (agricultural, industrial).
- ☀ **Quality:** Variable soil quality for landscaping and tree planting.
- ☀ **Management:** Need for soil remediation and improvement for urban greening.

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 9-15.013(1)(c) The Florida Administrative Code requires that a local government determine its current and projected water needs for the 10 and 20-year planning horizon and identify new water supply sources to serve future demand. The Water Supply Plan is included in the Infrastructure Element of this Plan. 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.

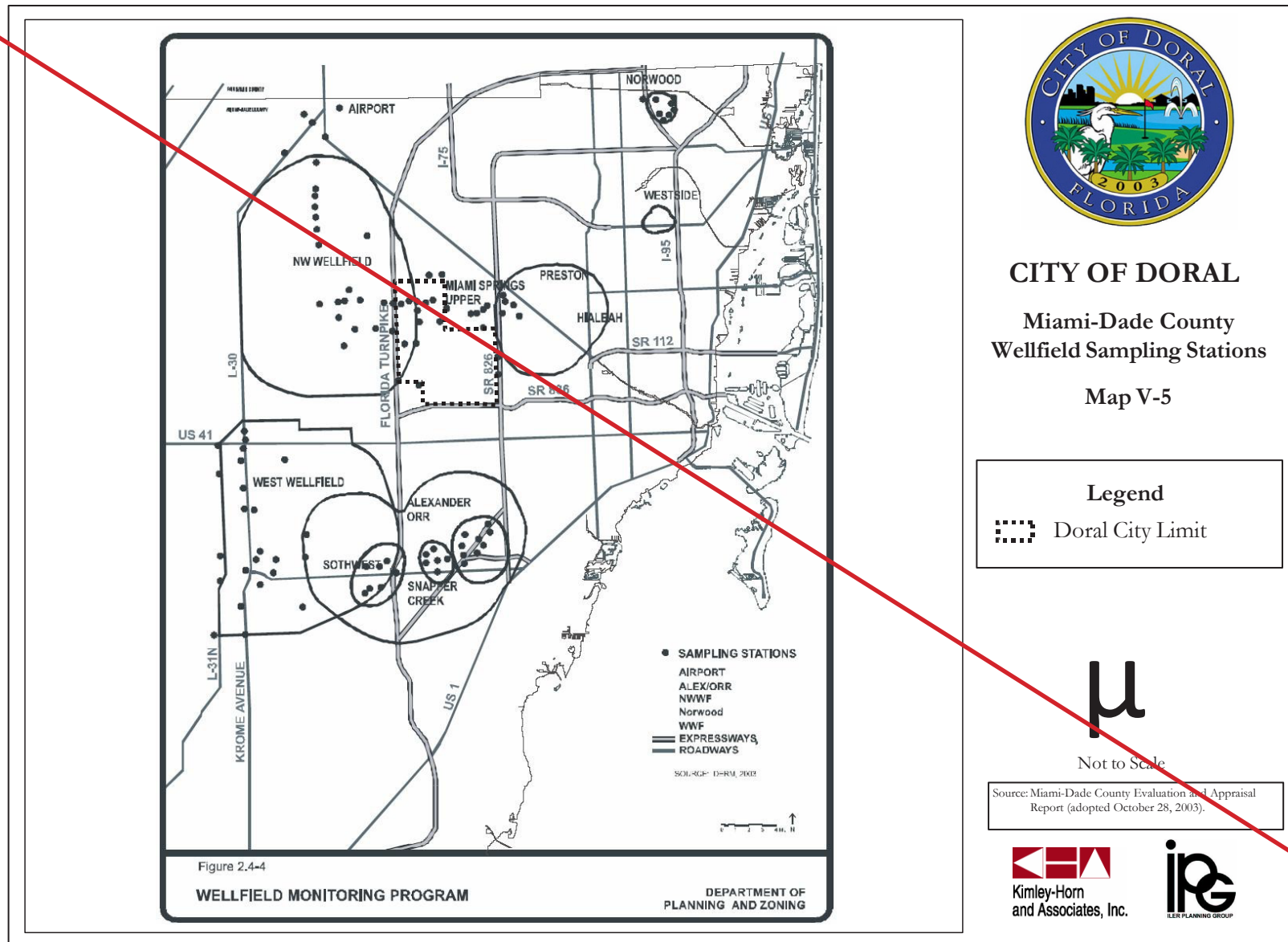
Existing and Projected Potable Water Capacity and Demand

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 ($20,438 \times 200 \text{ gal/capita/day} = 4.09 \text{ MGD}$). Table 6-4 provides potable water projections for the City of Doral over the 10-year planning horizon.



6. CONSERVATION



6. CONSERVATION

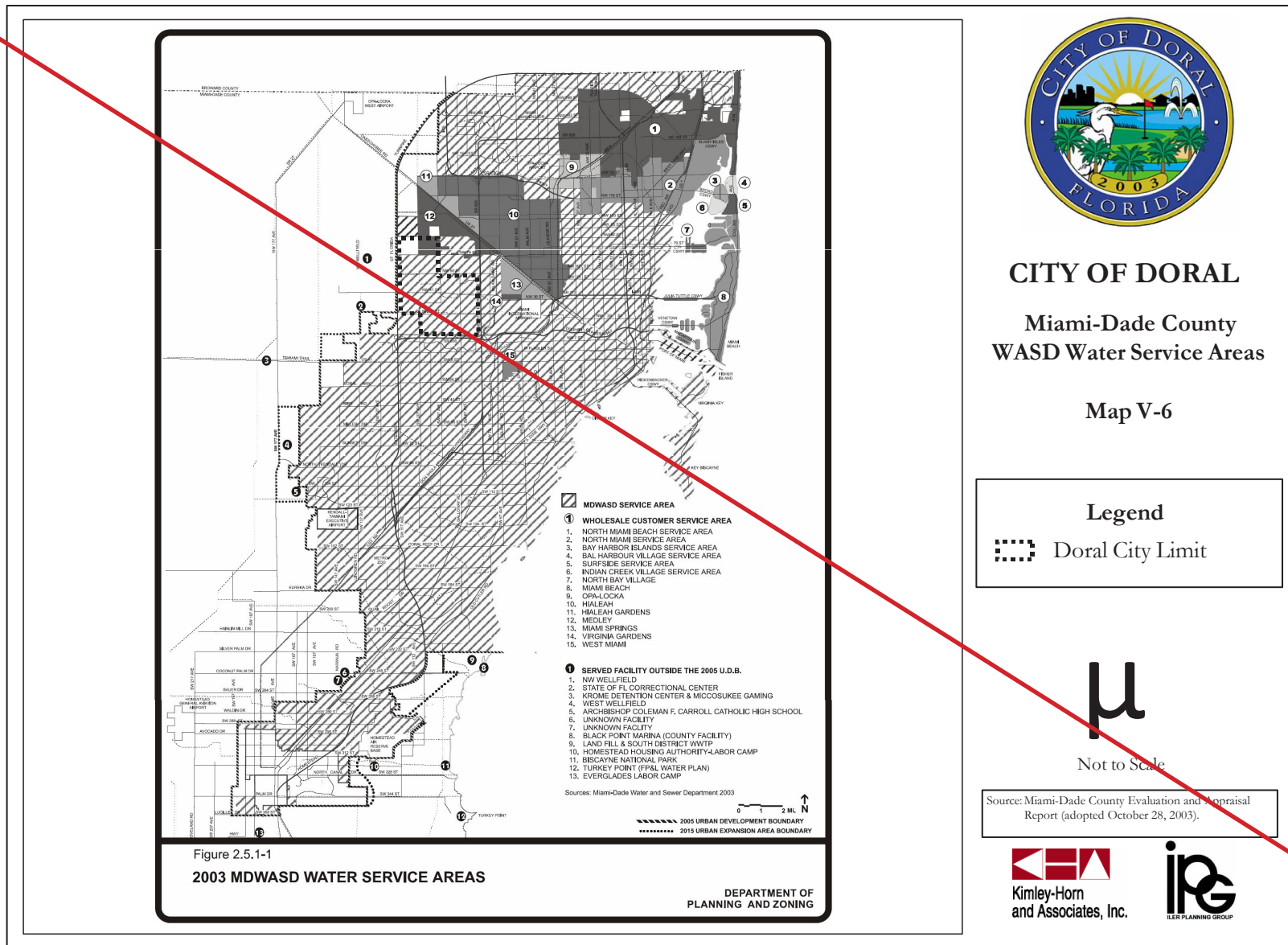


TABLE 5-3. EXISTING AND PROJECTED POTABLE WATER DEMAND FOR THE CITY OF DORAL

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.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

7. PARKS AND RECREATION

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

7. PARKS AND RECREATION

DATA INVENTORY AND ANALYSIS

PURPOSE

State growth management laws, as codified in Section 163.3177(6)(e), Florida Statutes (2025), require the preparation of a Recreation and Open Space Element as a component of every local government comprehensive plan. The Parks and Recreation 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 establish and maintain appropriate level of service standards, formulates goals, objectives, and policies to protect and preserve existing recreational areas, and provides guidelines for acquiring additional recreation and open space to ensure the City continues to meet the recreational needs of the community. 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.

As of 2025, the City of Doral maintains a diverse and growing inventory of parks and open spaces totaling approximately 348 acres. The City currently operates several community parks that provide a wide range of recreational opportunities for residents and visitors alike. These include:

☀ Doral Legacy Park

☀ Doral Glades Park

☀ Doral Meadow Park

☀ Trails & Tails Park

☀ Morgan Levy Park

☀ Veterans Park

☀ Doral Central Park and Aquatic Center

☀ Downtown Doral Park & Doral Cultural Arts Center

☀ Millenia Atlantic University (MAU) Park

☀ White Course Park

In addition, the "Blue Monster Course" Conservation Easement, comprising approximately 184 acres, contributes significant environmental and open space value to the city.

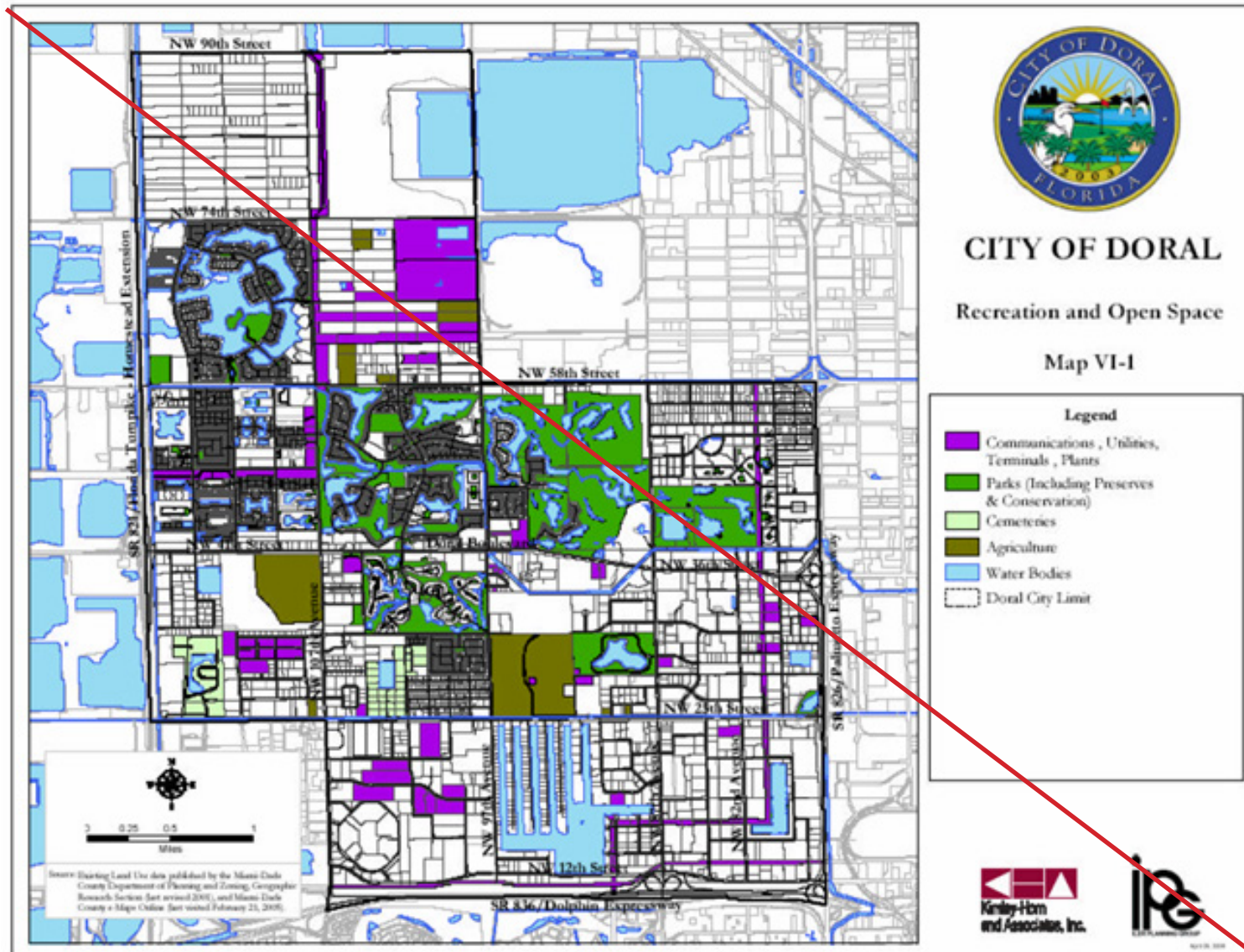
Together, these facilities form a comprehensive network of recreational amenities and natural areas. This system supports the City's goals for health, wellness, sustainability, and quality of life. A map of these parks is provided in Map 7-1.

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.



7. PARKS AND RECREATION

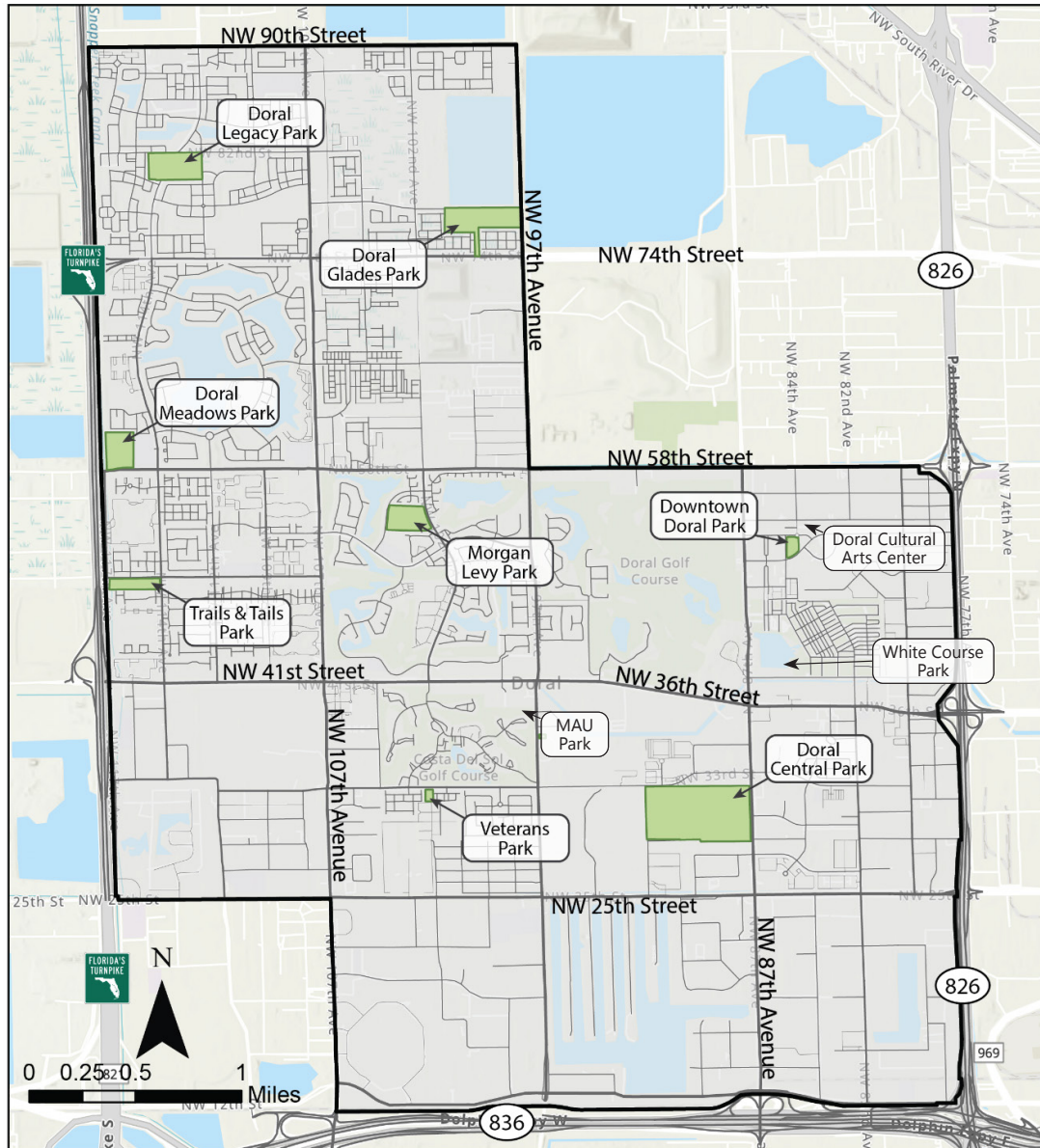
MAP 7-1, RECREATION AND OPEN SPACE



7. PARKS AND RECREATION



MAP 7-1: PARKS AND OPEN SPACES



Legend

- City Parks
- Doral Limits



Source: Miami-Dade County (MDC) Municipal Park, 2025.



7. PARKS AND RECREATION

MULTIMODAL TRAILS AND BIKEWAYS

The City of Doral maintains a growing network of bicycle facilities designed to enhance connectivity, expand recreational opportunities, and support multimodal transportation options. As illustrated in Map 7-2, the system consists of a combination of completed and planned bicycle lanes, shared-use paths, and maintenance paths that together provide residents and visitors with a safe and accessible means of travel throughout the community. Completed bicycle lanes and shared-use paths are concentrated along key corridors such as NW 25th Street, NW 41st Street, NW 58th Street, and NW 87th Avenue, linking residential neighborhoods with commercial centers, schools, parks, and employment areas. Planned facilities

are strategically identified to close network gaps and create continuous routes that improve both local mobility and regional trail integration.

The continued expansion of this bicycle system supports Doral's vision of providing high-quality recreation opportunities while promoting sustainable transportation choices. By investing in both recreational and commuter-oriented facilities, the City fosters healthier lifestyles, reduces dependence on automobiles, and strengthens its overall parks and open space network. The Bicycle Facilities Map will guide future improvements and coordination with Miami-Dade County and regional partners to ensure that Doral's bicycle network remains safe, equitable, and resilient to meet the needs of a growing population.



The logo of the City of Doral, Florida, is a circular seal. It features a blue outer ring with the text "CITY OF DORAL" at the top and "FLORIDA" at the bottom, separated by two small white stars. The center of the seal depicts a tropical scene with a white egret in the foreground, palm trees, a body of water, and a city skyline in the background under a bright sun with rays. The year "2003" is inscribed at the bottom of the inner circle.[illegible]

■ Bicycle Lane - Completed ■ Shared-Use Path - Planned
■ Shared-Use Path - Completed ■ Maintenance Path - Completed
■ Bicycle Lane - Planned □ Doral Limits



7. PARKS AND RECREATION

ALIGNMENT WITH STATEWIDE OUTDOOR RECREATION PRIORITIES DEFINITIONS

Located in the heart of Miami-Dade County, the City of Doral is experiencing rapid growth, with rising demand for high-quality parks and recreation to serve its expanding population. Consistent with the priorities of Florida's SCORP 2023–2027, the City will expand its recreation system by focusing on accessibility, connectivity, and whole-health benefits. This approach includes enhancing pedestrian and bicycle connections between neighborhoods and parks through Complete Streets and greenway initiatives, and ensuring that facilities are inclusive for residents of all ages and abilities.

Doral will further implement SCORP principles by leveraging its role as a business and tourism hub to strengthen recreation-based economic opportunities. The City's strategy includes linking trail networks to commercial

centers, promoting cultural and heritage-based recreation in public spaces, and prioritizing resilient green infrastructure in new development. Through these initiatives, the Parks and Recreation Element establishes a framework for equitable, connected, and sustainable recreation opportunities that enhance residents' quality of life while supporting long-term economic vitality and environmental stewardship.

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

FIGURE 7-1: SCORP OUTDOOR RECREATION PRIORITIES AND RECOMMENDATIONS



7. PARKS AND RECREATION

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 $\frac{1}{4}$ 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 7-1 6-1 provides the guidelines established by the County State for outdoor recreation, found in “*Outdoor Recreation in Florida — 2000: Florida’s Statewide Comprehensive Outdoor Recreation Plan.*”



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CITY OF DORAL PARKS SYSTEM MASTER PLAN (2017)

The 2017 Parks and Recreation Master Plan establishes an important foundation for Doral's long-range planning framework. Its findings highlight the City's parkland deficit relative to adopted level of service standards and emphasize that continued population growth will further exacerbate the

shortfall unless proactive measures are taken. By identifying Doral Central Park as a regional-scale anchor and outlining strategies for smaller infill parks and greenway linkages, the plan provides a clear framework for expanding recreational opportunities despite limited land availability. Equally significant are the recommendations related to connectivity and accessibility, which directly align recreation planning with the City's broader transportation and mobility goals.

TABLE 7-1: PARK CLASSIFICATION CRITERIA AND SERVICE AREAS

CLASSIFICATION	PRIMARY USE	STAFFING	PROGRAMMING	ACREAGE	SERVICE AREA
<u>Areawide</u>	-	-	-	-	-
Metropolitan	Resource	Yes	Yes	200+	Countywide
Natural Area Preserve	Resource	No	No	2+	Countywide
Special Activity Area	Resource	Yes	Yes	n/a	Countywide
<u>District</u>	<u>User</u>	<u>Yes</u>	<u>Yes</u>	<u>100 to 200</u>	<u>5 miles</u>
Greenways	User	No	No	n/a	Countywide
<u>Local</u>	-	-	-	-	-
Community	User	Yes	Yes	30-100	3.5 miles
Single-Purpose	User	No	Yes	5+	3 miles
Neighborhood	User	No	No	5 to 10	1 mile
Mini-Parks	User	No	No	≤1	.5 mile

Source: Miami-Dade County Parks, Recreation and Open Space Department

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



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Table Continued

PARK FACILITY	LOCATION	POPULATION SERVED	AREA PER 1000 POPULATION	PARK SIZE IF NEXT TO SCHOOL	SIZE AS A SEPARATE PARK	FACILITIES
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 drive	>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*.

The Master Plan also underscores the importance of equitable distribution of facilities and the provision of universally accessible amenities, ensuring that all residents, regardless of age, ability, or neighborhood, can benefit from recreational resources. In November 2018, voters in the City of Doral approved a \$150 million General Obligation Parks Bond to expand, upgrade, and enhance the City's parks and recreation infrastructure. This bond was a direct response to the findings of the 2017 Parks & Recreation Master Plan, which showed that Doral's park level of service (LOS) lagged behind adopted benchmarks, with existing provision at about 2.24 acres per 1,000 residents, far below the target of 4.5 acres per 1,000. As of 2025, the City has provided a LOS of 4.02.

EXISTING CONDITIONS

The City of Doral maintains a robust network of parks and open spaces that collectively provide residents and visitors with high-quality recreational opportunities. The system encompasses approximately 347.87 acres across eleven park sites, ranging from community and neighborhood

parks to specialized facilities and conservation areas. Table 7-2 summarizes public parks and open space facilities, including the name, address, size, classification, and features of each site.

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.

PARKS & RECREATION SYSTEM

The Parks & Recreation Department operates and maintains these facilities, offering safe, clean, and accessible spaces open seven days a week, including most holidays. The system serves over one million annual users, offering a broad mix of sports, cultural programs, family-friendly events, and wellness activities. Amenities across the system include:



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TABLE 7-2: PUBLIC PARK AND OPEN SPACE FACILITIES IN THE CITY OF DORAL

NAME	ADDRESS	ACRES
Doral Legacy Park	11400 NW 82 ST	17
Doral Glades Park	7600 NW 98 PL	24.8
Doral Meadow Park	11555 NW 58 ST	14
Trails & Tails Park	11645 NW 50 ST	8.12
Morgan Levy Park	5300 NW 102 AVE	14
Veterans Park	10190 NW 33 ST	1.32
Doral Central Park and Aquatic Center	8395 NW 53 ST	78
Downtown Doral Park and Doral Cultural Arts Center	8395 NW 53 ST	4.21
Millenia Atlantic University (MAU) Park	3719 NW 97 AVE	0.68
White Course Park	8429 NW 41 ST	2.95
Flightway Retention Passive Park	NW 102 AVE & NW 62 ST	3
Linear Greenway Park	NW 50 ST & NW 107 AVE	29.5
Total		197.58

TABLE 7-3: PASSIVE PARKS IN THE CITY OF DORAL

NAME	ADDRESS	ACRES
"Blue Monster Course" Conservation Easement	4400 NW 87 AVE	184
Nature Preserve Conservation Easement	NE & SE Corner of NW 74st & NW 107 Ave	48.52
Flightway Ten Development	6330 NW 99 AVE & 6330 NW 99 AVE	7.28
Total		239.80

TABLE 7-43: PRIVATE PARK AND OPEN SPACE FACILITIES IN THE CITY OF DORAL

TYPE	ACRES	% ALLOWED	ACRES COUNTED
Private Recreational Facilities Associated with private Residential Developments, except marinas/yacht basins, includes landscape and open spaces associated to residential, commercial and office developments.	89.53	50%	44.77
Private Recreational Camps/Areas not associated with private Residential Developments (Boy Scout/Girl Scout Camps, Private Recreational Camps). Includes private tennis courts and pools that are part of the recreational complex.	0.67	50%	0.34
Golf courses	538.32	0%	0
Cemeteries	157.57	0%	0
Total			45.10



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- ☀ Lighted athletic fields and courts for soccer, baseball, basketball, tennis, and volleyball.
- ☀ Walking/jogging trails, bikeways, exercise stations, batting cages, and shaded playgrounds.
- ☀ Dog-friendly off-leash areas, splash pads, and picnic pavilions available for rental.
- ☀ Indoor community centers offering fitness rooms, classrooms, and cultural spaces.

The Department also coordinates competitive and recreational leagues, Special Olympic sports, and senior programming, while organizing 20+ cultural and community events annually with over 50,000 attendees. Staff support extends to co-sponsored civic events, and the Department serves as liaison City advisory boards (Youth Civic Engagement Committee, Special Needs Advisory Board & Parks & Cultural Advisory Board. Along with the City's 501C3- Parks & Police 4 Kids).

| FACILITY HIGHLIGHTS

While many facilities share common amenities, several parks stand out for their unique features:

- ☀ Doral Central Park & Aquatic Center (78 acres): The City's largest park, featuring a wellness campus, amphitheater, multipurpose fields, lakefront promenade, skate park, and the newly opened state-of-the-art Aquatic Center (2025) with Olympic-size and training pools, splash pad, and spectator seating. The amphitheater, managed by Loud And Live, hosts concerts and cultural festivals with a capacity of nearly 4,700.
- ☀ Doral Legacy Park (18 acres): A hub for sports and cultural arts with a community center, multiple athletic courts and fields, pickleball, splash pad, and pavilion rentals.
- ☀ Doral Glades Park (25 acres): Known for its nature center, fishing pier, kayak launch, and environmental

education programming.

- ☀ Trails & Tails Park (8.3 acres): The City's first dog-friendly facility with dedicated large and small dog areas, dog wash stations, and shaded play areas.
- ☀ Morgan Levy Park (14 acres): A popular athletic complex with lighted fields and tennis courts, serving tens of thousands of soccer participants each year.
- ☀ White Course Park (2.96 acres): Built on a former golf course, featuring a putting green that honors Doral's golf history.
- ☀ Veterans Park, Downtown Doral Park, and MAU Park (4.96 acres): Smaller neighborhood and passive parks that provide shaded play areas, picnic lawns, and civic gathering spaces.
- ☀ "Blue Monster Course" Conservation Easement (184 acres): Preserved open space contributing to the City's ecological and recreational balance.

Doral's parks and recreation system reflects the City's commitment to community wellness, inclusivity, and cultural enrichment. With a balance of large community facilities, smaller neighborhood parks, and preserved natural areas, the system offers diverse opportunities for active recreation, passive leisure, and environmental education. As the City continues to grow, these facilities form the foundation for expanding access, improving connectivity, and enhancing quality of life for residents and visitors.

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



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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 404.88 109 acres of public park land in the City. With a 2025 2005 population of 86,615 33,633, Doral has an existing a Level of Service of 4.67 3.24 acres per 1,000 residents. While this This figure surpasses Miami-Dade County's requirement, of 3.0 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



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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:



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TABLE 6-3: COMMITTEE OF PARKS AND RECREATION PARK SURVEY RESULTS

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

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



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- ✧ 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

I 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

I 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”

I Level of Service

The City of Doral Miami-Dade County has a Parks Level of Service (LOS) standard of 3.0 2.75-acres of public 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.

I 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.

The City of Doral's Miami-Dade County's parks and recreation Level of Service (LOS) standard is 2.75 acres of private park area for every 1,000 residents. For its public parks, the City maintains an existing level of service of 3.0 acres of park area for every 1,000 residents. Historically, the City has maintained the following public parks level of service: 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



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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.

2012–2014: 3.75 acres of developed park land per 1,000 residents

2015–2020: 2.25 acres of public park land per 1,000 residents

2020–2025: 3.00 acres of public park land per 1,000 residents

Considering population projections, the City will have a

surplus of 20.67 252 acres of park land by 2050 2015 to achieve the 3.0 4.25 acre level of service. Already, the City foresees increasing existing park space through the Planned Parks Projects FY 2024-2029 future of Linear Greenway Park (29.5 acres) and a Flightway Retention Passive Park (3 acres), which is expected to ensure the parks level-of-service is in compliance through 2050. a 51-acre environmental passive park, a linear greenway, and a new 26-acre park in Section 8 of the City.

Additionally, the City intends to 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) 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 2015.

TABLE 7-4: FUTURE RECREATION AND OPEN SPACE NEED

PARKS LEVEL-OF-SERVICE				
Population	Required Acres @ 3.0/1,000	Actual Acres	Surplus/Deficit	Provided LOS (ac/1,000)
2025 (86,615)	259.85	404.88	145.04	4.67
2030 (99,083)	297.25	437.38	140.13	4.41
2035 (110,124)	330.37	437.38	107.01	3.97
2040 (120,175)	360.53	437.38	76.86	3.37
2045 (129,730)	389.19	437.38	48.19	3.37
2050 (138,904)	416.71	437.38	20.67	3.15

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





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

8. EDUCATIONAL FACILITIES

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

8. EDUCATIONAL FACILITIES |

DATA, INVENTORY, AND ANALYSIS

| SCHOOL FACILITIES

Educational opportunities form a foundational pillar of the City of Doral's continued growth and quality of life. High-performing schools support a diverse and skilled workforce, increase local property values, and play a key role in shaping decisions made by families when choosing where to live. For young families, access to excellent public schools directly influences residential location, while for older adults, opportunities for lifelong learning contribute to community vitality and personal enrichment.

As a dynamic and rapidly growing city within western Miami-Dade County, Doral is home to an increasing number of school-aged children and young families. In this context, educational facilities are not only centers of learning but also essential elements of the city's social and physical infrastructure. School facility availability influences travel patterns, commute times, and traffic conditions, as well as land use and development decisions within the city.

In Miami-Dade County, public school facility planning and concurrency are addressed at the countywide level through coordination with Miami-Dade County Public Schools (MDCPS), the fourth-largest school district in the United States. The Third Amended and Restated Interlocal Agreement for Public School Facility Planning, executed among Miami-Dade County, its municipalities, and the

School Board, establishes the framework for data sharing, development review, school concurrency, and long-range facilities planning.

The City of Doral actively participates in the school concurrency review process by coordinating with the School Board through its development review procedures. This ensures that new residential development aligns with available school capacity or planned improvements, maintaining the adopted level of service standard of 100% of permanent FISH capacity. The City relies on enrollment and capacity data provided by MDCPS through its annual Five-Year Facilities Work Program and supports the inclusion of this data in its own planning documents to align growth with public facility provision.

As of the 2023–2024 school year, Doral is served by seven traditional public schools operated by M-DCPS, including four K–8 centers and three high schools. In addition, the City is home to more than ten charter schools and several private educational institutions, providing a range of educational options for families. Public school enrollment within Doral reflects ongoing growth trends, with utilization rates across most facilities remaining below the adopted LOS threshold and additional student capacity planned at newer campuses such as J.C. Bermudez Doral Senior High School.

The following section provides detailed data and analysis on Doral's public school facilities, including capacity, enrollment, utilization, and planned improvements.



8. EDUCATIONAL FACILITIES

TABLE 8-1: PUBLIC SCHOOLS IN DORAL

LOCATION	ADDRESS	SITE SIZE (ACRES)	BUILDING(S) AGE RANGE	PERMANENT VS. RELOCATABLE BUILDINGS	ACTUAL 2023 - 2024 FISH CAPACITY	ACTUAL 2022 - 2023 COFTE	ACTUAL 2023 - 2024 UTILIZATION	NEW STUDENT CAPACITY	NEW ROOMS TO BE ADDED/ REMOVED	PROJECTED 2027 - 2028 COFTE	PROJECTED 2027 - 2028 UTILIZATION
Andrea Castillo Preparatory Academy	10201 NW 78 ST	3.95	2020	2 Permanent; 0 Relocatable	670	244	36%	0	0	658	98%
Dr. Rolando Espinosa K-8 Center	11250 NW 86 ST	8.88	2008	1 Permanent; 0 Relocatable	1519	765	50%	0	0	673	44%
Dr. Toni Bilbao Preparatory Academy	8905 NW 114 AVE	6.15	2017	1 Permanent; 0 Relocatable	1083	626	58%	0	0	550	51%
Eugenia B. Thomas K-8 Center	5950 NW 114 AVE	10.5	2001	4 Permanent; 0 Relocatable	1421	1100	77%	0	0	968	68%
John I. Smith K-8 Center	10415 NW 52 ST	5	1996	1 Permanent; 0 Relocatable	1242	839	68%	0	0	739	60%
Ronald W. Reagan/ Doral Senior High School	8600 NW 107 AVE	17.14	2008	1 Permanent; 0 Relocatable	1776	1443	81%	0	0	1201	68%
J.C. Bermudez Doral Senior High School	5005 NW 112 AVE	3.07	1998	1 Permanent; 0 Relocatable	1014	851	84%	347	14	1201	88%

Sources: Florida Inventory of School Houses (FISH), 5-Year District Facilities Work Plan (2023-2024) and Miami-Dade County Property Appraiser

LEVEL OF SERVICE (LOS) ANALYSIS

In accordance with Section 163.3180, Florida Statutes, and the Interlocal Agreement (ILA) for Public School Facility Planning adopted by Miami-Dade County and its municipalities, the adopted Level of Service (LOS) standard for public schools is 100% of permanent Florida Inventory of School Houses (FISH) capacity. This threshold serves as the concurrency benchmark for determining whether adequate school capacity exists to accommodate projected student enrollment generated by new residential development.

An analysis of the 2023–2024 school year data for public schools serving the City of Doral indicates that, overall, the

schools are operating within acceptable LOS thresholds. Key findings include:

- ✳ Ronald W. Reagan/Doral Senior High School is operating at 81% utilization, with an enrollment of 1,443 students and a FISH capacity of 1,776 stations.
- ✳ J.C. Bermudez Doral Senior High School is currently at 84% utilization, with projected enrollment increasing to 1,201 by 2027–2028, reaching 88% utilization even after the planned addition of 347 student stations.
- ✳ All five K–8 centers (Andrea Castillo, Dr. Rolando Espinosa, Dr. Toni Bilbao, Eugenia B. Thomas, and John I. Smith) are operating well below the 100% LOS



8. EDUCATIONAL FACILITIES |

threshold, with current utilization rates ranging from 36% to 77%.

- ☀ Projections through the 2027–2028 school year show continued compliance with LOS standards across all facilities, with no schools projected to exceed 90% of capacity.

While no immediate capacity shortfalls exist, ongoing monitoring is warranted, particularly for J.C. Bermudez Doral

Senior High School, which is anticipated to experience growth near the upper range of available capacity. The planned classroom additions at this facility will help alleviate potential overcrowding and support continued LOS compliance.

Overall, the City of Doral’s public schools are currently operating within established LOS standards, and planned facility investments appear adequate to accommodate projected enrollment increases through the five-year planning horizon.



The map displays the Doral area in Florida, with a focus on the proposed Doral City Center. Key features include:

- Major Roads:** NW 117th Ave, NW 74th St, NW 74th Ave, NW 82nd Ave, NW 84th Ave, NW 72nd Ave, NW 33rd St, NW 12th St, NW 117th Pl, and NW 117th Ave.
- Landmarks:** Doral Golf Course, Costa Del Sol Golf Course, and several schools including Dr. Toni Bilbao Preparatory Academy, Dr. Rolando Espinosa K-8 Center, Ronald W. Reagan/Doral Senior High School, Andrea Castillo Preparatory Academy, Eugenia B. Thomas K-8 Center, J.C. Bermudez Doral Senior High, and John I. Smith K-8 Center.
- Scale:** A scale bar at the bottom left indicates distances of 0, 0.25, 0.5, and 1 mile.
- Orientation:** A north arrow is located near the bottom left corner.

Public Schools | School Levels

-  Elementary
  High
  Doral Limits



8. EDUCATIONAL FACILITIES |

| PRIVATE SCHOOLS IN DORAL

- ☀ [Divine Savior Academy](#)
- ☀ [Shelton Academy](#)

| CHARTER SCHOOLS IN DORAL

- ☀ [AcadeMir Charter School East](#)
- ☀ [BridgePrep Academy of Doral](#)
- ☀ [Doral Academy Charter Elementary School](#)
- ☀ [Doral Academy Charter Middle School](#)
- ☀ [Doral Academy Charter High School \(Preparatory\)](#)
- ☀ [Doral Performing Arts & Entertainment Academy – high school](#)

- ☀ [Doral International Academy of Math & Science](#)
- ☀ [Downtown Doral Charter Elementary School](#)
- ☀ [Downtown Doral Charter Upper School \(6–12\)](#)
- ☀ [Renaissance Charter Elementary School](#)
- ☀ [Renaissance Charter Middle School](#)
- ☀ [Just Arts & Management Charter Middle School](#)

Charter schools in Miami-Dade County operate with a district-wide attendance area and are not subject to school concurrency requirements or Level of Service (LOS) standards. As such, while they play a significant role in providing school choice options to families within the City of Doral, they are not considered part of the formal concurrency evaluation for public school capacity.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

**9. INTERGOVERNMENTAL
COORDINATION**

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

9. INTERGOVERNMENTAL COORDINATION |

DATA, INVENTORY, AND ANALYSIS

| PURPOSE

The Intergovernmental Coordination Element ensures that the City of Doral Comprehensive Plan is implemented consistently with the plans and programs of other governmental entities providing facilities and services within and affecting the City. The element documents the agencies responsible for public facilities, identifies coordination mechanisms used during development review and capital planning, and evaluates the City's ability to maintain adopted levels of service where infrastructure is provided by outside agencies. Because Doral is largely dependent upon county, regional, and state infrastructure systems, particularly transportation, potable water, wastewater, drainage, solid waste disposal, schools, and emergency management, effective coordination is necessary to ensure development approvals occur concurrent with the availability of public facilities and that capital improvements remain consistent across jurisdictions.

| GOVERNMENTAL SERVICE FRAMEWORK

The City of Doral provides local planning, zoning, parks, police services, and local roadway maintenance. However, most major infrastructure systems serving the City are owned or operated by agencies outside municipal jurisdiction. The City therefore functions primarily as a coordinating and monitoring entity during development review and capital improvement planning. Coordination occurs through:

-  Development review referrals
-  Concurrency review
-  Interlocal agreements
-  Regional planning participation
-  Utility permitting
-  School capacity coordination

 Transportation project prioritization

 Emergency management planning

City planning and public works staff serve as the primary liaisons between reviewing agencies and decision-makers.

| INVENTORY OF COORDINATING AGENCIES

| Miami-Dade County Departments

Multiple departments of Miami-Dade County provide facilities serving the City of Doral.

Department of Transportation and Public Works (DTPW) - Responsible for county arterial roadway operations, traffic signals, transit service, bridges, sidewalks, drainage structures, and transportation planning coordination. The department operates the county transportation network and coordinates roadway improvements and transit service expansion.

Water and Sewer Department (WASD) - Provides potable water supply, wastewater transmission, treatment, and regional capacity planning. Development approvals within Doral rely on available treatment and transmission capacity maintained by WASD.

Department of Regulatory and Economic Resources (RER) - Administers environmental permitting, floodplain regulation, wetlands review, wellfield protection, and land development environmental compliance.

Solid Waste Management Department - Provides regional waste disposal and recycling capacity serving the municipality.

Office of Emergency Management (OEM) – Miami-Dade Fire Rescue - Coordinates countywide emergency preparedness, evacuation planning, and hazard mitigation.

Miami-Dade Aviation Department (MDAD) - Operates Miami International Airport; aircraft operations create



9. INTERGOVERNMENTAL COORDINATION

noise and land use compatibility considerations within portions of Doral.

Educational Facilities Planning

Educational facilities serving the City are operated by Miami-Dade County Public Schools. School enrollment projections, school site planning, and concurrency review are coordinated through the countywide public school facilities planning interlocal agreement. Residential development approvals require coordination to ensure school capacity availability and safe circulation near school sites.

Transportation Planning Agencies

Miami-Dade Transportation Planning Organization (TPO) - Develops the Long-Range Transportation Plan and Transportation Improvement Program which determine eligibility for state and federal transportation funding and prioritize mobility improvements.

Florida Department of Transportation (FDOT District 6) - Plans, designs, and maintains state highways and provides regional traffic operations and signal coordination in Miami-Dade County.

Greater Miami Expressway Agency (GMX) - Operates regional expressways affecting travel patterns in Doral.

Water Management

South Florida Water Management District (SFWMD) - Regulates stormwater discharge, water supply planning, and drainage basin management. Development approvals must comply with regional water supply and surface water management criteria.

Regional Planning

South Florida Regional Planning Council (SFRPC) - Provides regional plan review to ensure local plans remain consistent with regional growth and resource management strategies.

Adjacent Municipalities

The City shares boundaries and infrastructure systems with neighboring municipalities including:

- ☀ Town of Medley
- ☀ City of Sweetwater
- ☀ City of Miami Springs
- ☀ Unincorporated Miami-Dade County

Coordination addresses roadway operations, drainage systems, land use compatibility, and development impacts along jurisdictional boundaries.

Coordination Mechanisms

The City coordinates with external agencies through established procedures that are integrated into routine planning and development review activities. Development applications are transmitted to reviewing agencies including the Miami-Dade County Water and Sewer Department (WASD), the Department of Regulatory and Economic Resources (RER), the Florida Department of Transportation (FDOT), the Miami-Dade County Department of Transportation and Public Works (DTPW), and Miami-Dade County Public Schools. Agency comments are incorporated into development approvals to ensure infrastructure capacity and regulatory compliance. City staff also participate in regional transportation planning committees and review corridor improvement projects to maintain consistency between regional mobility initiatives and local land use objectives. Prior to approval of development, water and sewer availability is confirmed through WASD, and drainage permits require review by both the South Florida Water Management District and County environmental agencies. Residential development proposals are evaluated relative to projected student generation and school capacity through the countywide school planning coordination process. The City additionally participates in countywide emergency planning, evacuation coordination, and hazard mitigation implementation. Formal interlocal agreements



9. INTERGOVERNMENTAL COORDINATION

further support coordination for school planning, emergency response, mutual aid, and infrastructure planning.

Evaluation of Coordination

Coordination within the Doral service area is ongoing and embedded within development review and capital planning procedures. Because major public facilities serving the City are provided by outside agencies, consistent coordination is necessary to maintain adopted levels of service. Effective practices include routine agency review during development approvals, participation in regional transportation planning activities, coordination regarding school capacity, integration with county emergency preparedness programs, and verification of utility capacity prior to approval of development. Opportunities for improvement include earlier coordination during capital project programming, continued sharing of infrastructure capacity projections, enhanced cross-boundary roadway planning, and ongoing monitoring of airport compatibility considerations.

Cross-Jurisdictional Issues Affecting Doral

The following issues extend beyond municipal boundaries and require continued coordination:

- ☀ Regional roadway congestion and freight movement
- ☀ Water supply and wastewater treatment capacity
- ☀ Floodplain management and drainage basin operations
- ☀ Aircraft noise compatibility
- ☀ School capacity planning

☀ Regional emergency evacuation routes

☀ Location of regionally significant facilities

Dispute Resolution

When inconsistencies arise between governmental entities, the City utilizes established intergovernmental conflict resolution procedures under Florida law. Issues are typically resolved through technical coordination meetings prior to formal dispute proceedings.

Evaluation and Monitoring

The City of Doral relies on county, regional, and state agencies for the provision and operation of major public infrastructure systems serving the community. Accordingly, the Comprehensive Plan functions as an integrated planning framework that aligns municipal land use decisions with the capital programs, regulatory responsibilities, and service standards of those agencies. Development review procedures incorporate interagency consultation to verify the availability of public facilities and ensure that approvals occur concurrent with adequate infrastructure capacity.

Ongoing coordination, monitoring of service conditions, and continued exchange of planning information allow the City to identify potential deficiencies early and coordinate appropriate improvements with responsible providers. Through participation in regional planning activities, routine agency review, and interlocal coordination, the City maintains consistency among plans and supports the continued provision of public facilities at adopted service levels while accommodating future growth and protecting regional infrastructure systems.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

10. CAPITAL IMPROVEMENT

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

10. CAPITAL IMPROVEMENTS

INTRODUCTION

The purpose of the 2025 Capital Improvements Element (CIE) Update is to annually review and maintain the 5-Year Schedule of Capital Improvements (SCI) consistent with the requirements set forth in Subsection 163.3177(3)(b), Florida Statutes. The Updated 5-Year SCI will replace the existing capital improvement projects in the “Data Inventory Analysis (DIA)” document that supports the City of Doral Comprehensive Plan.

The 2025 CIE Update includes all capital projects for which the City has fiscal responsibility, including parks and recreation, stormwater management and transportation. The Update also includes capital improvement projects which are the responsibility of other government agencies and entities, including water supply, sanitary sewer, solid waste, public school facilities and transportation facilities. These “non- Doral” projects are funded through Miami-Dade County, Miami-Dade Public School Board, Miami-Dade Transportation Planning Organization (TPO).

This Update also provides Level of Service (LOS) analyses for all public facilities within the City based on population projections and related data. Projects included in the updated 5-Year SCI are necessary to address projected public facility needs to meet future LOS demand.

I. POPULATION ESTIMATES AND PROJECTIONS

Population projections are the foundation upon which to forecast future demand on public facilities and services. In developing Doral’s population projections for this CIE update, various demographic sources including population estimates derived from the University of Florida Bureau of Economic and Business Research (BEBR), the U.S. Census, other county and regional planning documents, and city approved unbuilt units are reviewed and analyzed.

Table 1 below shows the historical, current and future estimates projections of Doral’s population through the year 2040.

TABLE 10-1: POPULATION ESTIMATES AND PROJECTIONS

YEAR	POPULATION
HISTORIC POPULATION	
2000	20,438
2005	26,438
2010	45,709
2015	55,660
2020	75,874
CURRENT & PROJECTED POPULATION	
2025	86,615
2026	89,042
2027	91,544
2028	94,123
2029	96,780
2030	99,083
2035	110,124
2040	120,175
2045	129,730
2050	138,904

Sources: Estimates and projections by Shimberg Center for Housing Studies, based on 2010 and 2020 U.S. Census data and population projections by the Bureau of Economic and Business Research, University of Florida.



10. CAPITAL IMPROVEMENTS

The population levels in Table 1 above are utilized as the City's current population projections for this CIE update to determine the City's public facility needs during the 5-year planning period from 2025/26 to 2029/30

II. LEVEL-OF-SERVICE ANALYSIS

A. Transportation

There are approximately 330 lane miles of roads within Doral maintained by three (3) separate government jurisdictions: City of Doral, Miami-Dade County and the State of Florida. Each jurisdiction provides routine maintenance of their roadways. However, all roadway traffic control such as speed limit signs, stop signs and traffic signals fall under the jurisdiction of, and are maintained by, Miami-Dade County. Doral maintains approximately 76 miles of roadway. Over the years, the city has taken over maintenance jurisdiction for many public roads and streets in Doral through inter-local agreements with Miami-Dade County. The expressways surrounding Doral on three (3) sides are: State Road 826/Palmetto Expressway along the eastern border (Florida Department of Transportation), State Road 836/Dolphin Expressway along the southern border (Greater Miami Expressway Authority), and State Road 821/Homestead Extension of the Florida Turnpike (HEFT) along the western border (Florida Turnpike Enterprise).

The City completed most recent update of its Transportation Master Plan (TMP) and was adopted in October 2024. Comprehensive planning can yield functional transportation infrastructure that is responsive to its context. By combining the eclectic insights of professionals, residents, and interest groups, transportation planning can result in public facilities and programs that support community goals, provide safe and efficient movement of people and goods, enhance the economy, and protect the natural environment. The TMP is a long-range 20-year plan that guides Doral's mobility improvements within the City and with regional destinations.

The 2024 TMP inventoried and analyzed Level of Service (LOS) for existing roadways and projected future roadway LOS in 2045. The plan places emphasis on providing a safe environment for automobiles while offering guidance on more

balance roadway designs to serve both non-motorized (i.e. bicycles and pedestrians) and motorized travel. The intent of the Plan is to assist the City in developing more multi-modal future capital improvement plans for those roads under the City's jurisdiction, and to facilitate communicating the City's priorities when other agencies are advancing projects on their roads within the City's system. It also proposes potential funding opportunities and identifies development processes for prioritized projects to pursue successful implementation.

1. Roadways

Adopted Level of Service (LOS) standards for roadway facilities are contained in Policies 2.2.1, 2.2.2 and 2.2.3 of the Transportation Element of the City's Comprehensive Plan. Local roadways have an adopted LOS standard of "D" except where specialized transit service exists, the LOS threshold is increased to "D + 120%". State roadways have an adopted LOS standard of "E". The LOS analysis contained in this CIE update is based on 2023 traffic counts from the 2024 City's TMP.

This section of the report addresses the performance of Doral's roadway system. Roadway vehicular counts were undertaken at various locations within the City. Using this data, LOS were calculated for each associated roadway segment on an Annual Average Daily Traffic (AADT), Peak Hour, Peak Directional and Peak Hour Bi-directional basis. The future conditions analysis for the Doral TMP was conducted to evaluate the projected performance of key intersections and corridors by 2045. The methodology involved multiple steps, including traffic forecasting, level of service (LOS) evaluation, and mitigation strategies for failing intersections.

For the future traffic analysis, the future peak hour traffic volumes were derived using the Southeast Florida Regional Planning Model (SERPM) activity-based model from 2015 to 2045 using a Weighted Average Compound Annual Growth Factor of 1.2682. To accurately project future traffic conditions, the analysis incorporated data on upcoming developments within the City of Doral, including new residential, commercial, and industrial projects expected to generate additional traffic. Regional growth projections for population and employment were also used to estimate future travel demand. The study area intersections are listed in Table 2.



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TABLE 10-2: STUDY AREA INTERSECTIONS

TMC	INTERSECTION
1	NW 107th Avenue at NW 12th Street
2	NW 97th Avenue at NW 12th Street (E/W)
3	NW 12th Street at NW 87th Avenue
4	NW 12th Street at NW 82nd Avenue
5	NW 25th Street at NW 117th Avenue
6	NW 25th Street at NW 107th Avenue
7	NW 25th Street at NW 97th Avenue
8	NW 25th Street at NW 82nd Avenue
9	NW 25th Street at NW 79th Avenue
10	NW 107th Avenue at NW 33rd Street
11	NW 97th Avenue at NW 33rd Street
12	NW 33rd Street at NW 87th Avenue
13	NW 41st Street at NW 115th Avenue
14	NW 41st Street at NW 114th Avenue
15	NW 41st Street at NW 107th Avenue
16	NW 41st Street at NW 102nd Avenue
17	NW 36th Street at NW 87th Avenue
18	NW 36th Street at NW 82nd Avenue
19	NW 36th Street at NW 79th Avenue
20	NW 58th Street at NW 114th Avenue
21	NW 58th Street at NW 107th Avenue
22	NW 58th Street at NW 97th Avenue
23	NW 58th Street at NW 87th Avenue
24	NW 74th Street at NW 114th Avenue
25	NW 74th Street at NW 107th Avenue
26	NW 74th Street at NW 97th Avenue
27	NW 25th Street at NW 87th Avenue
28	NW 41st Street at NW 97th Avenue
29	NW 58th Street at NW 79th Avenue
30	NW 58th Street at NW 102nd Avenue
31	NW 74th Street at NW 102nd Avenue



10. CAPITAL IMPROVEMENTS

The intersection operations were evaluated in terms of the Level of Service (LOS) which is a common measure of the quality of performance at an intersection and is defined in terms of vehicular delay. LOS is expressed on a scale of A through F, where LOS A represents the least delay (i.e., less than 10 seconds per vehicle) and LOS F represents the highest delay (i.e., greater than 80 seconds per vehicle for a signalized intersection). This serves as a handbook to detail the condition of each facility in the City. Categories of data include:

- ☀ Specific Link
- ☀ Number of Lanes
- ☀ Existence of a Median
- ☀ Road Jurisdiction
- ☀ Functional Classification
- ☀ Number of Traffic Signals
- ☀ Segment Length
- ☀ Signals per Mile
- ☀ Speed Limit
- ☀ Roadway Class
- ☀ Existing Level of Service Standard

- ☀ Service Volume at LOS C, D, E
- ☀ Average Annual Daily Traffic (AADT)
- ☀ Peak Hour Volume
- ☀ Remaining Capacity
- ☀ Transit Service
- ☀ Sidewalks
- ☀ Bike Lanes

Figure 1 shows the Level-of-Service (LOS) on the primary Doral roads in 2023. These segments show a LOS D or Better.

Figure 2 presents the projected Level-of-Service on the City's primary road system in 2045. Roadways with average daily traffic flows exhibiting LOS "F" in 2025 are projected to be:

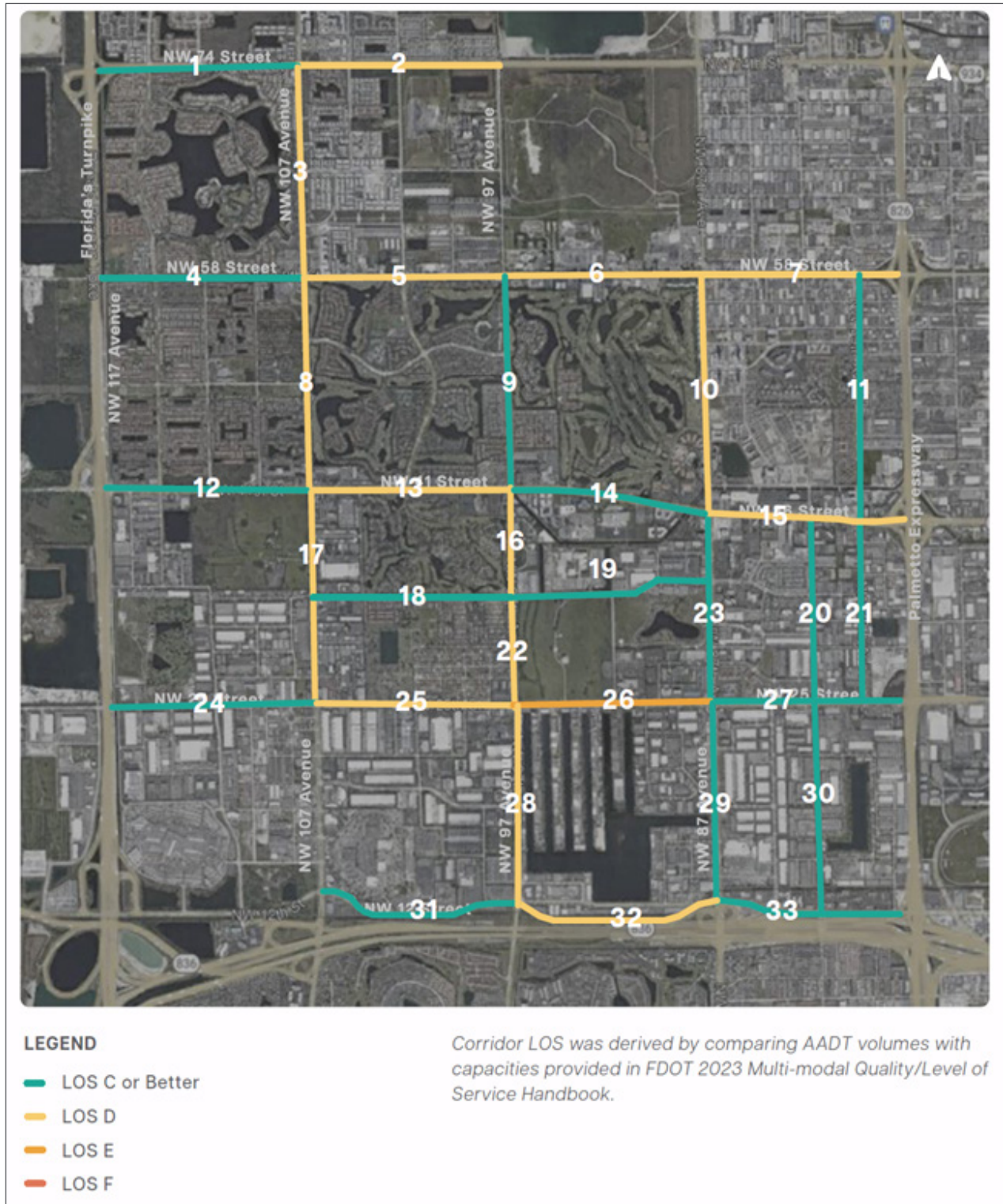
1. NW 25th Street from NW 97th Avenue to NW 87th Avenue

The potential mitigation solutions to these documented and projected future traffic conditions is to increase the miles of sidewalks and bike lanes, increase trolley service and make modifications to routes as needed, and roadway and intersection improvements. These mitigation strategies are documented in the preparation of the FY 2025-2029 Schedule of Capital Improvements presented later in this report in Table 8.



10. CAPITAL IMPROVEMENTS

FIGURE 10-1: 2023 OVERALL CORRIDOR LEVEL OF SERVICE (LOS)



10. CAPITAL IMPROVEMENTS

2. Intersections

The City's Transportation Master Plan (2024) included a total of 31 signalized intersections. The traffic volumes collected in the field were checked for accuracy. Pedestrian volumes were also input and analyzed in the Synchro software. For signalized intersections, the existing signal timings were obtained from Miami-Dade County. Synchro 11 was used to evaluate the 2023 conditions for morning peak (7:45 AM – 8:45 AM) and evening peak (5:00 PM – 6:00 PM) period for

the 31 intersections. Intersection geometry was coded using the latest satellite images of Google earth, which included number of lanes, turning movements, storage lanes, storage lane length, and right turn channelization, etc. Peak hour volume, %HV, and PHF were added to volume settings from the traffic data collected. Speed limits of each corridor were obtained from Miami-Dade County's Open Data Hub as well as existing signal timings and signal operating plans. Tables 3 and 4 show the 2023 summary of results for AM and PM peaks, respectively.

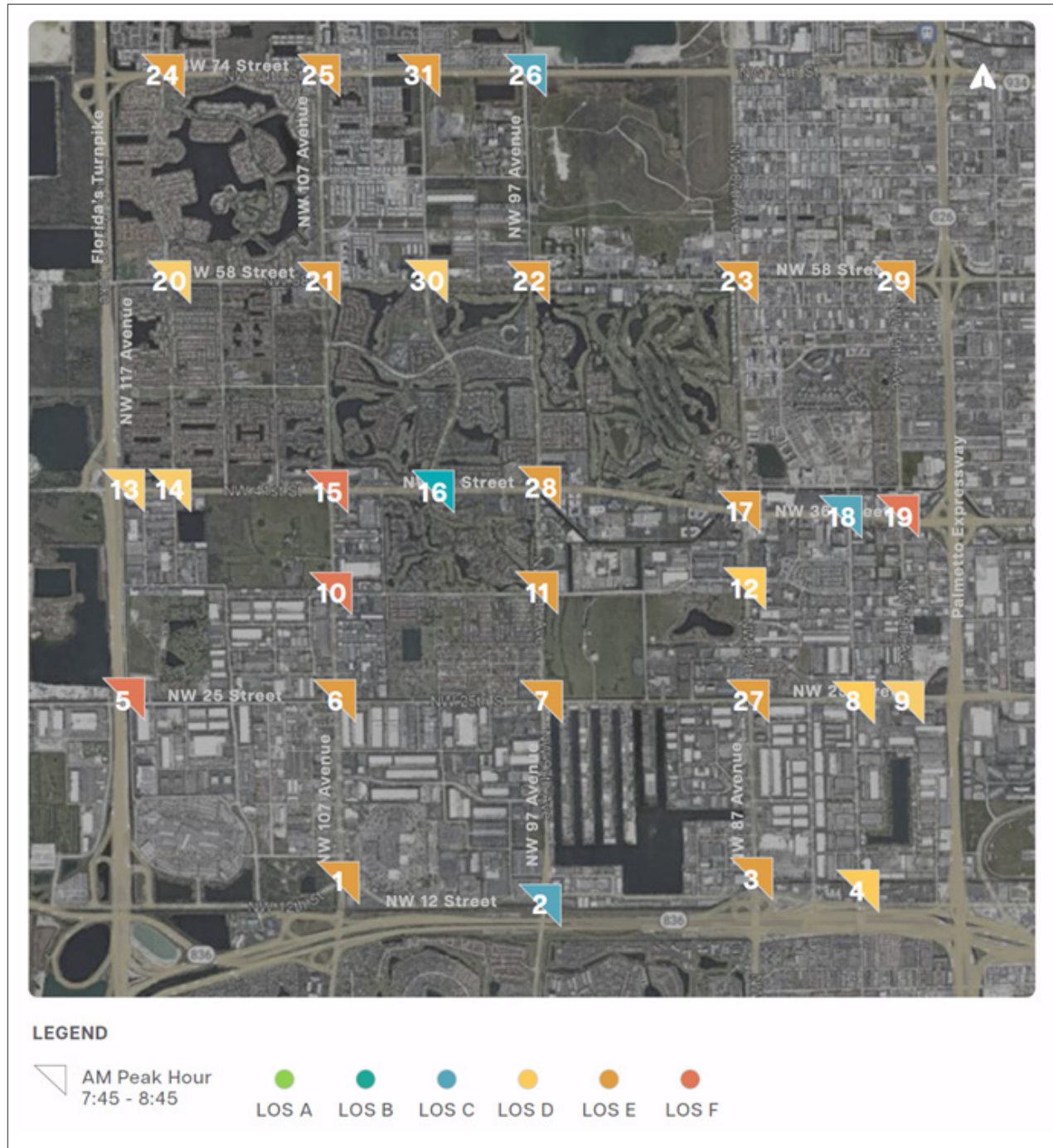
TABLE 10-3: 2023 AM PEAK RESULTS SUMMARY

INTERSECTION NO.	OVERALL		WORST MOVEMENT		NUMBER OF MOVEMENTS WITH		
	Delay	LOS	Movement	Delay	LOS	LOS E	LOS F
1	61.3	E	SBL	150.8	F	0	6
2	23.9	C	NBT	71.8	E	1	0
3	65.4	E	SBL	158.3	F	2	5
4	52.8	D	NBT	83.8	F	2	1
5	127.1	F	SBT	237.2	F	0	6
6	62.5	E	NBL	119.7	F	2	4
7	70.2	E	SBL	103.8	F	1	3
8	38.6	D	WBL	85.4	F	5	1
9	35.4	D	SBL	71.9	E	4	0
10	224.1	F	WBL	302.4	F	0	6
11	57.9	E	EBT	69.6	E	3	0
12	49.3	D	NBL	108.8	F	4	1
13	45.0	D	NBL	107.8	F	2	3
14	53.8	D	SBL	112.9	F	1	5
15	92.2	F	WBL	192.4	F	2	6
16	34.6	C	SBL	81.1	F	0	1
17	72.0	E	SBL	124.5	F	4	4
18	31.6	C	SBT	101.1	F	3	3
19	95.0	F	SBL	160.5	F	2	7
20	41.3	D	SBT	62.6	E	1	0
21	55.6	E	WBR	147.1	F	3	1
22	79.8	E	NBT	132.8	F	3	3
23	60.7	E	NBL	94.8	F	5	1
24	72.0	E	SBT	135.2	F	0	3
25	76.1	E	WBR	262.6	F	4	4
26	21.5	C	NBR	245.4	F	1	4
27	58.4	E	NBL	121.6	F	2	3
28	71.1	E	WBL	136.1	F	1	6
29	70.3	E	NBT	146.1	F	3	4
30	51.9	D	NBT	86.6	F	4	1
31	70.0	E	NBT	149.0	F	1	3



10. CAPITAL IMPROVEMENTS

FIGURE 10-2: 2023 AM PEAK HOUR LEVEL OF SERVICE



10. CAPITAL IMPROVEMENTS

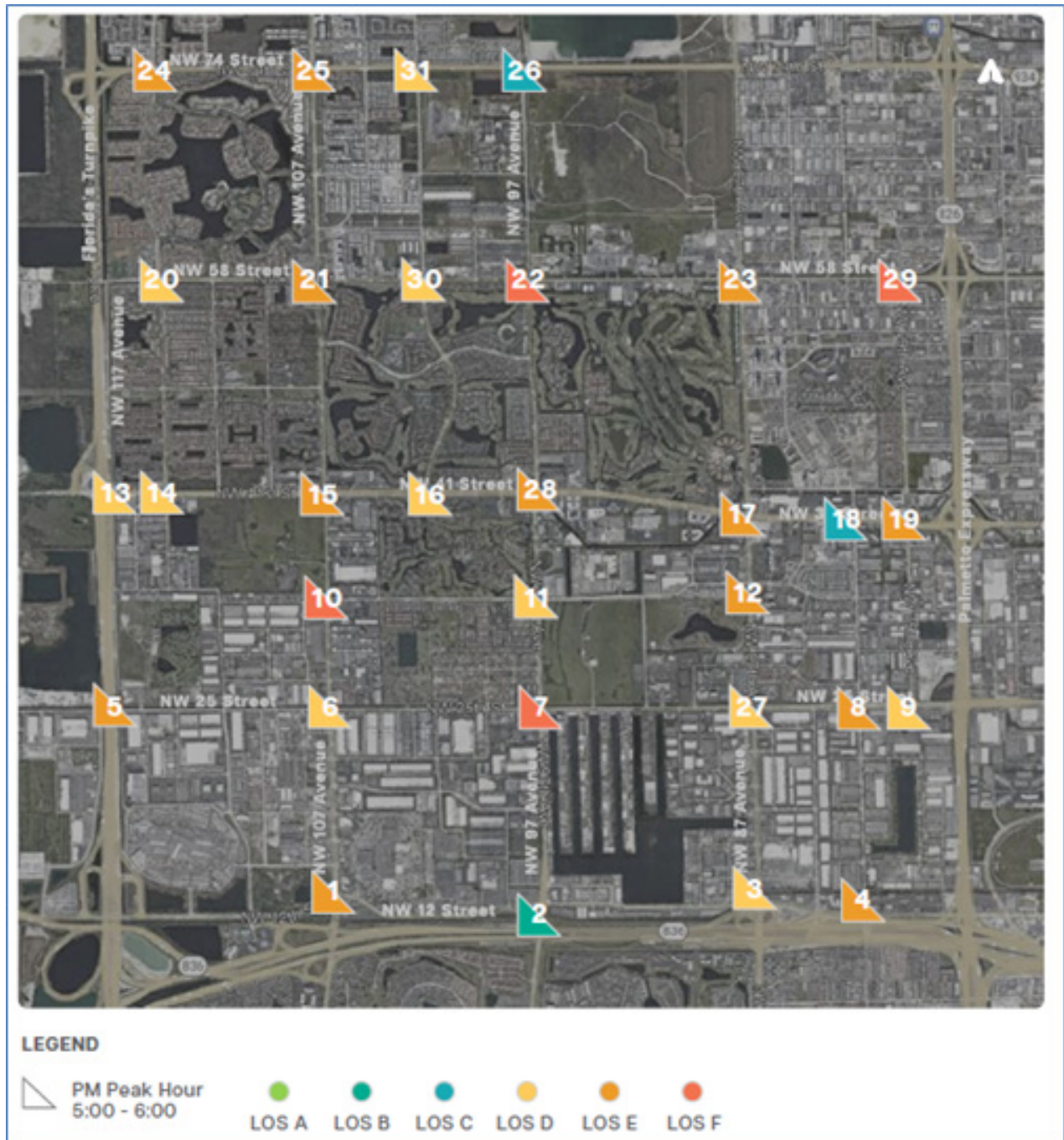
TABLE 10-4: 2023 PM PEAK RESULTS SUMMARY

INTERSECTION NO.	OVERALL		WORST MOVEMENT		NUMBER OF MOVEMENTS WITH		
	Delay	LOS	Movement	Delay	LOS	LOS E	LOS F
1	62.0	E	NBL	98.4	F	0	4
2	16.3	B	SBT	55.6	E	1	0
3	50.0	D	NBL	88.1	F	4	2
4	60.9	E	SBR	111.9	F	4	2
5	71.1	E	NBT	129.2	F	0	3
6	43.5	D	NBL	118.0	F	1	2
7	86.0	F	NBT	111.7	F	0	6
8	58.5	E	EBL	88.0	F	3	4
9	53.5	D	EBL	95.7	F	4	2
10	138.2	F	NBT	173.8	F	3	3
11	49.3	D	WBT	59.7	E	2	0
12	62.8	E	WBT	72.5	E	4	0
13	36.9	D	NBL	88.6	F	1	3
14	48.7	D	EBL	119.4	F	3	3
15	63.7	E	SBL	114.3	F	2	4
16	38.4	D	SBR	121.5	F	1	4
17	71.8	E	SBL	104.1	F	6	2
18	31.9	C	SBT	88.7	F	5	1
19	61.2	E	EBL	142.4	F	2	5
20	37.1	D	SBT	45.3	D	0	0
21	62.1	E	SBT	85.4	F	6	1
22	100.0	F	SBT	133.7	F	0	5
23	58.0	E	NBL	77.3	E	4	0
24	66.7	E	NBL	114.2	F	1	5
25	61.3	E	WBL	94.1	F	6	3
26	31.2	C	SBT	88.8	F	1	2
27	54.7	D	NBL	130.8	F	3	4
28	61.9	E	WBL	94.0	F	3	3
29	83.9	F	EBR	871.4	F	3	4
30	48.6	D	SBT	87.7	F	5	1
31	37.0	D	NBT	67.0	E	4	0



10. CAPITAL IMPROVEMENTS

FIGURE 10-3: 2023PM PEAK HOUR LEVEL OF SERVICE



10. CAPITAL IMPROVEMENTS

TABLE 10-5: FAILING INTERSECTIONS RESULTS SUMMARY

INTERSECTION NO.	AM PEAK HOUR					PM PEAK HOUR				
	OVERALL		WORST MOVEMENT			OVERALL		WORST MOVEMENT		
	Delay	LOS	Movement	Delay	LOS	Delay	LOS	Movement	Delay	LOS
5	71.1	E	NBT	129.2	F	71.1	E	NBT	129.2	F
7	86.0	F	NBT	111.7	F	86.0	F	NBT	111.7	F
10	138.2	F	NBT	173.8	F	138.2	F	NBT	173.8	F
15	63.7	E	SBL	114.3	F	63.7	E	SBL	114.3	F
19	61.2	E	EBL	142.4	F	61.2	E	EBL	142.4	F
22	100.0	F	SBT	133.7	F	100.0	F	SBT	133.7	F
29	83.9	F	EBR	871.4	F	83.9	F	EBR	871.4	F

It can be seen from Tables 3 and 4 that 19 and 17 intersections out of 31 were operating at overall LOS E or F during AM and PM peak hours, respectively. Intersections 5, 7, 10, 19, 22, and 29 operate in overall LOS F in at least one or both the peak hours.

The future conditions analysis for the Doral Transportation Master Plan was conducted to evaluate the projected performance of key intersections and corridors by 2045. This analysis was essential for understanding how the city's transportation network will handle future traffic demands and identifying areas where improvements are necessary to prevent congestion and improve safety. The methodology involved multiple steps, including traffic forecasting, level of service (LOS) evaluation, and mitigation strategies for failing intersections.

To accurately project future conditions, the analysis incorporated data on upcoming developments within the City of Doral, including new residential, commercial, and industrial projects expected to generate additional traffic. Regional growth projections for population and employment were also used to estimate future travel demand.

The analysis revealed that most intersections and corridors would experience significant congestion by 2045, with 17 of the 31 intersections projected to operate at LOS E or F, indicating failing conditions. These failing conditions are key bottlenecks where delays and congestion would severely impact travel times and overall network efficiency. Capacity and operational improvements are critical to ensuring the currently failing intersections and soon-to-be failing intersections are remedied.



10. CAPITAL IMPROVEMENTS

FIGURE 10-4: 2023 FAILING INTERSECTIONS



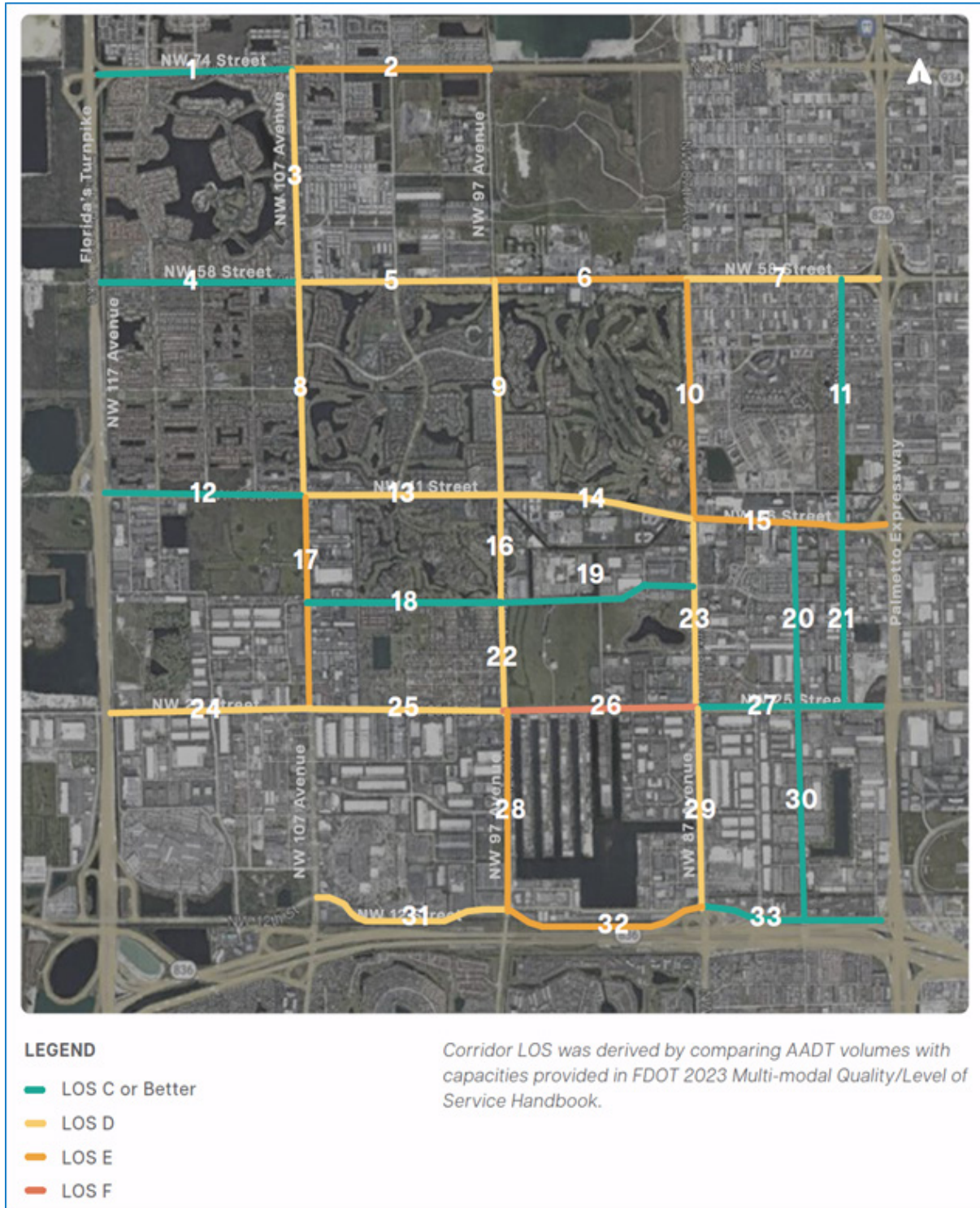
10. CAPITAL IMPROVEMENTS

FIGURE 10-5: OVERALL FUTURE 2045 PROJECTED INTERSECTION LEVEL OF SERVICE (LOS)



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FIGURE 10-6: FUTURE 2045 OVERALL CORRIDOR LEVEL OF SERVICE



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As part of the existing configuration of the intersection analysis, mitigation strategies were developed to support recommendations for improvements, See Table 6. Some mitigation strategies include following:

- ☀ Signal timing optimization (including cycle lengths).
- ☀ Lane assignment adjustments—adjustments are applied to lane assignments to optimize signal performance in

the future year. There are no physical changes to the roadway limits, and curbs are expected in this option.

- ☀ Identifying additional lanes that can be provided within available right-of-way (ROW) without acquiring new land.
- ☀ Lane assignments and signal timing and phasing optimization to suit improvements.

TABLE 10-6: RECOMMENDED CAPACITY/OPERATIONS PROJECTS

ROADWAY/ FACILITY NAME	PROJECT LIMITS		JURISDICTION	PROJECT DESCRIPTION
	FROM	TO		
NW 33 St	NW 107 Ave		City/County	Reconfiguration of lane assignment for the westbound approach of the intersection to Left, Thru, and Right through re-striping. Optimization of signal phasing.
NW 33 St	NW 107 Ave		City/County	Widening of the intersection to provide the following lane configuration: Westbound approach = L, L, T, R Southbound approach = L, T, T, R, with 100 ft storage length for right turn Northbound approach = L, T, T, R, with 100 ft storage length for right turn <i>Optimization of signal phasing and adjustment of cycle length.</i>
NW 117 Ave	NW 25 St		City/County	Widening of the southbound and northbound approaches of NW 117 Ave at the intersection to provide the following lane configuration: Northbound approach = L, T+R Southbound approach = L, T+R <i>Optimization of signal phasing and adjustment of cycle length and splits.</i>
NW 79 Ave	NW 36 St		City/County	Widening of the northbound approach of NW 79 Ave and the westbound approach of NW 36 St at the intersection to provide exclusive right turn lanes. The following lane configuration: Northbound approach = L, T+R, R Westbound approach = L, L, T, T, T+R, R <i>Optimization of signal phasing and adjustment of cycle length and splits.</i>
NW 79 Ave	NW 58 St		City/County	Widening of the eastbound approach to provide an additional through lane and widening on the east of the intersection to provide a receiving through lane and another receiving lane (acceleration lane) for the exclusive right turn lane from the northbound approach. The following configuration: Eastbound approach = L, T, T, T, R Northbound Approach = L, T, R Addition of a channelization island between the northbound approach thru lane and right turn lane. <i>Optimization of signal phasing and adjustment of cycle length and splits.</i>



3. Transit

The City of Doral is served by four (4) Miami-Dade Transit (MDT) routes 36, 87, 95, and 132 and four (4) Doral Trolley routes. Figure 8, shows the combined routes of Miami-Dade Transit and the City of Doral Trolleys within the City's boundary.

The free-fare Doral Trolley System launched on February 1, 2008. It is a local circulator which serves the city through four (4) routes (R1, R2, R3 and R4), with route R1 providing connector service to MDT Metrobus routes at Miami International Mall and routes R2 and R3 providing connector service to the Miami-Dade Transit Metrorail via the Palmetto Metrorail Station in Medley. Route R4 commenced in August 2018 and provides service to Florida International University (FIU) along NW 107th Avenue. While these routes are intended to serve separate areas of the city,

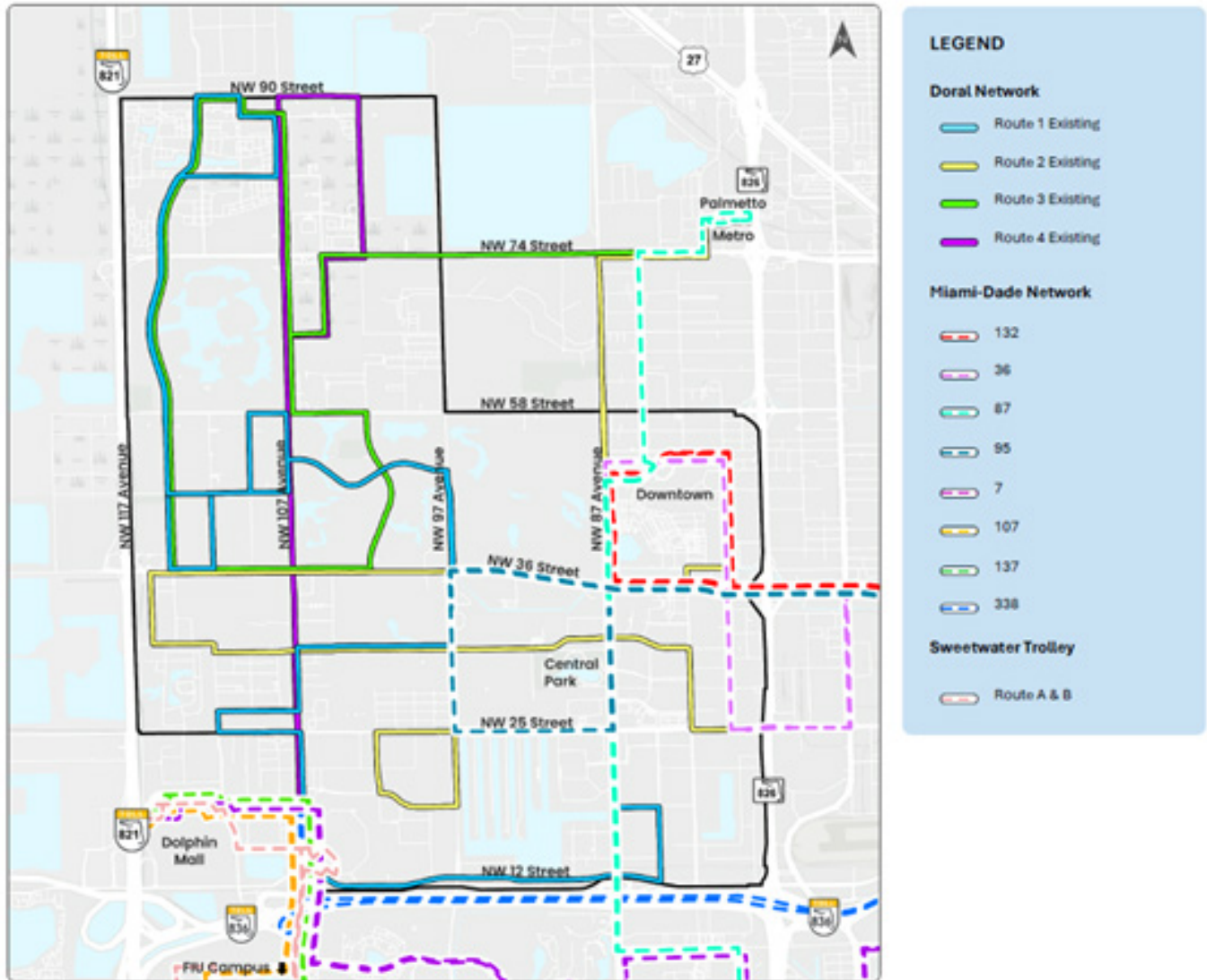
there is significant overlap between them. Because there are no dedicated trolley lanes, trolleys operate on the same roadways used by individual vehicles. The city conducts regular trolley ridership surveys to provide insight into future changes to route alignment, stops, hours of operation and frequency. Route 1 has the highest ridership, followed by Routes 3, 2 and 4, respectively.

Factors that affect both the level of ridership and the quality of trips include access to and amenities at trolley stops. Trolley stops accessibility includes connectivity by sidewalks connecting to stops and improvements would include meeting all ADA requirements, convenient stop locations, shelters, shade, signage, schedules, and easy boarding curb heights. Key urban centers with large jobs, housing, and/or retail activity centers within the City should be joined by transit routes, as well as primary locations/transit connections located outside the City Limits.



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FIGURE 10-7: FUTURE 2045 OVERALL CORRIDOR LEVEL OF SERVICE



Source: City of Doral Public Works Dept. July, 2024.



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Currently, the City is updating the Doral Transit Study to identify modifications for the Doral Trolley existing service to adjust for the changes that occurred in the Better Bus Network Transition, as well as outline additional recommendations to enhance the existing Doral Trolley network to better service residents and visitors of Doral.

4. Bicycle/Pedestrian Facilities

The City's goal is to encourage intra-city trips by bicycle and

walking. The majority of the City of Doral is interconnected by sidewalks, and the city has dedicated annual funding to continue to connect missing segments. The City has also developed a Bikeway Network Master Plan that contains a series of interconnected bike lanes and multi-use paths that will be implemented by both public and private entities. Figure 9 shows Existing and Proposed Bicyclist/Pedestrian Improvements. The existing bike network consists of 17.78 miles of bike lanes, 9.95 miles of off-road shared-use paths, and 0.51 miles of maintenance path for a total of 28.24 miles of current bike facilities.



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5. De Minimis Impact Report

Pursuant to State Statute Section 163.3180(6), local governments must submit a De Minimis Impact Report with the annual Capital Improvements Element update of the City's Comprehensive Plan. A De Minimis Impact is defined as: an impact that would not affect more than 1 percent of the maximum volume at adopted LOS of the affected transportation facility; no impact is a de minimis if the sum of the existing roadway volumes and the projected volumes from approved projects on each transportation facility would exceed 110 percent of the maximum volume at the adopted LOS and provided that an impact of a single-family home on an existing

lot will constitute a de minimis impact on any roadway regardless of the level of deficiency of the roadway. Based on the above definition of de minimis impact and current city traffic data, the City of Doral does not need to file a De Minimis Impact Report.

6. 5-Year Level-of-Service Transportation Projects

To address the LOS deficiencies now and expected by 2028-29, the City has programmed 23 roadway, intersection and multi-modal capacity improvement projects within the current 5-year planning period. These projects are listed in Table 7 below and will be funded primarily through the City's Transportation Fund.

TABLE 10-7: CITY TRANSPORTATION PROJECTS FY 2025-2029

PROJECT LOCATION	TYPE OF WORK	IMPLEMENTATION TIMEFRAME (FISCAL YEAR)
1. Citywide (Milling & Resurfacing / Re-Striping)	Roadway Maintenance	2023-2027
2. Landmark Community Complete Streets	Traffic Calming Improvements	2025-2026 Construction phase ongoing
3. Section 7	Traffic Calming Improvements	2025-2026 Construction phase ongoing
4. NW 90 Street (Vacant Land Section 7)	Roadway Widening	2026
5. NW 104 Avenue (69 St. – 70 St)	Roadway Widening	2026
6. NW 102 Avenue (76 St - 86 St)	Roadway Widening	2026
7. Citywide (Bus shelters)	Transit Mobility & Infrastructure	2025-26 Construction ongoing
8. NW 114 Avenue (34 St - 39 St)	Roadway Improvements	2027
9. NW 34 Street (117 Ave - 112 Ave)	Roadway Improvements	2025-2026
10. NW 117 Avenue (NW 25 St - NW 34 St)	Roadway Improvements	2025- Design phase ongoing
11. Intersection Improvements - Citywide	Roadway Improvements	2023-2027
12. Do Not Block Box Intersections	Roadway Improvements	2025-2027
13. FPL Undergrounding	Roadway Improvements	2026
14. NW 33 Street (NW 79 - 82 Avenue) Reconstruct	Roadway Improvements	2025



10. CAPITAL IMPROVEMENTS

Table Continued

PROJECT LOCATION	TYPE OF WORK	IMPLEMENTATION TIMEFRAME (FISCAL YEAR)
15. Improvements Identified in the 2023 Transportation Master Plan Update	Roadway Improvements	2027
16. Doral Art District (Adaptive Re-Use)	Complete Streets Improvements	2026-2028
17. NW 50 th Street and NW 112 th Ave	New traffic Signal	2025-Design ongoing
18. NW 117 th Ave and NW 34 th Street	New traffic Signal	2025-Design ongoing
19. NW 117 th Ave and NW 50 th Street	Crosswalk relocation	2025-Design ongoing
20. NW 92 nd Ave and NW 33 rd Street	New Traffic Signal	2025-2026-Construction phase
21. NW 36 th and Palmetto	Doral Entry feature-New monuments	2025-2026 Construction ongoing
22. NW 104 th Ave from NW 34 th to NW 41 st Street	New sidewalk design	2025-2026 Design ongoing
23. NW 82 nd Ave from NW 36 th Street to NW 41 st Street.	New sidewalk design	2025-2026 Design ongoing

Source: Doral Public Works Department (July 2025)

In addition to the City-funded transportation projects listed above, a number of capacity improvement projects in the City have been identified in the current Miami-Dade County Transportation Planning Organization (TPO) 5-year Transportation Improvement Program (TIP) and the 2050 Long Range Transportation Plan (LRTP). The TIP is a staged multi-year program similar to the CIE at the regional scale

and coordinates all cities, Miami-Dade County departments, State of Florida, Turnpike Enterprise, and Expressway Authority required for all federally- funded transportation projects and prioritizes Priority Transportation Projects (PTP) funded over the next 5-year planning period. The planned projects within or affecting the City of Doral are shown in Table 8.

TABLE 10-8: CITY TRANSPORTATION PROJECTS FY 2025-2029

FACILITY	LIMITS	TYPE OF WORK	RESPONSIBLE AGENCY	CONSTRUCTION TIME FRAME	TOTAL COST FY 2025-2029 (MILLIONS)
MIA Cargo Viaduct	NW 82 Ave to Ronald Reagan Turnpike	Widening of NW 25 Street and construction of a viaduct	Aviation		\$393.30
NW 25 Street	NW 25 St to NW 34 Street	Reconstruction and add turn lanes	MDC		\$3.89
NW 117 Avenue	NW 117 Avenue to NW 87 Avenue	Widen from 4 to 6 lanes	MDC		\$138.84
NW 25 Street	NW 87 Avenue to NW 57 Avenue	Widen from 4 to 6 lanes	MDC		\$17.99
NW 107 Avenue	NW 12 Street to NW 14 Street	Bicycle/Pedestrian Safety	MDC		\$0.05



10. CAPITAL IMPROVEMENTS

Table Continued

FACILITY	LIMITS	TYPE OF WORK	RESPONSIBLE AGENCY	CONSTRUCTION TIME FRAME	TOTAL COST FY 2025–2029 (MILLIONS)
NW 34 Street	NW 114 Avenue to approx. 720 ft East	Retrofit ROW for transit mobility improvements	MDC		\$0.31
NW 29 Street	NW 109 Avenue to NW 112 Avenue	Retrofit ROW for transit mobility improvements	MDC		\$0.10
NW 27 Street	NW 109 Avenue to NW 112 Avenue	Retrofit ROW for transit mobility improvements	MDC		\$0.12
NW 114 Avenue	NW 34 Street to NW 39 Street	Retrofit ROW for transit mobility improvements	MDC		\$0.28
NW 27 Street	NW 87 Avenue to NW 87 Court	Retrofit ROW for transit mobility improvements	MDC		\$0.04
NW 21 Street	NW 107 Avenue to NW 102 Avenue	Retrofit ROW for transit mobility improvements	MDC		\$0.39
NW 12 Street	SR 836/Dolphin Park Ride to NW 114 Avenue	Widening and resurfacing for Bus Only Lanes	MDC		\$5.53
NW 74 Street	Palmetto Metrorail Station to Florida's Turnpike	Potential Future Rapid Transit Corridor	MDC		\$2.50
NW 58 Street	NW 97 Avenue to SR 826	Road Reconstruction	MDC	Under Construction	PYF*
NW 34 Avenue	NW 58 Street to NW 74 Street	Widen from 2 to 4 Lanes	MDC	Under Construction	PYF*
NW 87 Ave	NW 58 Street to NW 74 Street	Resurfacing	MDC		PYF*
NW 97 Avenue	NW 52 Street to NW 58 Street	Widen from 2 to 4 Lanes	MDC	Under Design	PYF*
NW 97 Avenue	NW 58 Street to NW 70 Street	Widen from 2 to 4 Lanes	MDC		PYF*
NW 58 Street	NW 117 Avenue and NW 107 Avenue	Resurfacing	MDC		PYF*
NW 58 Street	NW 74 Ave and NW 72 Ave	Resurfacing	MDC		PYF*
NW 58 Street	SR 836/NW 107 Ave and SR 826/ Palmetto Exp	Congestion Management	MDC/FDOT		PYF*
NW 12 St	NW 97 Ave and NW 93 Ct	Intersection Improvement	MDC	Under Construction	PYF*



10. CAPITAL IMPROVEMENTS

Table Continued

FACILITY	LIMITS	TYPE OF WORK	RESPONSIBLE AGENCY	CONSTRUCTION TIME FRAME	TOTAL COST FY 2025-2029 (MILLIONS)
NW 25 Street	NW 97 Ave and NW 87 Ave	Widen from 4 to 6 Lanes	MDC	Under Design	PYF*
NW 25 Street	NW 107 Ave and NW 87 Ave	Resurfacing	MDC		
NW 12 St	NW 107 Ave and NW 87 Ave	Resurfacing	MDC		PYF*
NW 107 Avenue	NW 12 St and NW 25 St	Resurfacing	MDC		PYF*
NW 107 Avenue and NW 27 Street		Intersection Improvement	MDC	Construction Completed	PYF*
NW 12 St and SR 973/NW 87 Ave		Intersection Improvement	MDC		PYF*
NW 98 Court and NW 12 Street		Traffic Signal	MDC	Under Construction	PYF*
NW 98 Court and NW 17 Street		Traffic Signal	MDC	Under Construction	PYF*
NW 107 Avenue and NW 14 Street		Traffic Signal	MDC	Under Construction	PYF*
NW 107 Avenue and NW 50 Street		Traffic Signal	MDC	Under Design	PYF*
NW 41 St and NW 97 Ave		Congestion Management	MDC/FDOT		PYF*

*PYF: Prior Year Funding

Source: Miami-Dade County TPO 2025 TIP, (2025-29) Approved June 27, 2024, and 2050 LRTP Approved September 2024.

Additional roadway improvement projects currently not programmed in the FY 2025-2029 TIP plan may be added in future CIE and TIP updates as funding becomes available at the Federal, State and local levels of government. The City is proactively addressing local roadway deficiencies occurring primarily on its roadways and works closely with County and State agencies to address future LOS requirements on their roadways through FY 2028-29 and beyond.

B. Potable Water Service

The residents of the City of Doral obtain their potable water and sewer service directly from WASD, which is

responsible for ensuring enough capacity to meet the water needs of existing and future water customers. In addition to serving the City, WASD is the designated regional supplier of potable water for most of the cities in Miami-Dade County. In that capacity, the WASD supplies the City of Doral's residential and non-residential property owners with potable water on a retail basis and bills these customers for this service.

WASD owns, operates, and maintains a central potable water distribution system, along with the facilities for collection and treatment of water, which then transmits the potable water to its citizens throughout most of Miami-Dade County. See Figure 5 below.



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TABLE 10-9: CITY OF DORAL WATER USAGE PROJECTIONS

TABLE 3.4 – RETAIL WATER USE FORECAST IN THE CITY OF DORAL, 2020 TO 2040			
YEAR	POPULATION FORECAST (A)	2018 PER CAPITA (GALLONS PER PERSON PER DAY) (B)	ANNUAL AVERAGE DAILY WATER DEMAND, MGD
(1)	(2)	(3)	(4) = (2) x (3) / 1,000,000
2020	75,522	126.94	9.59
2025	96,606	126.94	12.26
2030	104,072	126.94	13.21
2035	112,115	126.94	14.23
2040	120,779	126.94	15.33

(a) From City of Doral, 2020.

(b) City of Doral water demand in Gross Gallons Per Person Per Day is from Miami-Dade County as reflected in the Draft Miami Dade Water and Sewer Department 10-Year Water Supply Facilities Work Plan, October 2020.

Regional water system capacity projections have been developed based on current water system capacity, planned WASD capacity projects, and current and projected demand from retail water customers within the County. These studies show that the County will have sufficient capacity through 2040. There are no private potable water facilities in the City of Doral.

Wellfield Protection Measures: WASD’s wellfields and their corresponding Cones of Influence are in or near the City. These wellfields consist of 45 individual wells and have a total designed installed capacity of approximately 295 mgd. Of these wells, 23 provide raw water to the Hialeah Water Treatment Plant while the remaining 22 wells service the J.E. Preston Water Treatment Plant. To protect the quality of the groundwater in the area, the City of Doral has adopted the Miami-Dade County Wellfield.

Protection Program, which restricts the types of land uses allowed within the area of the wellfield cones of influence. The following are some of the restrictions associated with the Wellfield Protection Program:

- ☀ Only uses that do not generate hazardous waste are allowed within the Cone of Influence.
- ☀ All permitted land uses within the Cone of Influence

shall be required to connect to the WASD central sewer collection system.

- ☀ Developments within the Cone of Influence shall be required to meet the minimum requirements for percentages of pervious area.
- ☀ Land uses within the Cone of Influence shall be restricted to those uses that do not create water pollution.

Water Conservation Measures: Miami-Dade County Water Conservation Plans and Ordinances. The City of Doral, located in Miami-Dade County, is subject to the following County plans and ordinances:

Miami-Dade Water Use Efficiency Plan: The Miami-Dade WASD’s 20-year Water Use Efficiency Goal-Based Plan (Efficiency Plan) was approved by the SFWMD in May 2007. Included in the Efficiency Plan is the Water Conservation Best Management Practices (BMP) Implementation Schedule, Costs, and Savings Projections through the year 2026. WASD is implementing the BMPs included in the 2019 Annual Report for the Water Conservation Plan to improve the management of traditional water supplies, encourage development of alternative water supplies and improve water use efficiency. Several initiatives were adopted by



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WASD to encourage efficient use of water by residential and non-residential users. Some initiatives included plumbing retrofits, landscape irrigation evaluations, and residential and commercial water use evaluations and rebates. To ensure future water savings, the Water Use Efficiency Standards for new residential and commercial developments enacted by the Miami-Dade Board of County Commissioners on January 1, 2009 are being implemented through local building codes. The standards include technical amendments to the Building Code to require maximum water conservation flow rates for plumbing fixtures. Because of these efforts, as of December 31, 2019, the County saw an 18.6 mgd reduction in finished water demand from the year prior to the implementation of the Efficiency Plan in 2006 (from 341.62 mgd to 323.04 mgd).

Miami-Dade County Water Conservation Plans and Development Codes: The County adopted a Water Conservation Plan that was added to its Water Use Efficiency Section as mandated by County Ordinance 06-177, Section 32-83.1 of the Miami-Dade County Code. The Plan identifies BMPs for the service area. (Doral's Comprehensive Plan – Policies: 1.5.3, 5A.3, 5A.3.2) Since January 1, 2009, the county's building code, specifically Section 8-31 and 32-84, requires the installation of water efficient fixtures and high efficiency appliances. In 2007, Section 3.0 Provision of Water Supply City of Doral, Florida 12 Water Supply Facilities Work Plan Update - 2021 the County developed a water conservation program that provides rebates to residents that install high efficiency faucets, toilets and showerheads in properties constructed prior to 1996. It also includes rebates for water efficient upgrades to irrigation systems in single family and large properties throughout the County.

Miami-Dade County Permanent Landscape Irrigation Restriction: Lawn and landscape irrigation throughout the county has been limited to two days per week year-round as required by Section 32-8.2 of the Miami-Dade County Code of Ordinances. Irrigation is not permitted between the hours of 10:00 a.m. and 4:00 p.m.

Miami-Dade County Landscape Standards: Development within the county must comply with landscape standards in Sections 18-A and 18-B of the County Code which

encourages Florida Friendly Landscaping to reduce outdoor water use.

Miami-Dade County Multi-Family Sub-Metering: The County Code was also modified to authorize the use of submetering in multifamily residential developments, requiring a meter be installed in each individual dwelling unit for water billing purposes instead of being billed using a single master meter. Use of submeters enhances water use monitoring and encourages water conservation.

Water Conservation Based Rate Structure: Miami-Dade County has adopted a water conservation-based rate structure for its retail water customers. 3.3.2 City of Doral Ordinances and Codes Promoting Water Conservation The City has adopted the following ordinances and codes to promote water conservation by the City's residents. Because the City does not have access to customer water use data, the City is unable to develop estimates of the amount of water conserved.

Access to customer water use data, the City is unable to develop estimates of the amount of water conserved.

Use of Florida-Friendly Landscape Principles: The City of Doral Comprehensive Plan and Land Development Code recommends use of Florida-Friendly landscape materials and the minimum percent of required pervious area that must follow the principles of Florida Friendly Landscape provisions as set forth in the South Florida Water Management District's Xeriscape Plant Guide II. (Doral's Comprehensive Plan - Objective: 5A.5. Policies 1.4.2, 1.4.3, 5A.3.2, 6.1.6) Requirement of

High Efficiency Plumbing Fixtures in New Construction: The City of Doral has adopted the Florida Building Code (FBC) which contains plumbing flow restriction requirements. The County Code prohibits the cities within its jurisdiction from enacting standards less stringent from the FBC. The City of Doral Building and Inspection Services also includes, in their procedures, provisions for new construction to have water conservation control devices installed per the Florida Plumbing Code, as a condition for granting certificates of occupancy. (Doral's Comprehensive Plan – Policy 6.1.6)



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Rain Sensor Overrides for New Lawn Sprinkler Systems: The City of Doral has adopted the FBC, which requires the installation of rain sensors on new irrigation systems. Section 3.0 Provision of Water Supply City of Doral, Florida 13 Water Supply Facilities Work Plan Update - 2021 Additionally, the City of Doral abides by all County's landscape Code requirements, including the use of rain sensors on automatic lawn sprinklers systems. (Doral's Comprehensive Plan – Policy 1.5.4) City of Doral Adoption of the SFWMD's Water Shortage Restrictions: In 2007, the City of Doral adopted Ordinance No. 2007-13 entitled "Water Restrictions" to protect the water resources of the City from harmful effects of over-utilization during periods of water shortage and to assist the SFWMD as it implements its water shortage plan. The provisions are found in Chapter 47 – Division 2. – Water Restrictions of the City of Doral Code of Ordinances. This ordinance applies to all persons using the City's water resources that are subject to the "water shortage" or "water shortage emergency" as determined by the SFWMD, whether from a publicly- or privately- owned water utility system, private wells, or private connections with surface water bodies. The use of treated effluent or saltwater is excluded from the requirements of this ordinance. The ordinance references the South Florida Water Management District's Water Shortage Plan as provided in Chapter 40E-21, Florida Administrative Code.

Enforcement: The City enforces these ordinances through its code compliance department.

5-Year Level-of-Service Water Projects

Section 163.3177(4)(a), Florida Statutes, requires coordination of the local comprehensive plan with the water management district's regional water supply plan. Doral receives all potable water service from Miami-Dade County Water and Sewer Department's (WASD) Hialeah/Preston Water Treatment Plant (WTP). The supply capacity of the Hialeah-Preston Subarea wellfields is 343.43 million gallons per day. The plant is owned and operated by WASD, who is responsible for maintaining the distribution and treatment facilities serving the City of Doral. The City of Doral's Water Supply Plan and Infrastructure Element Policy 5A.1.1 of the City's Comprehensive Plan establishes the adopted Level

of Service (LOS) standard for potable water at 127 gallons per capita per day (GPD). According to the State guidelines, the Water Supply Plan and the Comprehensive Plan must address the development of traditional and alternative water supplies, service delivery, conservation, and reuse programs necessary to serve existing and new developments for at least a 10-year planning period. As the city implements its Green Master Plan and Miami-Dade County water restrictions on landscape watering to 2x/week, the City should be able to reduce its water demand (GPD) moving forward. (The city should aim to reduce its average GPD over time to be closer to the State and National averages.)

C. Sanitary Sewer Facilities

The adopted Level of Service (LOS) standard for sanitary sewer in Doral is 100 gallons per capita per day, as noted in Policy 5B.1.1 of the Infrastructure Element of the Comprehensive Plan. Sanitary sewer service in the City is provided by Miami-Dade County's Water and Sewer Department (WASD). The LOS standard for wastewater in the County requires all regional water treatment plants to operate with a physical capacity of no less than the annual average daily sewage flow. The Hialeah Water Treatment Plant is located at 700 West 2nd Avenue, Hialeah, Florida. This facility has a maximum installed design capacity of million gallons per day.

5-Year Level-of-Service Wastewater Projects

No capacity-related projects for the County's wastewater system have been identified within the City of Doral or WASD for the 5-year CIE planning period 2025-2030.

D. Stormwater Management

The City of Doral falls within the boundaries of the C-4 Tamiami Canal and C-6 Miami River Canal watershed basins managed by the South Florida Water Management District (SFWMD). Within the City of Doral there are three (3) sub basin secondary canals which convey surface stormwater from the city: the Northline Canal, located along the north side of NW 25th Street, the C-2 Extension Canal, located along NW 117th Avenue, and the Dressels Canal which



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crosses the City from NW 117th Avenue to the Palmetto Expressway. Figure 6 depicts the canal system in Doral.

Doral adopts the following system-wide drainage Level of Service (LOS) standards for new development and redevelopment in Comprehensive Plan Policy 5C.1.1 of the Infrastructure Element:

- ☀ **Water Quality Standard.** Stormwater facilities shall meet the design and performance standards established in Chapter 62-25, Rule 25.025, Chapter 40-E, Chapter 40E-40, Florida Administration Code (FAC), and Section 24-48, of the Code, with the retention of the first inch of runoff onsite to meet the water quality standards required by Chapter 62-302, Rule 862-302.500, FAC, and Section 24-42 of the Code.
- ☀ **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 5-year storm event, 24-hour duration, in accordance with Section D-4, Part 2, Miami-Dade County Public Works Manual and Sec. 24-48.3 (7) and Rule 40E-40.302, FAC, “Basis of Review, Volume IV Manual.”
 - ☀ 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.

The City requires all new developments to provide adequate on-site drainage prior to the issuance of a Building permit to

maintain LOS standard for drainage. However, there were a number of pre-existing deficient drainage conditions when the City was incorporated in 2003. In 2006, Doral adopted its first Stormwater Master Plan. Since then, the City has updated the plan on several occasions, including the latest update in 2021, which forms the basis for the Stormwater 5-Year SCI.

The City’s Stormwater Master Plan (SWMP) serves as a planning-level engineering document that analyzes the current condition of storm water management systems across the city. The plan identifies high priority flood prone areas, and establishes a five-year capital improvement plan for implementation. The analysis performed for this SWMP takes into consideration the primary components of the existing storm water management system (manholes, inlets, and major conveyance pipes), canals and lakes, topography, land uses, as well as, groundwater elevations, and historical rainfall when analyzing the primary existing drainage infrastructure throughout the City. These elements are all combined and analyzed within a mathematical Hydraulic and Hydrologic model that simulates the performance of the City’s primary drainage systems using design rainfall events. The City’s secondary drainage storm water management systems, such as individual inlets, manholes, and minor conveyance systems which control drainage within the sub-basin, are not analyzed as a part of this SWMP. The secondary drainage systems are typically analyzed in the construction design phase and through redevelopment projects.

The City’s drainage system deficiencies are identified through a series of sub-basins which are color coded for priority ranking purposes and depicted in Figure 7. This system allows the City to identify and prioritize the most cost-effective storm water management projects for inclusion in the 5-Year SCI and City Capital Improvement Program. The main intent of the contents of this SWMP is to serve as a guide for the City in order to identify problem areas, develop potential future projects, and correlating those future projects with a planning-level cost.



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FIGURE 10-10: DORAL CANAL SYSTEM

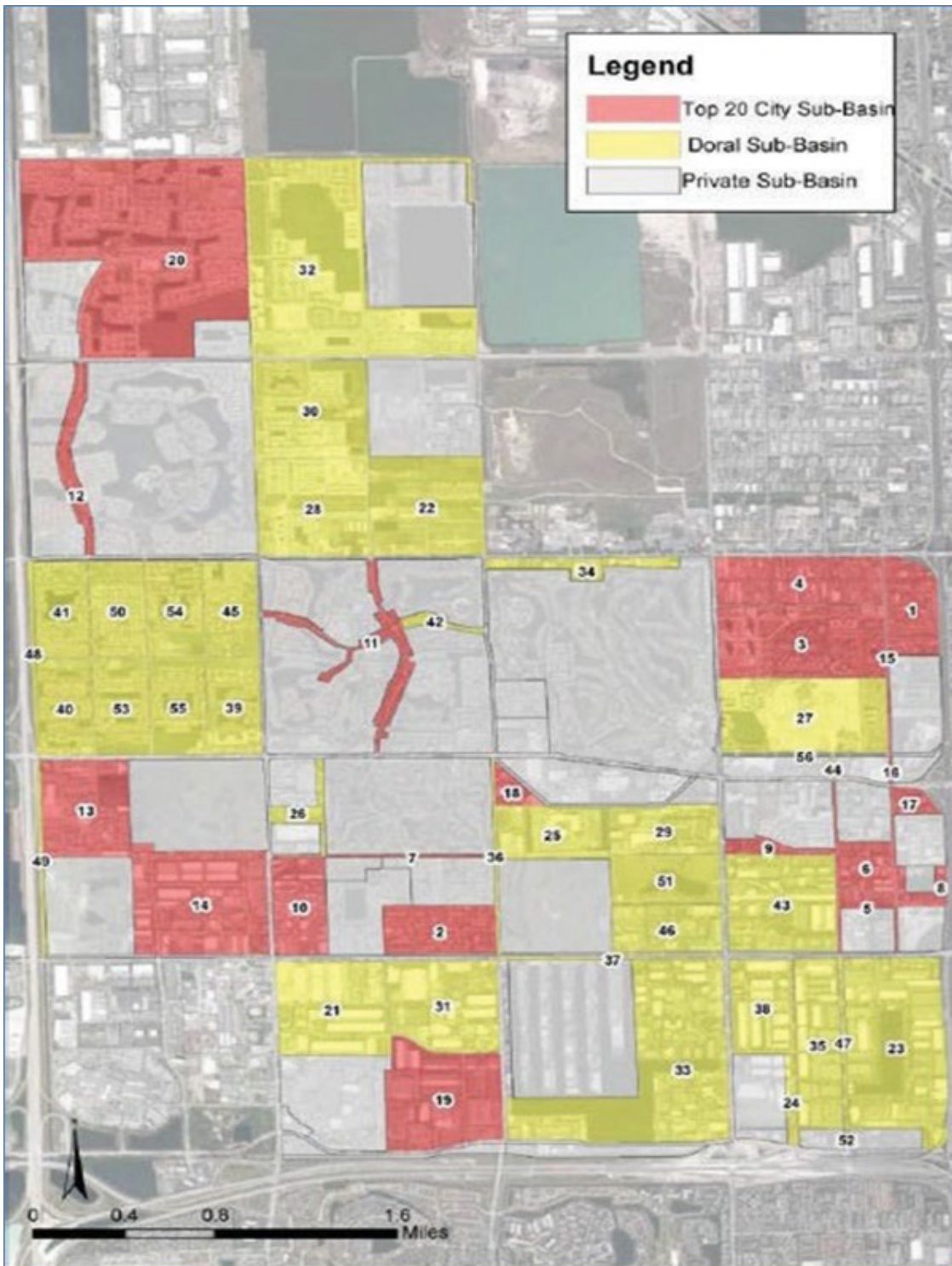


Source: City of Doral Public Works 2025



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FIGURE 10-11: PRIORITIZED DRAINAGE SUB BASINS



Source: City of Doral Public Works 2025



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5-Year Level-of-Service Stormwater Projects

The City of Doral has established a dedicated Stormwater Fund to support the continued maintenance and improvement of its stormwater management infrastructure. This fund is essential to addressing drainage needs, reducing localized flooding, and meeting state and federal regulatory standards.

In 2025, several stormwater improvement projects are in the design phase. These include the **Stormwater Improvement Project in Sub-Basin F-1 No PS (Vanderbilt Area)**, which spans from NW 97th Avenue to NW 102nd Avenue and from NW 25th Terrace to NW 28th Street. Also in design are projects in **Sub-Basin D-1-1**, covering NW 29th Street from NW 77th Court to NW 79th Avenue, and **Basin H-79-Ave – N**, located along NW 79th Avenue from NW 41st Street to NW 58th Street. These projects are intended to address known drainage concerns and improve system performance in flood-prone areas.

Several additional projects are scheduled to move into the construction phase in 2025. Among them is **Sub-Basin D-3-1**, which includes NW 29th Street from NW 82nd Avenue to NW 79th Avenue, and NW 79th Avenue from NW 25th Street to NW 29th Street. Construction is also planned for **Sub-Basins F-5, NW 114th Avenue, and D-2-1**, all of which are part of Year 4 of the Capital Improvement Plan identified in the City's 2021 Stormwater Master Plan

update. Year 4 received grant funding which will not allow construction commencement until summer of 2026 when all grant documentation is expected to be completed. These projects will expand stormwater capacity and improve resilience in targeted areas.

Looking ahead, the City plans to initiate the design phase for additional stormwater improvements in 2026. These future projects will further support the City's efforts to improve its FEMA Community Rating System (CRS) classification, which helps reduce flood insurance premiums for residents and contributes to a safer, more sustainable community.

The citywide general stormwater improvements and maintenance is also funded through the stormwater fund and includes catch basin maintenance, regular street sweeping, canal maintenance, and floating debris removal. The city will continue to implement the updated Stormwater Master Plan and the proposed flood reduction projects in addition to implementing, when possible, non-canal BMP's.

These include integrating the green infrastructure and Low Impact Development methodologies outlined and codified in the city's Green Master Plan and Low Impact Development Master Plan. Table 7 below shows the projects and costs for specific planned stormwater improvements during the 5-year CIE period. The total cost of the 5-year program is estimated to be \$6,550,000.

TABLE 10-10: CITY STORMWATER PROJECTS AND ESTIMATED COSTS FY 2025-2030

PROJECT LOCATION	FY2025/26 (IN \$\$s)	FY2026/27 (IN \$\$s)	FY2027/28 (IN \$\$s)	FY2028/29 (IN \$\$s)	FY2029/30 (IN \$\$s)
City-Funded Projects					
Stormwater Master Plan Improvements (Various Locations)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
NW 78th Av (12th St – 15th St)	----	----	400,000	----	----
88th Av (13th Terr – 15th St)	----	----	----	450,000	----
115th Av (34th Ave- Doral Blvd)	----	----	----	----	700,000
TOTALS	1,000,000	1,000,000	1,400,000	1,450,000	1,700,000

Source: City of Doral Public Works Department. July 2025.



10. CAPITAL IMPROVEMENTS

A. SOLID WASTE

The City's adopted Level of Service (LOS) standard for solid waste is 9.4 pounds per capita per day (Comprehensive Plan, Infrastructure Element Policy 5D.1.2). Table 8 below shows the projected solid waste which could be generated in the City through 2030 based on population projections. The city's Green Master Plan does stress the need to reduce the amount of solid waste being sent to the landfill and increasing the capture rate of recyclable materials. Increasing the recycling rate would reduce the total pounds per capita per day.

TABLE 10-11: SOLID WASTE GENERATION 2020-2030

YEAR	POPULATION	LOS (LBS./CAPITA/DAY)	SOLID WASTE GENERATED (TONS/DAY)
2020	75,874	9.4	357
2025	86,615	9.4	407
2030	99,083	9.4	466

Source: City of Doral Planning & Zoning Department (2025)

The City has an interlocal agreement with Miami-Dade County Solid Waste Management for County collection, recycling and disposal of residential solid waste generated within Doral. Private businesses, industries, warehouses, and medical facilities utilize private waste management services that are not included in this analysis. According to the County's Comprehensive Development Master Plan, there will be sufficient landfill capacity to serve future development county-wide through 2030. Miami-Dade County operates two (2) landfills: (1) North Dade Landfill (Class III landfill receives yard trash, construction and demolition debris, waste tires, asbestos, carpet, cardboard, paper, glass, plastic, non-appliance furniture, and cannot accept putrescible) located in the northern portion of the County; and (2) South Dade Landfill (Class I landfill receives general, non-hazardous, commercial, industrial, and agriculture wastes) located in the southern portion of the County. Covanta Resource Recovery Facility (RRF) is a recycling and waste to energy facility located in Doral. As of the date of this report, the RRF was closed due to a fire that severely damaged several buildings in the facility.

Miami-Dade County enters into interlocal agreements with each municipality and services unincorporated areas

for waste disposal and recycling services throughout the county. The County has prepared a Solid Waste Master Plan which identifies new activities, programs, facilities and technologies to provide sustainable solid waste services to ensure public health and environmental protection. The County's Waste Management Master Plan identifies potential new technologies, operational efficiency, recycling, waste to energy and other methods to meet Miami-Dade County's projected long-term needs.

Using the City's projected annual solid waste generation for the years 2025-26 through 2029-2030, the City will average approximately 158,428 tons per year annually through the 5-year period.

5-Year Level-of-Service Solid Waste Projects

The County's solid waste LOS will be maintained with the operation of the county-wide solid waste management system. The City should integrate, implement, and monitor waste vs recycling rates within Doral and consistent with the City's Green Master Plan objectives and goals. No capacity-related projects for the County's wastewater system have been identified within the City of Doral or WASD for the 5-year CIE planning period 2025-2030.



10. CAPITAL IMPROVEMENTS

B. PARKS AND RECREATION

The Level of Service (LOS) standard for Doral's parks system is contained in Parks and Recreation Element Policy 7.1.1 which was amended in 2018 as follows:

2012–2014: 3.75 acres of developed park land per 1,000 population
 2015–2020: 2.25 acres of developed public park land per 1,000 population
 2021–future: 3.00 acres of developed public park land per 1,000 population

The Doral's Parks System is shown in Figure 8. The City currently has 168.08 169 acres of developed parks. The Parks System LOS standard is increased in 2021 from 2.25 to 3.00 acres per 1000 population per the City's Comprehensive Plan. The annual projected park acreage needed through 2030 is presented in Table 9 below:

TABLE 9: PROJECTED PARKS LEVEL-OF-SERVICE ACREAGE NEEDS

YEAR	PROJECTED POPULATION	PARK LOS NEED (ACRES)	PARK (ACRES)	DEFICIT
2022	81,182	244	163	-81
2023	82,408	247	166	-81
2024	83,636	251	166	-85
2025	86,615	260	169	-91
2026	89,042	267	169	-98
2027	91,544	275	169	-106
2028	94,123	282	169	-113
2029	96,780	290	169	-121
2030	99,083	297	169	-128

*The City will be adding 133 acres of new private parks with approved developments that is not calculated. Source: City of Doral staff (2025)

5-Year Level-of-Service Projects

The planned park developments in FY 2025-2030 are shown in Table 10. Some of the projects are improvements to existing parks, however, most represent new parkland acreage and thus will serve to increase the City's future Parks LOS as follows:

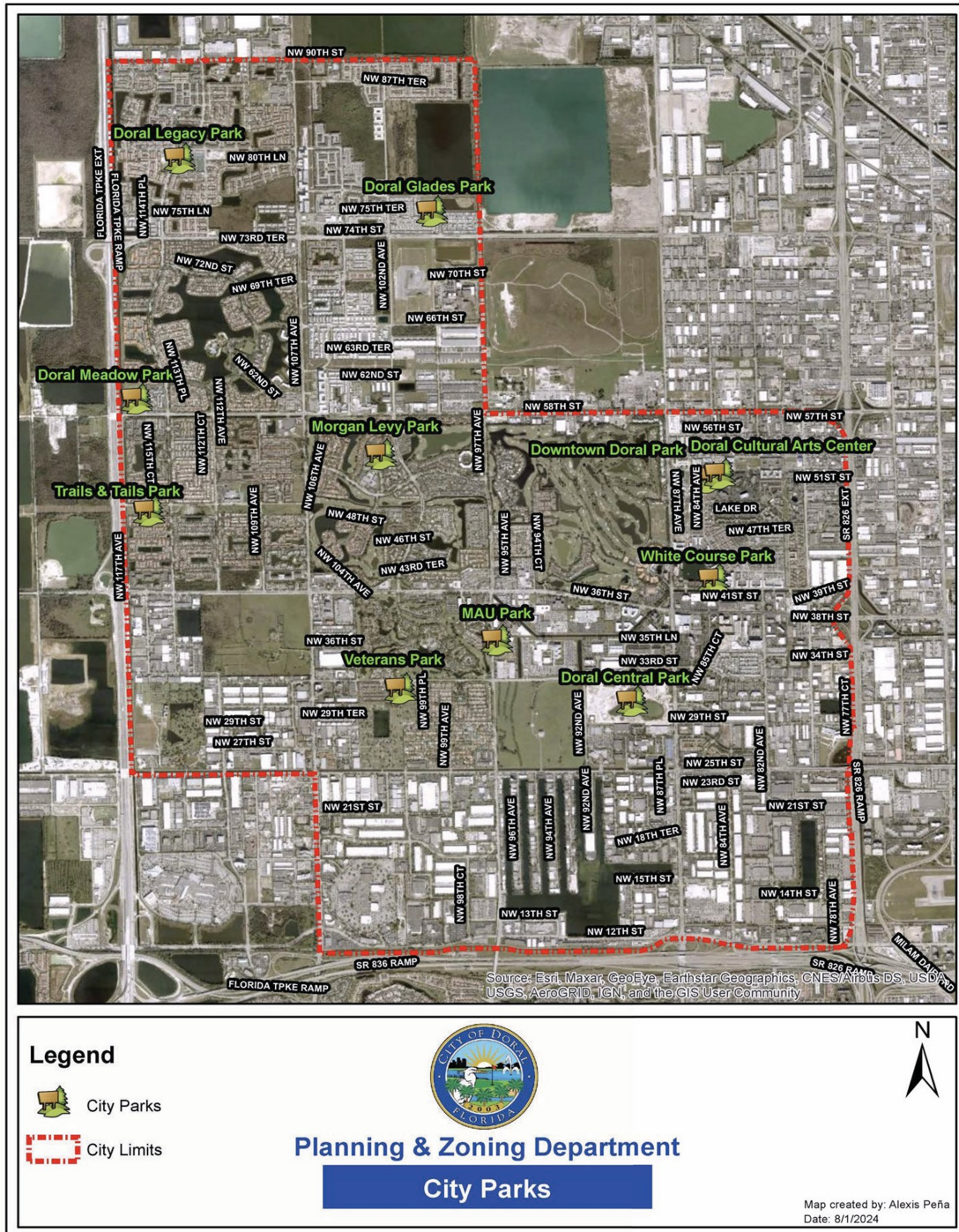
PLANNED PARK	ACRES	PROJECTED COMPLETION
PW - Flight way Retention Passive Park	3	2026
Linear Greenway Park	29.5	2030 TBD
TOTAL NEW PARK AREAS = 32.5 ACRES		

The City is projecting a surplus deficiency in meeting its adopted park Level of Service (LOS) during the 5-year planning period of this CIE (2025-2030). To meet the LOS standard by 2030, which requires a total of 297 acres of public park land, the City will need to acquire an additional 128 acres of new park space.



10. CAPITAL IMPROVEMENTS

FIGURE 10-12: DORAL'S PARK SYSTEM (2024)



Source: City of Doral Parks and Recreation 2024



10. CAPITAL IMPROVEMENTS

TABLE 10-12: PLANNED PARKS PROJECTS FY 2024-2029

PROJECT	LOCATION	ESTIMATED COMPLETION	SIZE (IN ACRES)
City:			
PW – Flightway Retention Passive Park	NW 102 nd Av. & NW 62 nd St.	Q1 2026	3
Doral Central Park	NW 87 th Ave. & 30 th St.	Q1 2025	78*
Linear Greenway Park	NW 50 th St. & NW 107 th Av.	TBD Q3 2027	29.5
TOTAL PUBLIC PARKS ADDED			32.5
Private:			
Environmental Passive Park	NW 107 Ave. and NW 74 St.	Concurrent with development – Q3 2026	51
Grand Bay Preservation Park	NW 87 th St./NW 86 th St. (east of NW 107 th Ave.)	Concurrent with development – Q3 2026	72
TOTAL PRIVATE PARKS ADDED			72 133

Source: Doral Parks Department, 2026 2025.

A detailed description of each proposed park improvement is provided below:

1. [Doral Central Park](#) – is a 78-acre park is the largest in Doral and home to major events such as EGGstravaganza and the Independence Day Celebration. Its open green spaces and scenic lake views are ideal for corporate gatherings and community events. Central Park is located in the community heart of Doral adjacent to the headquarters of Carnival Cruise Lines and the United States Southern Command. As part of the voter approved Parks Bond Referendum, this park will be redeveloped to include amenities such as a 80,000 square foot indoor recreation center, aquatic facility with competition and teaching pools, amphitheater, basketball and tennis courts, playgrounds, skate park and pump track and multi-purpose green spaces.
2. [Retention Passive Park](#) - This proposed park site is located on 102nd Avenue and theoretical NW 62nd Street. The site will be used as a retention area for the Police/Public Works Building and adjacent Flightway project with 3

acres of the 5-acre city parcel dedicated as a passive park site. This park will include a stormwater retention area, walking trails, parking lot, landscaping and environmental observation being built by a private developer on public land and will be turned over to the city after construction.

3. [Linear Greenway Park](#) – Areas under FP&L transmission lines adjacent to streets are being used as multi-purpose trails as proposed in the City’s Bicycle Master Plan and Parks and Recreation Element Policy 6.2.6. Facilities and features include: multi-purpose trail/service access route with trailhead, naturalistic planted areas/native habitat plantings and public art. The linear park system comprises 41 acres.
4. [Environmental Passive Park](#) – This proposed private park site is (51 acres) located at NW 107th Avenue & 74th Street and contains wetlands. The site has been identified in the Parks System Master Plan as a future “Environmentally Protected Park.” Low impact observation walkways on the perimeter of the wetlands and educational kiosks are planned.



10. CAPITAL IMPROVEMENTS

45-Preservation Park – This proposed private park site (72 acres) is currently a highly-impacted wetland located between two residential developments. This natural resource would be restored transforming the site into a unique passive recreation amenity for the residents of Doral. The City’s goal is to make this preservation park a public access point; coordination with Miami-Dade County and the SFWMD will be required in the process.

2. Long-Term Planning

Since 2021, the parks LOS standard is 3.00 acres per 1,000 population per city council resolution. Figure 10 shows a net deficit of park land as the population of the city continues to increase unless new developments supply additional parks or the city adds additional park land. Unless new park lands are identified and improved over the next five (5) years, the City will have a park LOS deficiency of -128 acres by 2030. A portion of the Police-Training facility site is being considered as an alternative for additional parkland. Additional acreage may be added by providing park land under high voltage power lines and in future annexation areas.

C. EDUCATION FACILITIES

Public school facility planning for Doral is provided by Miami-Dade County Public Schools (MDCPS). Every year, MDCPS is required to update and submit a Five-Year District Facilities Work Plan to demonstrate available and projected student capacity, and related information on project funding

for capacity-related projects. The information below summarizes the current and projected level of service (LOS) for public schools serving Doral from the current MDCPS Five-Year District Facilities Work Plan.

The City has seven (7) public schools located within its boundary. Table 11 provides the 2025 capacity and enrollment for these public schools. It shows that all 5 of the K-8 public schools in Doral are currently operating below permanent capacity. Ronald Reagan / Doral Senior High School is operating at 71% of capacity and J. C. Bermudez Senior High School is operating at 97% of capacity. It is also relevant to note Miami-Dade College operates the School for Advanced Studies at its campus in west Doral. There are a total of 6,940 students enrolled in the public schools located in Doral.

5-Year Capacity Projects in Doral

Miami-Dade County Schools has four (4) school projects planned over the next five (5) years in the Doral area as listed below.

- 1. J. C. Bermudez Doral SHS** – The upgrading of the athletic fields was completed in November 2022. The subsequent phases include the phased construction of a new gymnasium, PE support spaces, and a 616-student station classroom addition. This project is in the final the design phase. Construction will start in late fall or early winter. This project is expected to be completed by the summer of 2026.

PUBLIC SCHOOL	PERMANENT CAPACITY	STUDENT ENROLLMENT	% CAPACITY
Eugenia B. Thomas K-8 Center	1,421	864	61%
John I. Smith K-8 Center	1,118	820	73%
Ronald Reagan/ Doral Senior High School 9-12	1,776	1,271	72%
Dr. Toni Bilbao Preparatory Academy K-8	1,084	573	53%
Dr. Rolando Espinosa K-8 Center	1,381	595	43%
J. C. Bermudez Doral Senior High School	1,014	1,110	109%
Andrea Castillo Preparatory Academy K-5	670	420	63%

Source: Miami-Dade County Public Schools, August 2025



10. CAPITAL IMPROVEMENTS

2. **Andrea Castillo Preparatory Academy** - The middle school component (6-8 grade addition) is at the end of planning phase and will add 158 additional student stations.
3. **John I. Smith K-8** - New building addition including 105 new student stations is expected to be completed by the summer of 2025.

4. Charter and Private Schools

Doral is also home to 13 charter schools serving a total of 10,500 students in 2025 as shown in Table 12 below. There are two private schools in the City serving 1,832 students (see Table 13).

TABLE 10-13: ENROLLMENT AND CAPACITY FOR CHARTER SCHOOLS IN DORAL

CHARTER SCHOOL	PERMANENT CAPACITY	STUDENT ENROLLMENT	% CAPACITY
Doral Academy K-5	1,395	1,395	100.0%
Just Arts and Management CMS			
Doral Academy North Charter Elementary	421	297	70.5%
Doral Academy Charter High School 9-12	3,943	2,053	95.8%
Doral Academy Charter Middle School 6-8		1,326	
Doral Performing Arts and Entertainment 9-12		400	
Renaissance Elementary K-5	900	510	57%
Renaissance Middle Charter School 6-8	650	450	69%
Doral International Academy of Math and Science K-8	900	478	53%
Downtown Doral Charter Elementary K-5	1,000	1,085	109%
Downtown Doral Charter Upper 6-12	1,297	1,500	116%
Bridge Prep Academy K-8	975	751	77%
AcadeMir Charter School East	600	552	92%

Source: Source: City staff, 2025

TABLE 10-14: ENROLLMENT AND CAPACITY FOR PRIVATE SCHOOLS IN DORAL

PRIVATE	PERMANENT CAPACITY	STUDENT ENROLLMENT	% CAPACITY
Divine Savior Academy	1,006	1,182	117%
Shelton Academy	600	650	108%

Source: Source: City staff, 2025



10. CAPITAL IMPROVEMENTS

III. CAPITAL IMPROVEMENTS

The data and analysis contained in this report identify Level of Service (LOS) needs for key public infrastructure systems, including transportation, parks and recreation, and stormwater management. Table 14 presents projected revenues over the next five years by project type to support planned capital improvements. Table 15 provides a summary of anticipated expenditures for capital projects related to parks, stormwater/drainage, public facilities, and transportation, as outlined in the proposed Schedule of Capital Improvements (SCI) for FY 2025–2030. The detailed SCI, shown in Table 16 on page 39, is designed to support the maintenance, expansion, and enhancement of public facilities necessary to meet future demand and uphold adopted LOS standards.

TABLE 10-15: PROJECTED REVENUES FOR CAPACITY-RELATED PROJECTS BY FUNDING SOURCE

FUNDING SOURCES	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	5-YR TOTAL REVENUE
Park Impact Fee Fund	\$260,000	\$265,200	\$270,504	\$275,914	\$281,432	\$1,353,050
Stormwater Fund	\$4,987,800	\$5,087,566	\$5,189,807	\$5,298,093	\$5,408,638	\$25,971,904
Transportation Fund	\$1,748,023	\$1,782,983	\$1,818,643	\$1,855,016	\$1,892,116	\$9,096,781
TOTALS	\$6,995,823	\$7,135,749	\$7,278,954	\$7,429,023	\$7,582,186	\$36,421,735

Source: City of Doral, July 2025.

TABLE 10-16: PROJECTED 5-YEAR EXPENDITURES FOR CAPITAL IMPROVEMENTS BY TYPE

PROJECT TYPE	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	5-YR TOTAL COST
City-Funded Projects						
Parks	\$612,000	\$388,000	\$823,000	\$1,628,500	\$2,635,500	\$6,087,000
Stormwater/ Drainage	\$1,000,000	<u>\$3,000,000</u> \$1,000,000	<u>\$3,600,000</u> \$1,400,000	<u>\$3,450,000</u> \$1,450,000	\$1,700,000	<u>\$12,750,000</u> \$6,550,000
Transportation	<u>\$3,400,000</u> \$1,700,000	<u>\$13,250,000</u> \$7,750,000	<u>\$14,050,000</u> \$6,450,000	<u>\$7,750,000</u> \$5,650,000	<u>\$10,350,000</u> \$7,450,000	<u>\$48,800,000</u> \$29,000,000
Facilities	\$13,250,000	\$45,000,000	\$20,000,000	\$0	\$0	\$78,250,000
TOTALS	\$18,262,000 \$16,562,000	\$61,638,000 \$54,138,000	\$38,473,000 \$28,673,000	\$12,828,500 \$8,728,500	\$14,685,500 \$11,785,500	\$145,887,000 \$119,887,000

Source: City of Doral Public Works, Parks and Recreation, and Capital Improvements Departments, March 2026/July 2025.

* Does not include Parks Bond projects; includes funding from the General Fund and Park Impact fees.

An analysis of the projected revenues and planned capital expenditure indicates that the overall City capital project expenditure will exceed revenues by an estimated \$ 83,465,265 over the next five (5) years. The City is projected to accumulate \$36,421,735 in revenues over the 5-year planning period to fund the capital improvements needed to maintain and improve public facility LOS and has identified a total of \$145,887,000\$119,887,000 in capital improvement projects over the planning period.



10. CAPITAL IMPROVEMENTS

TABLE 10-17: DORAL'S SCHEDULE OF CAPITAL IMPROVEMENTS 2025-2030

PROJECT LOCATION	TYPE OF WORK	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	TOTAL COST	FUND SOURCE
TRANSPORTATION PROJECTS*								
1. Citywide (Milling & Resurfacing / Re-Striping)	Roadway Maintenance	<u>\$3,000,000</u> \$200,000	<u>\$3,000,000</u> \$1,500,000	<u>\$1,500,000</u> \$1,000,000	<u>\$1,500,000</u> \$1,000,000	\$1,000,000	<u>\$10,000,000</u> \$4,700,000	TF, PTP, CITT
2. Citywide	Traffic Calming Improvements	\$0	\$0	\$150,000	\$0	\$150,000	\$300,000	TF
3. Citywide (Sidewalk Repairs)	Transit Mobility & Infrastructure	<u>\$400,000</u> \$0	\$250,000	<u>\$100,000</u> \$0	\$250,000	\$0	<u>\$1,000,000</u> \$500,000	TF, DOT Comm
4. Citywide (Transportation Improvements)	Transit Mobility & Infrastructure	\$0	\$0	\$600,000	\$0	\$600,000	\$1,200,000	TF
5. NW 90 Street (Vacant Land Section 7)	Roadway Widening	\$0	\$0	\$0	<u>\$1,000,000</u> \$400,000	<u>\$1,000,000</u> \$0	<u>\$2,000,000</u> \$400,000	TF
6. NW 104 Ave. (69 - 70 St.)	Roadway Widening	\$0	<u>\$500,000</u> \$0	<u>\$2,500,000</u> \$400,000	\$0	\$0	<u>\$3,000,000</u> \$400,000	TF
7. Citywide (Bus Shelters)	Transit Mobility & Infrastructure	\$0	\$0	\$0	\$500,000	\$0	\$500,000	TF
8. NW 114 Avenue (34 St - 39 St)	Roadway Improvements	\$0	\$0	\$0	\$0	\$1,500,000	\$1,500,000	SWF, TF
9. NW 34 Street (17 Ave - 112 Ave)	Roadway Improvements	\$0	<u>\$1,500,000</u> \$0	<u>\$500,000</u> \$0	\$1,500,000	\$0	<u>\$2,000,000</u> \$1,500,000	SWF, TF
10. NW 117 Avenue (NW 25 St - NW 34 St)	Roadway Improvements	<u>\$0</u> \$1,500,000	\$3,000,000	<u>\$3,000,000</u> \$0	\$0	\$0	<u>\$6,000,000</u> \$4,500,000	SWF, PTP
11. NW 99 Avenue, NW 102 Avenue, NW 66 Street	Roadway Improvements	\$0	\$3,000,000	<u>\$1,500,000</u> \$0	\$0	\$0	<u>\$4,500,000</u> \$3,000,000	TF, PTP
12. Intersection Improvements - Citywide	Roadway Improvements	\$0	<u>\$2,000,000</u> \$0	<u>\$500,000</u> \$100,000	\$0	<u>\$0</u> \$100,000	<u>\$2,500,000</u> \$200,000	TF



10. CAPITAL IMPROVEMENTS

Table Continued

PROJECT LOCATION	TYPE OF WORK	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	TOTAL COST	FUND SOURCE
13. Do Not Block Box Intersections	Roadway Improvements	\$0	\$0	\$100,000	\$0	\$100,000	\$200,000	TF
14. FPL Underground	Roadway Improvements	\$0	\$0	\$600,000	\$0	\$0	\$600,000	TF
15. NW 33 Street (NW 79 - 82 Ave) Reconstruct	Roadway Improvements	\$0	\$0	\$0 \$1,500,000	\$0	\$0	\$0 \$1,500,000	SWF, TF
16. Improvements Identified in the 2023 Transportation Master Plan Update	Roadway Improvements	\$0	\$0	\$0	\$0	\$2,000,000	\$2,000,000	TF, SWF, GF, PTP
17. Doral Art District (Adaptive Re-Use)	Complete Streets	\$0	\$0	\$3,000,000 \$2,000,000	\$3,000,000 \$2,000,000	\$4,000,000 \$2,000,000	\$10,000,000 \$6,000,000	TF, SWF, GF, PTP
Transportation Cost Subtotal		\$3,400,000 \$1,700,000	\$13,250,000 \$7,750,000	\$14,050,000 \$6,450,000	\$7,750,000 \$5,650,000	\$10,350,000 \$7,450,000	\$48,800,000 \$29,000,000	
CITY PARKS PROJECTS*								
1. Parks Projects	Citywide Park & Recreation	\$612,000	\$388,000	\$823,000	\$1,628,500	\$2,635,500	\$6,087,000	PIF; GF
2. Flightway – Public Works Retention Park	Park Construction	\$0	\$0	\$0	\$0	\$0	\$0	Private Funding
Parks Cost Subtotal		\$612,000	\$388,000	\$823,000	\$1,628,500	\$2,635,500	\$6,087,000	
CITY STORMWATER PROJECTS*								
1. Stormwater Master Plan Improvements	Stormwater Improvements	\$1,000,000	\$3,000,000 \$1,000,000	\$3,000,000 \$1,000,000	\$3,000,000 \$1,000,000	\$1,000,000	\$11,000,000 \$5,000,000	SWF
2. NW 78th Av (12th St – 15th St)	Stormwater Improvements	\$0	\$0	\$600,000 \$400,000	\$0	\$0	\$600,000 \$400,000	SWF
3. NW 88th Av (13th Ter – 15th St)	Stormwater Improvements	\$0	\$0	\$0	\$450,000	\$0	\$450,000	SWF



10. CAPITAL IMPROVEMENTS

Table Continued

PROJECT LOCATION	TYPE OF WORK	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	TOTAL COST	FUND SOURCE
4. 115th Av (31st Ave – Doral Blvd)	Stormwater Improvements	\$0	\$0	\$0	\$0	\$700,000	\$700,000	SWF
Stormwater Cost Subtotal		\$1,000,000	\$3,000,000 \$1,000,000	\$3,600,000 \$1,400,000	\$3,450,000 \$1,450,000	\$1,700,000	\$12,750,000 \$6,550,000	
CITY FACILITIES PROJECTS								
1. Doral Central Park Parking Garage	Facility Construction	\$5,150,000	\$25,000,000	\$0	\$0	\$0	\$30,150,000	GF
2. New Police Headquarters	Facility Construction	\$8,100,000	\$20,000,000	\$20,000,000	\$0	\$0	\$48,100,000	GF
Facilities Cost Subtotal		\$13,250,000	\$45,000,000	\$20,000,000	\$0	\$0	\$78,250,000	
TOTAL CITY CAPITAL COST		\$18,262,000 \$16,562,000	\$61,638,000 \$54,138,000	\$38,473,000 \$28,673,000	\$12,828,500 \$8,728,500	\$14,685,500 \$11,785,500	\$145,887,000 \$119,887,000	

* Source: City of Doral Public Works Dept., March 2026/July 2025.

** Source: City of Doral Parks Dept., July 2025. Park costs do not include projects funded by the Parks Bond

Table Key:

TF: Transportation Fund

PIF: Park Impact Fees

SG: State Appropriation for Stormwater Improvements

SWF: Stormwater Fund

GF: General Fund

PTP: People's Transportation Fund (CITT)





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

11. ECONOMIC DEVELOPMENT

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

11. ECONOMIC DEVELOPMENT |

BACKGROUND

| OVERVIEW AND PURPOSE

The Economic Development Element of the City of Doral Comprehensive Plan is designed to provide a strategic framework for advancing the city's economic prosperity, resilience, and quality of life. It draws on data and policy recommendations presented in the 2017 and 2024 Economic Analysis Reports prepared by Florida International University's Metropolitan Center. The purpose is to align land use, infrastructure, workforce, and industry development strategies with Doral's evolving role as a regional economic engine in Miami-Dade County.

| STRATEGIC IMPORTANCE OF DORAL

Since its incorporation in 2003, the City of Doral has emerged as one of South Florida's most dynamic economic sub-centers. Despite comprising less than 2% of Miami-Dade County's population, Doral contributes more than 7% of the county's employment base. Its central location, proximity to Miami International Airport, and exceptional transportation access via SR 826, SR 836, and the Florida Turnpike have made it a preferred destination for national and international business operations.

The city is home to over 6,800 business establishments, ranging from advanced industries and global headquarters to logistics hubs and innovative startups. It has also become a magnet for highly skilled professionals, with one of the region's most educated resident populations and one of the highest median household incomes in the county.

| ECONOMIC GROWTH & SHIFTING DYNAMICS

Doral's rapid economic and population growth has reshaped its demographic profile, employment structure, and land use needs. From 2002 to 2014, employment in Doral grew by 21%, 2.6 times faster than the county average. More recently, from 2015 to 2021, the city's population increased by 42.3%, outpacing both the county and national averages.

While this growth has brought prosperity, it has also introduced new challenges:

Limited vacant land for development is constraining future large-scale industrial or commercial projects.

A housing affordability crisis is pushing middle-income families and younger workers out of the city.

Severe traffic congestion from a significant mismatch between local jobs and resident workers is straining the city's transportation network.

The rise of workshifting and remote work is disrupting traditional office markets and creating new demands for flexible, mixed-use development.

| A TRANSITION TO QUALITY-FOCUSED GROWTH

As Doral approaches buildout, the city's future economic development must prioritize quality over quantity—focusing on innovation, sustainability, and economic inclusion. Small and mid-sized firms (under 50 employees) will become the primary engines of job creation, especially within high-value industry clusters such as:

-  Trade and logistics
-  Advanced manufacturing
-  Information technology and software
-  Life sciences and healthcare
-  Financial services
-  Creative design and media

To remain competitive and resilient, Doral must support these sectors through policies that enhance workforce skills, incentivize innovation, expand affordable housing, and protect key employment lands.



11. ECONOMIC DEVELOPMENT |

| POLICY CONTEXT

Florida Statutes 163.3177 authorizes the inclusion of an economic development optional element in the local comprehensive plans. The City of Doral's Economic Development Optional Element response to this statute by setting forth principles and guidelines for commercial and industrial development, business retention, employment growth, and the efficient use of land and infrastructure. This element aligns with other adopted components of the City's Comprehensive Plan, including:

- ☀ The Future Land Use Element, which provides strategies for managing redevelopment and mixed-use transitions.
- ☀ The Transportation Element, which addresses multimodal planning and traffic congestion.
- ☀ The Housing Element, which focuses on affordability, density, and household formation trends.
- ☀ The award-winning Green Master Plan, which outlines sustainability and smart city strategies.

| SUPPORTING DOCUMENTS

The Economic Development Element is supported by extensive data and analysis provided in the following technical studies:

- ☀ [City of Doral Economic Analysis Report I: Competitive Assessment \(2017\)](#)
- ☀ [City of Doral Economic Analysis Report II: Strategic Policy Recommendations \(2017\)](#)
- ☀ [City of Doral Economic Analysis Report 2024 Update \(FIU Metropolitan Center, 2024\)](#)
- ☀ [FIU Economic Study Strategic Recommendations Chart \(2023\)](#)
- ☀ These reports provide the foundational research on

[which this element's goals, objectives, and policies are based.](#)

- ☀ [City of Doral Biannual Economic Report June-December 2024](#)

☀ CITY OF DORAL COMPREHENSIVE PLAN

| DATA, INVENTORY, AND ANALYSIS

1. Population & Demographics

- ☀ Population grew by 12.2% from 2020-2025, reaching approximately 85,478 residents.
- ☀ [Significant growth among working-age populations:](#) 77.5% growth for those aged 18–34 and 47.9% growth for 35–54.
- ☀ Doral's median age (36.6) is younger than the county, state, and national averages.
- ☀ [Population Growth:](#) From 2020-2025, Doral's population increased by 12.2%, growing from approximately 76,212 to 85,478 residents. This rate far exceeds Miami-Dade County's 7.7% growth over the same period.
- ☀ [Age Composition:](#) Doral is a young city. The median age increased slightly from 33.7 in 2015 to 36.6 in 2021, but remains below the county (40.9), state (42.8), and national (38.8) averages. Notably:
 - ☀ The 18–34 age group grew by 77.5%.
 - ☀ The 35–54 age group grew by 47.9%.
- ☀ [Family-Oriented Growth:](#) Family households increased by 29.6% between 2015 and 2021, while non-family households declined. This reflects an increasing number of young families choosing to settle in Doral.



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2. Education & Workforce

- ☀ 54.2% of residents aged 25+ have a bachelor's degree or higher—one of the highest in the state.
- ☀ Median wage of \$41,104 for residents, significantly higher than the Miami-Dade average.
- ☀ Strong representation in advanced industries: scientific/technical services, IT, engineering, and healthcare.

Doral boasts one of the most highly educated populations in the region.

- ☀ **Educational Attainment:**
 - ☀ 54.2% of residents 25+ years hold a bachelor's degree or higher, compared to 33.1% for Florida and 35% nationally.
 - ☀ Graduate/professional degrees increased by 96.5% from 2015 to 2021.
- ☀ **Language and Cultural Diversity:** Over 80% of residents speak a language other than English at home, reflecting Doral's significant Latin American diaspora and positioning the city as a bilingual, globally connected business hub.

3. Employment & Industry Structure

- ☀ Doral's job base includes 85,542 jobs, but only 5,990 are filled by Doral residents, highlighting a jobs/housing mismatch.
- ☀ Advanced industry sectors account for over 11% of total employment.
- ☀ **Key sectors:** trade & logistics, life sciences, financial services, IT, creative design, and light manufacturing.

Doral's economy is highly productive, diverse, and globally integrated—but shows signs of stress from structural imbalances.

Doral participates in international events to improve international relations and expand trade.

| EMPLOYMENT TRENDS

- ☀ **Total Jobs:** The city supports over 85,000 jobs—a major share of Miami-Dade's total employment base, despite its small geographic footprint.
- ☀ **Inflow/Outflow Mismatch:**
 - ☀ Only 5,990 employed Doral residents (23.2%) work in the city.
 - ☀ Approximately 85,542 jobs in Doral are filled by commuters who live elsewhere.
 - ☀ This disconnect contributes to traffic congestion and underutilization of local workforce talent.

| OCCUPATIONAL STRUCTURE

- ☀ Residents are predominantly employed in high-skilled, high-wage occupations, such as:
 - ☀ Professional and business services
 - ☀ Information technology
 - ☀ Finance and management
- ☀ The median wage for Doral residents is \$41,104—50% higher than the Miami-Dade County average.

| INDUSTRY CLUSTERS AND COMPETITIVE SECTORS

Doral's economy is driven by a combination of traditional sectors and advanced industries.

| ADVANCED INDUSTRIES

- ☀ Over 11% of Doral's employment base (11,727 jobs) is in the U.S. Advanced Industry Sector—higher than



11. ECONOMIC DEVELOPMENT |

both state and national averages.

☀ Industries include:

- ☀ Medical and diagnostic labs
- ☀ Software and data processing
- ☀ Scientific research
- ☀ Aerospace and medical devices
- ☀ Advanced manufacturing

| TARGET INDUSTRY CLUSTERS

Based on wage levels, multiplier effects, and employment growth, Doral's priority industry clusters are grouped into four "super-clusters":

1. Manufacturing: Apparel, electronics, aerospace, medical devices.
2. Distribution & Transportation: Freight logistics, air transport, merchant wholesalers.
3. Services: Financial, insurance, legal, business consulting.
4. Information, Design & Media: Software, architecture, media production, creative industries.

| SMALL BUSINESS DOMINANCE

- ☀ 83.2% of businesses employ fewer than 20 people.
- ☀ Small business formation is the city's primary job growth engine, making support for entrepreneurs and startups essential.
- ☀ Doral's "Spend Local, Save Local" Program is a free initiative that promotes local businesses. Local businesses provide discounts to Doral residents with promotions through the City of Doral Spend Local

page and YouTube page.

4. Real Estate & Land Use

- ☀ Shift toward high-density housing; multifamily units now comprise 35.8% of inventory.
- ☀ High housing costs: Median single-family home price is \$917,500; condos/townhomes are \$450,000.
- ☀ Limited developable land—only 205 acres remain zoned for industrial/commercial use.

| REAL ESTATE MARKET AND LAND AVAILABILITY

| Commercial and Industrial Space

- ☀ Office market remains subdued post-COVID, with increased demand for co-working and flexible workspace models.
- ☀ Industrial land is nearly built-out. Doral's remaining land suitable for large-scale commercial or industrial development is less than 205 acres.
- ☀ Adaptive reuse and vertical redevelopment are critical strategies moving forward.
- ☀ According to the real estate experts at CoStar, demand for industrial space in Doral remains high and availability remains tight, driving up rents.

| Retail Market

- ☀ Doral's retail vacancy rate is extremely low (3.4%), with strong demand driven by its mixed-use districts and tourism appeal.
- ☀ Tapestry profiles show high consumer spending power among "Up and Coming Families," "Boomburbs," and "Metro Fusion" segments.



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- Annual sales volume for retail properties has diminished after two years of heightened activity, totaling \$74.2 million in trades over the past year. This is down from \$270 million high in 2022. Despite this decline, market pricing has stayed a premium \$40/SF in the latter half of 2024. (Source CoStar Miami Airport Retail Submarket Report 12-20-2024)

Housing and Affordability

Doral faces a critical housing affordability crisis, especially for middle-income residents and younger households.

- Median home price:** \$917,500 for single-family homes; \$450,000 for condos/townhomes.
- Renter burden:** Over 57% of renters are cost-burdened (paying >30% of income on housing).
- Owner burden:** 34.1% of owners are similarly cost-burdened.
- Shift to multifamily:** Multifamily (20+ unit) buildings now represent 35.8% of housing stock, up from 21.4% in 2015.

Transportation and Infrastructure Challenges

- Doral experiences some of the worst traffic congestion in the region.
- Every day, over 73,000 commuters enter Doral and 15,000 residents leave for work.
- Limited space for roadway expansion and declining state/federal transportation funding restricts traditional capacity upgrades.
- Multimodal strategies, telecommuting, and land use reform are necessary to address transportation gridlock.

5. Economic Trends & Opportunities

- Future growth depends on:
 - Small business expansion (most businesses have <20 employees)
 - Innovation and entrepreneurship
 - Adaptive reuse and mixed-use developments
- Emphasis on economic resiliency and housing affordability

Strategic Economic Development Needs

To remain economically competitive, Doral must focus on:

- Workforce alignment:** Matching resident skills to local jobs.
- Innovation and technology adoption:** Incentivizing R&D and startup ecosystems.
- Land optimization:** Redeveloping underused parcels and protecting employment centers.
- Affordable, transit-oriented housing:** Supporting the labor market and easing congestion.
- Resiliency:** Planning for economic diversification, disaster recovery, and climate adaptation.

Intergovernmental Coordination, Grants Programs, and Education

The City of Doral Economic Development Division partners with institutions such as the Beacon Council, Small Business Association, Florida's SBDC at FIU, Select Florida, Miami-Dade County, CareerSource, and more to foster partnerships between entrepreneurs. Business education programs and trainings are offered through Miami Dade College and Florida International University among others.



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The City of Doral supports a broad range of non-profit, educational, business and residential organizations through Community Assistance Grants.

- ☀ Community Based Organization (CBO) Grant Program
- ☀ Façade Improvement Grant Program
- ☀ PTSA Grant Program

These programs offer anywhere between \$5,000 to \$10,000 to aid non-profit groups to improve the community and benefit residents. Business education and outreach events span from partnerships with CareerSource to hosting local business outreach events to encourage small and minority business participation. The City also assisted with the launch of The Business Corner, an entrepreneurial training course for high school students presented at Miami Dade College.





DORAL 2050 COMPREHENSIVE PLAN
— UPDATE —

12. PRIVATE PROPERTY RIGHTS

DATA, INVENTORY AND ANALYSIS VOLUME No. 2



CORRADINO

12. PRIVATE PROPERTY RIGHTS

DATA, INVENTORY, AND ANALYSIS

In Florida, the rights of property owners are protected by the Constitution's Declaration of Rights and the "Bert Harris Jr. Private Property Rights Protection Act" (Harris Act). The Harris Act entitles private property owners to relief when a specific action of a governmental entity excessively burdens, restricts or limits private property rights.

The 1985 Local Government Comprehensive Planning and Land Development Regulation Act, also known as Florida's Growth Management Act, significantly revised in 2011, to become the Community Planning Act (CPA), directs how local governments create and adopt their comprehensive plans. The CPA requires that all governmental entities in the State recognize and respect constitutional protected private property rights.

Under current Florida law, local governments create and adopt local comprehensive plans to control and direct land use and development within their jurisdictional boundaries. In accordance with the CPA, comprehensive plans must include elements which include, future land use, capital improvement, transportation, recreation and open space, and housing, among others. The comprehensive plans must be reviewed and amended once every seven years (Evaluation and Appraisal Report) to reflect any changes in State requirements.

House Bill 59 (the "Bill"), was approved by Governor

DeSantis on June 29, 2021, and became effective on July 1, 2021. The Bill requires each local government to incorporate a property rights element in its comprehensive plan by the earlier of the date of adoption of its next proposed plan amendment initiated after July 1, 2021, or the date of its next scheduled comprehensive plan evaluation and appraisal. The Bill also provides a model statement of rights that local governments may adopt. A local government may adopt its own property rights element or use the following statement of rights:

The following rights shall be considered in local decision-making:

1. The right of a property owner to physically possess and control his or her interests in the property, including easements, leases, or mineral rights.
2. The right of a property owner to use, maintain, develop, and improve his or her property for personal use or for the use of any other person, subject to state law and local ordinances.
3. The right of the property owner to privacy and to exclude others from the property to protect the owner's possessions and property.
4. The right of a property owner to dispose of his or her property through sale or gift.



PREPARED FOR THE CITY OF



BY



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