CHAPTER 1 CDMP MAJOR ISSUES

Section 163.3191(1)(c) of the Florida Statutes (F.S.) requires that local governments identify in the Evaluation and Appraisal Report (EAR) the major issues and provide an analysis of these issues to further the community's goals. Input from town hall meetings during the last week of August 2009, served as the basis for identifying some of the major issues to be addressed in the EAR. The issues selected for inclusion and agreed to by the State of Florida Department of Community Affairs (DCA) after the scoping meeting on October 19, 2009 are the following:

- Urban Development Boundary (UDB) Capacity and Expansion
- Climate Change/Sea Level Rise
- Directing Growth and Employment
- Transportation/Mobility

The UDB Capacity and Expansion issue is divided into two parts and serves several functions. Part One: Community-wide Assessment provides a summary of data and analysis required by Section 163.3191 (2), Florida Statutes (F.S.) including population growth and changes in land area, extent of vacant and developable land, location of existing development in relation to location of development as anticipated in the CDMP, and supply and demand analyses of residential, commercial and industrial land. Part Two of the document discusses the major issue, time horizons and UDB capacity and expansion, and suggests proposed revisions to the CDMP.

The major issue "Climate Change/Sea Level Rise" focuses on climate change and its impacts, and how the issue is or should be addressed in the CDMP. This issue identifies objectives and policies in the CDMP that already addresses climate change, as well as initiatives afoot to address climate change at the national, state, regional and county levels. Recommendations are then made on how the CDMP should be amended to further address climate change, in light of the numerous ongoing initiatives.

Economic growth in Miami-Dade County has been robust over the past 25 years. Today the County has over 1.3 million jobs and is by any standards a mature and diversified economy. While the rate of job growth has slowed as the economy has grown, all indications are that the economy shall continue to grow well into the future. The geographic concentration of employment extends along an east-west corridor that goes from Miami-Beach to the Doral with major job centers in and around downtown Miami and the Doral/Airport area. The focus of this major issue is how some of this employment growth can become more geographically disbursed. It is not intended to be an economic development strategy; rather it is more narrowly defined. Specifically, it attempts to determine how to direct at least some of this growth to urban centers and major corridors and how concomitantly can new employment centers be created and existing centers enhanced.

The fourth issue, Transportation/Mobility, focuses on the County's needs to 1) address the transportation component of House Bill (HB) 697, passed by the Florida Legislature in 2008, which requires local comprehensive plans to address energy conservation, energy-efficient land use pattern and greenhouse gas emission reduction; 2) achieve more effective pedestrian friendly communities by promoting and implementing the "Complete Street" concept; and 3) incorporate into the comprehensive plan elements of mobility planning. The issue identifies elements of mobility planning that need to be incorporated into the comprehensive plan in order to enhance transportation mobility in Miami-Dade County and to allow all people the options of walking, riding a bicycle or public transportation, using a car, or any combination of transportation modes.

1.1 UDB CAPACITY AND EXPANSION

Introduction

The management of growth was a major issue in both the 1995 and 2003 Evaluation and Appraisal Reports (EARs) of the Comprehensive Development Master Plan (CDMP) of the Miami-Dade County and remains a major issue in the 2010 EAR. As stated in the 1995 EAR, central to all land use issues is the projection of unabated immigration, the associated high rate of population growth, and an environment of finite resources exhibiting stresses from acute competing physical and social demands.

Miami-Dade's urbanizing area faces physical limits to horizontal expansion by national parks, wetlands, environmental preserves and unique agricultural land resources. This characterization of the central issue is as relevant today as it was in 1995 and 2003. The 1995 and 2003 EARs also cited as a major issue the need to extend the time horizons of the CDMP to provide ample periods for planning land development and coordinated provision of public facilities and services. Coupled with this discussion on planning horizons was the need to consider residential development capacity and the desire to maintain some surplus in the Land Use Plan's near-term development capacity. The Department of Planning and Zoning believes that as in 1995 and 2003, the CDMP planning horizon and development capacity is still a major issue to be addressed in the 2010 EAR.

Currently, the year 2015 is the CDMP near-term horizon for the Urban Development Boundary (UDB) and land use patterns and densities expressed on the Land Use Plan (LUP) map, as well as for near-term facility planning. The year 2025 is long-term planning period that is used primarily for planning facilities with long-term consequences such as roads and wastewater treatment and disposal facilities. This long-term planning horizon also corresponds to long-range urban expansion and thus relates to the Urban Expansion Area (UEA). Associated with the issue of planning timeframes is the requirement to provide for some surplus in the Land Use Plan's near-term capacity. Current CDMP Policy LU-8F states that the UDB should contain a ten-year supply of developable land having capacity to sustain projected countywide residential demand for a period of ten years after adoption of the most recent EAR plus a 5-year surplus (a total of 15-year countywide supply beyond the EAR adoption date). The adequacy of land supply for commercial and industrial uses is not tied to a specific time period. The adequacy of land supply for these uses is based on local geography for neighborhood commercial facilities and to Countywide and regional geographies for regional commercial and industrial activities. This land supply and demand analysis is included in this EAR as in 2003 for residential, commercial and industrial land.

The review of the issue is presented in two parts. Part One is the Community-wide Assessment, which is a summary of data and analysis comparing current conditions of the Land Use Element with conditions at the time of the prior EAR adoption in October 2003. This summary includes such data and analysis required by Section 163.3191 (2) of the Florida Statutes (F.S.) including population growth and changes in land area, extent of vacant and undevelopable land, location of existing development in relation to location of development as anticipated in the CDMP. Part One provides the analyses of population growth and the supply of residential, commercial and industrial lands that are key to addressing the major issue of CDMP time horizons and UDB capacity and expansion.

Part Two provides a discussion of the major issue and the related issues identified at the scoping meeting by municipalities and state and regional agencies. The related issues include natural resource and agricultural constraints, the evaluation of the current UEAs, redevelopment and Infill potential within the UDB and annexation/incorporation trends.

Part One: Community-wide Assessment

Population Growth and Changes in Land Area

This section addresses the requirements of S. 163.3191(2)(a), F.S. which is to present an evaluation and assessment of population growth and changes in land area, including annexation, since the adoption of the most recent update amendments to the Comprehensive Development Master Plan. The population of Miami-Dade County has grown from 2,342,739 in 2003 to an estimated 2,563,885 in 2010, an increase of 219,445 persons (9%) in the seven year period since the EAR was prepared. The annual percentage rate of growth in the 2003 to 2010 period was approximately 1.2%.

A change has occurred geographically with residential population growth trends in the County since the last EAR was adopted in 2003. Between 1995 and 2000, population trends in the County varied substantially with declining population in the northern and eastern portions of the urban core, modest growth in the remainder of the core and older sub-

urban areas, and rapid growth in the outer western and southern suburban areas. However, all areas of the County grew in population between 2003 and 2010. In fact, there has been substantial estimated population growth in portions of the urban core such as downtown Miami and Brickell. Population trends between 2003 and 2010 varied by geographic area, with those Minor Statistical Areas (MSA) located south of SW 184 Street and east of South Dixie Highway, in West Dade and in the urban core having the largest estimated gains. During this period, population growth by MSA shows the largest gains having been made in the Homestead area (MSA 7.4) with an estimated increase of 27,027 persons. Other MSAs with an estimated gain of at least 10,000 residents during this period included MSA 3.2 (Doral) with 19,113 residents, MSA 6.1 (Northwest Kendall) with 18,002 residents, MSA 4.7 (downtown Miami) with 17,311 residents, MSA 7.1 (Cutler Bay) with 16,321 residents, MSA 3.1 (Miami Lakes-Hialeah) with 13,849 residents, MSA 6.2 (Southwest Kendall) with 13,016 residents, and MSA 5.2 (Brickell) with 11,551 residents.

The total land area for the entire County is approximately 1,268,398 acres or 1,981 square miles. This total includes inland waters such as rivers, canals, lakes and levees but does not involve coastal waters such as bays, sounds and the Atlantic Ocean. The current total land area differs from that published in the 2003 EAR as a result of revisions to the calculation of land area within Miami-Dade County and coordination with United States Geological Survey (USGS) aerial and topographic maps. The differences may be seen in the inclusion of certain inland water bodies and terrestrial land along the southern coastal areas of Miami-Dade County that had previously been considered as coastal water bodies.

The land area where urban growth is being directed, the area inside the Urban Development Boundary (UDB), totals 269,077 acres or 440 square miles. The land area in the Urban Expansion Area (UEA) totals 7,296 acres or 11 square miles. The UEA is comprised of that area located between the 2015 UDB and the 2025 UEA Boundary where projections indicate that further urban development beyond the 2015 UDB is likely to be warranted between the year 2015 and 2025.

The County has sole responsibility for land use planning in the unincorporated area. The total unincorporated area in the County has been slightly reduced since the last Evaluation and Appraisal Report was adopted in 2003 as a result of annexation and municipal incorporation. In historical terms, the portion of land that is incorporated has expanded from 87,731 acres or 137 square miles in 1995, to 121,457 acres or 190 square miles in June 2003, to 132,822 acres or 208 square miles as of June 2010.

The Town of Cutler Bay was incorporated on November 9, 2005 and is the only municipal incorporation in Miami-Dade County since the 2003 EAR was adopted. This incorporation added a total of 6,547 acres or 10.2 square miles to the land area located in municipalities. The City of Doral was incorporated in 2003 but it is not included in this analysis as a new municipality, since this incorporation was discussed in the prior EAR.

Between 2003 and February 2010, approximately 4,800 acres or 7.5 square miles of unincorporated County land were annexed by nine municipalities. The largest annexations of unincorporated land during this period included approximately 1,890 acres by the City of Hialeah in 2003, approximately 1,727 acres by the City of Florida City in 2007, 748 acres by the City of Hialeah Gardens in 2004 and approximately 273 acres by the City of Homestead 2008 and 2009. The remaining 160 acres of unincorporated land were annexed by the Town of Medley, Miami Shores Village, and the cities of Coral Gables and North Miami Beach. Figure 1.1-1 identifies areas of the County that have been incorporated since 2003.

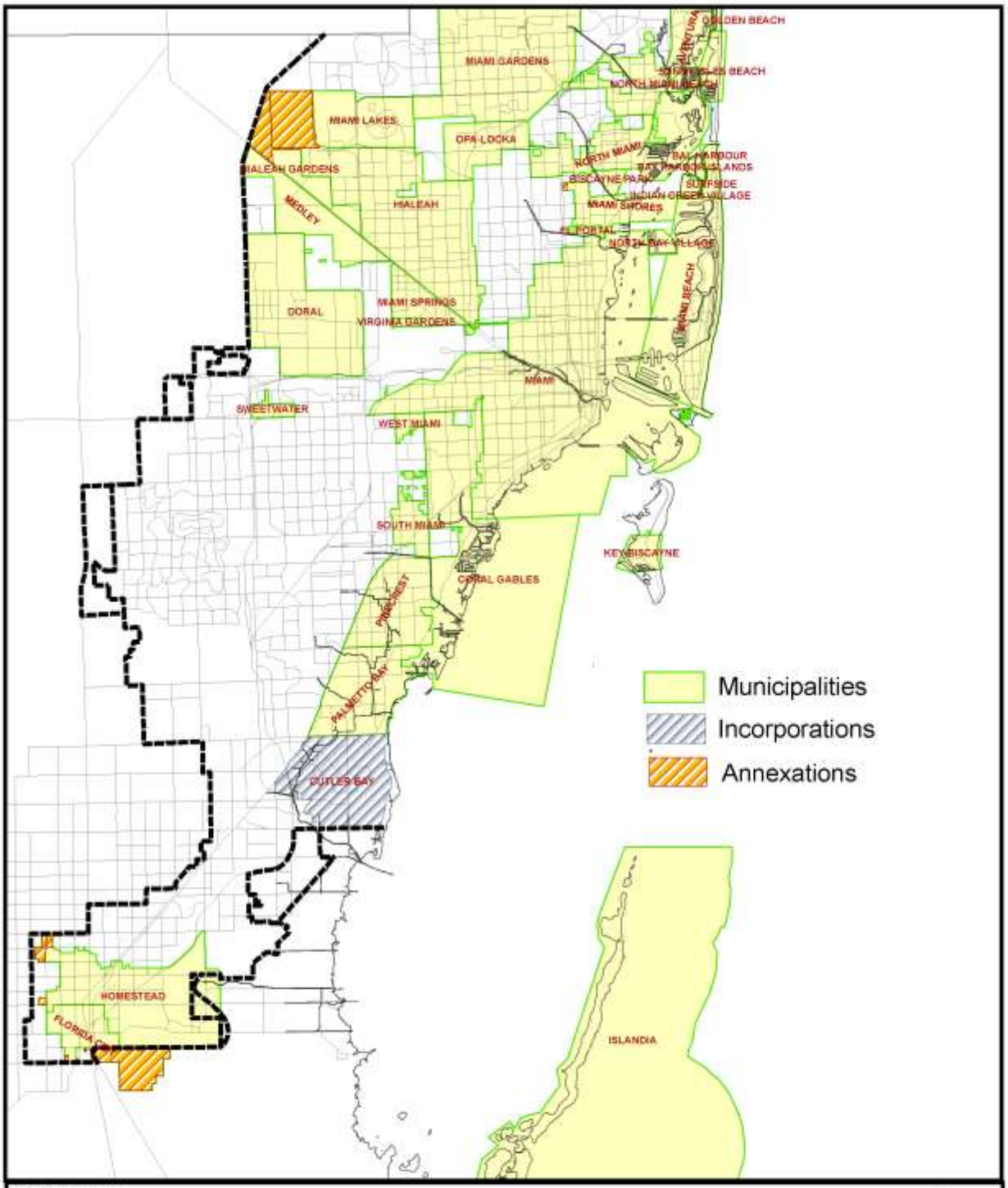


FIGURE 1.1-1
INCORPORATIONS AND ANNEXATIONS
IN MIAMI-DADE COUNTY SINCE 2003

Source: Miami-Dade County
Department of Planning and Zoning, July 2010

Miami-Dade County approves land uses changes in the portions of municipalities located outside of the UDB. The annexations by Hialeah, Hialeah Gardens and Florida City during this period included land areas located outside of the UDB. The Board of County Commissioners adopted on April 19, 2006 Application No. 5 of the April 2005 Cycle of CDMP Amendments, which included 793.8 acres of annexed land in the cities of Hialeah and Hialeah Gardens that were located outside the UDB. This application moved the UDB to encompass these acres and redesignated the application site from "Open Land" to "Industrial and Office" on the adopted Land Use Plan map. The land annexed by Florida City remains located outside of the UDB.

Land Use Changes between 2001 and 2010

A comparison of the land uses in Miami-Dade County between 2001 and 2010, shown in Table 1.1-1, reaffirms the basic growth trends established in southern Florida for decades. For example, the consumption of 9,802 acres over this time interval for new residential construction, predominately single family and suburban, is typical. With large numbers of additional residents entering the County, office (470 acres), business (447 acres) and industrial (315 acres) uses also display significant concomitant increases. These new residents require additional institutional uses such as schools and other governmental facilities. Thus, these institutional uses grew substantially with school facilities increasing by 681 acres and other governmental facilities increasing by 727 acres. As a further consequence of suburban growth, both the acreage and extent of roadways has expanded throughout the last decade (2,426 acres).

As a result of concerted local, State and Federal action, the amount of parkland, recreational facilities, and nature preserves has increased significantly (8,963 acres). Nearly 63 percent of all the land in the County is in this land use category primarily due to national parks and water conservation areas. Moreover, the purchase of environmentally sensitive land continues in southern Miami-Dade at a brisk pace.

The supply of land is a fixed quantity, so the increases mentioned previously come mostly at the expense of vacant and agricultural uses. A large decline of agriculture use is apparent from the table, more than 18,000 acres. The decline in agricultural land reflects land being purchased for water conservation purposes and urbanization within the Urban Development Boundary. While groves and field crop acreages have declined, nurseries (more compatible with increasing urbanization) have increased by approximately 13 percent over the time period. A large drop in the Other category is primarily accounted for by declines in pasture land and fallow acreage plus several minor agricultural activities.

Table 1-1.1
Land Use Acreage
Miami-Dade County, Florida, 2001 and 2010

Existing Land Uses	2001 Net Acres	2010 Net Acres	Net Change Acres (+/_)
Residential	**99,355**	**109,157**	**+9,802**
Single Family	86,210	96,280	
Multi Family	13,145	12,877	
Commercial	**13,051**	**13,968**	**+917**
Office	2,648	3,118	
Business	10,403	10,850	
Hotel/Motel	**737**	**735**	**-2**
Industrial	**17,213**	**17,528**	**+315**
Non-Extraction	11,381	12,337	
Extraction	5,832	5,191	
Institutional	**12,951**	**14,299**	**+1,348**
Schools	4,150	4,831	
Universities	1,841	1,930	
Cultural	197	200	
Hospitals	1,198	1,008	
Government	1,367	2,094	
Other	4,199	4,236	
Transportation, Communications, and Utilities	**86,063**	**87,384**	**+1,321**
Streets & Expressways	57,616	60,042	
Other	28,447	27,341	
Parks & Recreation	**787,895**	**796,858**	**+8,963**
Local Parks	4,685	3,013	
Metro Parks	6,315	7,632	
Everglades National Park, Water Conservation Areas, & Nature Preserves	760,440	776,601	
Other	16,456	9,612	
Agriculture	**80,350**	**61,722**	**-18,628**
Groves	15,911	13,080	
Row & Field Cropland	44,947	31,266	
Nurseries	11,540	13,073	
Other	7,951	4,302	
Undeveloped	**135,424**	**129,459**	**-5,965**
Vacant, Unprotected	53,355	36,475	
Vacant, Protected	82,068	92,983	
Inland Water	**24,662**	**37,289**	**+12,627**
Totals:	**1,257,699**	**1,268,399**	**+10,700**

Source: Miami-Dade Planning & Zoning Department, 2010.

LAND USE AND CAPACITY DESIGNATION METHODS

The purpose of the development capacity analysis is to ascertain the amount of land available for future grown and construction on undeveloped land inside the Urban Development Boundary (UDB) using as main references the current zoning and the Comprehensive Development Master Plan (CDMP) in Miami-Dade County. The analysis seeks to determine the capacity for developing both additional single-family and multi-family type residential dwelling units, the number of acres of commercial (office and other remaining business uses), and industrial capacity inside the UDB. This analysis of capacity, addresses land in both the municipal and unincorporated areas within the County's current UDB line. Sites are analyzed using identical criteria that reflect a group of assumptions based on existing land development policies, regulations, approved development orders, planned scenarios, and trends of development.

A Development Capacity Analysis, sometimes referred to as a "build-out analysis" or "buildable lot inventory," is a conservative estimate of the total amount of development that may be built in an area under a certain set of conditions and assumptions. These include Board of County Commissioners adopted amendments and resolutions, applicable land use laws, regulations, agreements, covenants, and policies (e.g., zoning district regulations; master plan development guidelines, future land use plans; administrative site plan approvals; environmental considerations; ownership patterns; availability of infrastructure like water and sewer, road network, etc).

Development capacity is determined by the number of gross acres for dwelling units on vacant and agricultural land; industrial and commercial capacity is to be determined in terms of gross acres. Commercial capacity is separated into office capacity, and business capacity. On the other hand, residential capacity is estimated in numbers of units that could be accommodated on a site according to the different factors that are considered during the analysis.

In Miami-Dade County, development capacity guidelines are based on:

- An analysis of the capacity in areas available for development, including vacant properties, agricultural parcels and redevelopment projects.
- An analysis of the land area needed to satisfy demand for development at densities consistent with the Master Plan and currently approved zoning districts.
- An analysis using *The Real Time Information* (property appraisal information, paid impact fees and building permits, Water and Sewer agreements), and *Administrative regulations* (zoning covenants and agreements, approved redevelopment projects, administrative site plan approvals, county and municipal development resolutions, etc) available for determining capacity with accuracy and pragmatism.

Development capacity is the ability of land without an existing use (excluding agriculture) to accommodate greater development. It is simply developable vacant land, without severe physical constraints (size, shape, accessibility), legal restrictions (dedicated platted areas like landscape parcels, entrances, lakes, or right of ways and easements, etc.), or environmental constraints (conservation areas, environmentally sensitive parcels, preserves, etc), and finally ownership limitations (government owned properties, private institutionally owned properties, community associations), which might have a future use different to residential, industrial or commercial.

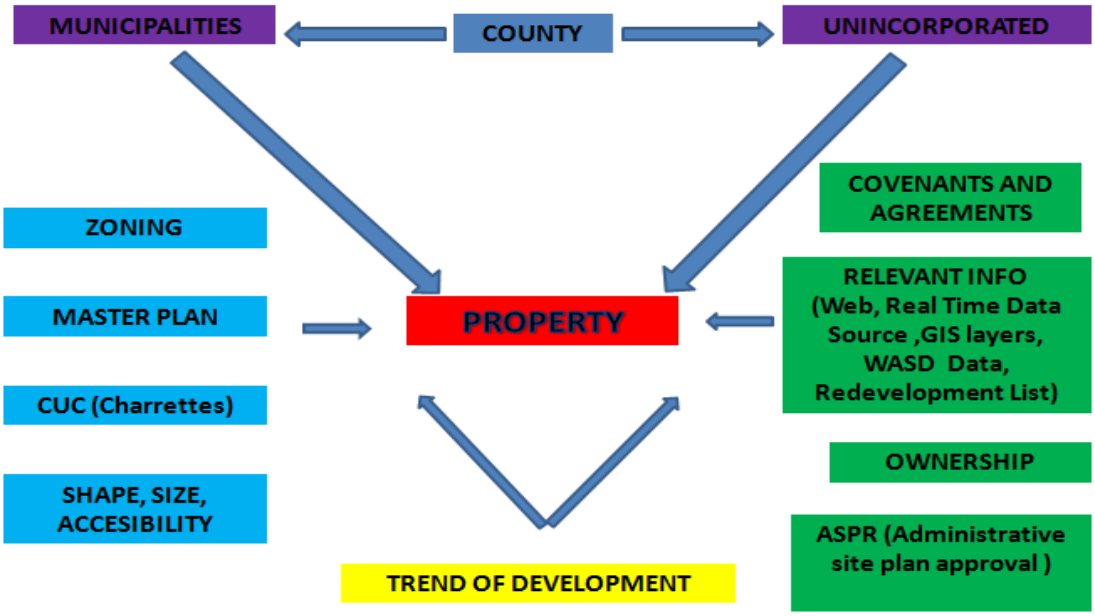
For many years, land usages and estimates of remaining development capacity on vacant and agricultural land inside the Urban Development Boundary (UDB) have been mapped with Geographic Information Systems (GIS) technologies. The estimation of development capacity is an intense and sophisticated process that involves revision of existing and future uses on parcel by parcel basis across the County. This process is done updating the current digitized uses based on new aerial photography that the County acquires almost every year; in addition an extensive monitoring process is performed through field work in order to keep track of land use changes.

It is also important to mention that the planners in charge of maintaining the development capacity estimates have to examine multiple development regulations from municipalities and unincorporated Miami-Dade County areas. Several sources of information are dynamically consulted with during this process, for example: water and sewer agreements available in GIS data format through the Water and Sewer department; zoning changes, and administrative development approvals that are collected when are published online either by the unincorporated Miami-Dade County or the municipal governments; paid impact fees available in GIS data format through the Miami-Dade County Zoning Records Section. In addition, proposed and approved plats available through Miami-Dade County Public Works Department online records, and Plat Committee Agendas; development plans and proposed projects that are approved through the Board of County Commissioners or from municipal Governments, usually collected from the municipal web sites and Board of County Commissioners agendas, and Clerk of Court online records, are utilized.

The Planning Research Section has implemented a comprehensive local land monitoring system to assess and assign future development capacity to vacant and agricultural land. The seventh steps involved in conducting such an assessment are:

1. Identify vacant or agricultural land which is available for development according to the development rights that are granted by governing zoning and master plan designations.
2. Identify and subtract vacant or agricultural land proposed and approved for urban public or private institutional services.
3. Identify and subtract vacant or agricultural land with physical or environmental constraints.
4. Identify and limit the development capacity according to approved projects considering restrictive covenants, and administrative development approvals and agreements.
5. Identify and counting land that is officially approved for redevelopment.
6. Estimate and counting land that is likely to be redeveloped.
7. Estimate the supply and demand based on the approved methodology.

The following schema represents the general methodology and rationale that is used during the development capacity assignment in Miami-Dade County.



Development capacity assignment is performed establishing the geographic location of the study area and compiling all the information that is needed and available; the geographic location provides a first approach to the sources of information to be used in the analysis. In general at Miami-Dade County is found that at unincorporated areas there is more accurate and available information for performing the analysis.

Once all the information is compiled, the next step is to analyze the different factors to take into account for capacity assignment. All those factors work together, and there is not a pyramidal hierarchy where one factor is more important than the other. Nevertheless, there are *general factors or principles* that rule the estimation of the capacity assignment (those are located on the left side of the schema with a blue background), and *singular or unique governing factors* located on the right side of the schema with a green background that overwrite the general factors under special conditions.

As a general rule it shall be said that the singular or governing factors are consistent with the general factors and are subordinated to them, but are more specific and relevant under certain conditions for estimating the capacity assignment. Finally, at the bottom of the schema the Trend of Development is found, this is a factor that is subject to assumptions and interpretations but can still be used as part of the analysis.

After this introductory and theoretical explanation about what development capacity is, how is estimated, and what sources of information are used to determine it. Let's present the procedures that are implemented in GIS to asses it:

- Development capacity assignment is calculated only for vacant and/or agricultural land inside the UDB, and is configured using property boundaries when assigning capacity to the property folios. Following this rationale a property or parcel might be considered a site for development capacity estimations.
- There are instances when properties might be aggregated or split for assigning capacity, and then a special land use unit called "Site" is created under certain conditions as follow: common ownership, platted subdivisions, approved development boundaries and site plans, covenants and agreements, different zoning districts and future land use designations.
- The zoning district regulations for municipal and unincorporated Miami-Dade County areas are the main criteria for determining the capacity on a site, but sometimes future land use map amendments are introduced in order to modify the zoning criteria; if that is the scenario the new future land use designation prevails over the current zoning district regulations at the time of capacity assignment.
- The location, size, shape, infrastructure availability, and accessibility of a property located inside the UDB are important factors to take into account for determining capacity. These factors are considered in the analysis as additional governing criteria for deciding what could be development capacity.
- The development information recorded on the Real Time Data source (paid impact fees and building permits, water and sewer agreements and redevelopment approvals), and other Administrative Official records like zoning covenants and agreements, administrative site plan approvals, development resolutions, etc) will prevail over the zoning district regulations and future land use designations for assigning capacity on a site.
- There are three constraints or limitations to the development of vacant and agricultural sites inside the UDB. The first is institutional ownership, the second is the environmental restrictions, and the third is the size, shape and accessibility of the property. These constraints do not remove the legal development rights (residential, commercial or industrial) of a property granted by the existing zoning regulations or master plan designation; that is why the mentioned sites are identified for limiting the capacity assignment in them.
- Sites under a conservation category or officially designated as environmentally sensitive land by any governmental agency; as well as sites that are government owned or controlled are removed from capacity assignment unless that there is an officially approved development plan for the mentioned areas.

These are the guidelines and procedures that are used and implemented for the Planning Research Section of the Department of Planning and Zoning in Miami-Dade County for estimating future development capacity.

Extent of Vacant and Developable Land

This section addresses the requirements of S. 163.3191(2)(b), F.S., which is the extent of vacant and developable land. The 2010 land use file identifies five categories of vacant land, which are government owned or controlled and non-protected, privately owned and protected, government owned or controlled and protected, privately owned and non-protected and major approved projects. Government owned or controlled and protected vacant land is largely land purchased by the County, state or South Florida Water Management District (SFWMD) for environmental reasons. Privately owned and protected vacant land is property that is being considered for acquisition by a governmental agency for environmental protection. Non-protected privately vacant land may be available for agriculture, mining, or development. Non-protected government owned or controlled vacant land may be available for a variety of development activities supported by public agencies such as schools, drainage impoundments, economic development activities, affordable housing, parks and other public facilities. Vacant land classified as major approved projects includes land where some type of special development exception (administrative site plan approvals, and some other special administrative development approvals like Class II Special Permits and Major Use Special Permits in the City of Miami) has been officially approved. Figure 1.1-2 shows the location of the various types of vacant land and the other property that is developable.

The vacant land for the entire County in 2010 included a total of 129,458.68 acres or 202.28 square miles, which was a decrease of 5,965.1 acres or approximately 9.3 square miles from the 2001 total. Of this total only 23.34 percent (30,556.02 acres or approximately 47.7 square miles) was classified in the 2010 file as non-protected privately owned land. Another 4.42 percent (5,656.87 acres or approximately 8.8 square miles) were classified as non-protected government owned or controlled land. Most of the vacant land is located outside of the UDB and is not generally accessible to urban services such as sewer, potable water, and transportation.

Policies TC-4C and WS-1A of the adopted CDMP give the highest priority to the provision of infrastructure to the area within the UDB and second priority to areas designated as an UEA on the CDMP Land Use Plan (LUP) map. Within the UDB, the 2010 land use file identified a total of 16,717.77 acres or 26.12 square miles of vacant land with 12,489.44 acres or 74.71 percent classified as being non-protected privately owned land. An additional 2382.54 acres or 3.72 square miles within the UDB is classified as non-protected government owned or controlled land. In addition, 5467.66 acres or 8.54 square miles of agricultural land is located within the UDB. Except for 354 acres in the Horse Country area which is bounded by Bird Road, HEFT, Sunset Drive and SW 127 Avenue, this agricultural land is designated for urban uses.

According to the 2010 existing land use file, the total amount of vacant land in the four UEAs is 1616.73 acres or 2.53 square miles. Approximately 74.7 percent of the total vacant land area or 1207.59 acres is classified as being unprotected privately owned land. The acreage in unprotected private vacant lands is primarily located in either the UEA area bounded by theoretical 138 Avenue, SW 8 Street, theoretical 147 Avenue and theoretical NW 25 Street or the UEA area bounded by the UDB, theoretical SW 112 Street, Krome Avenue and theoretical SW 40 Street.

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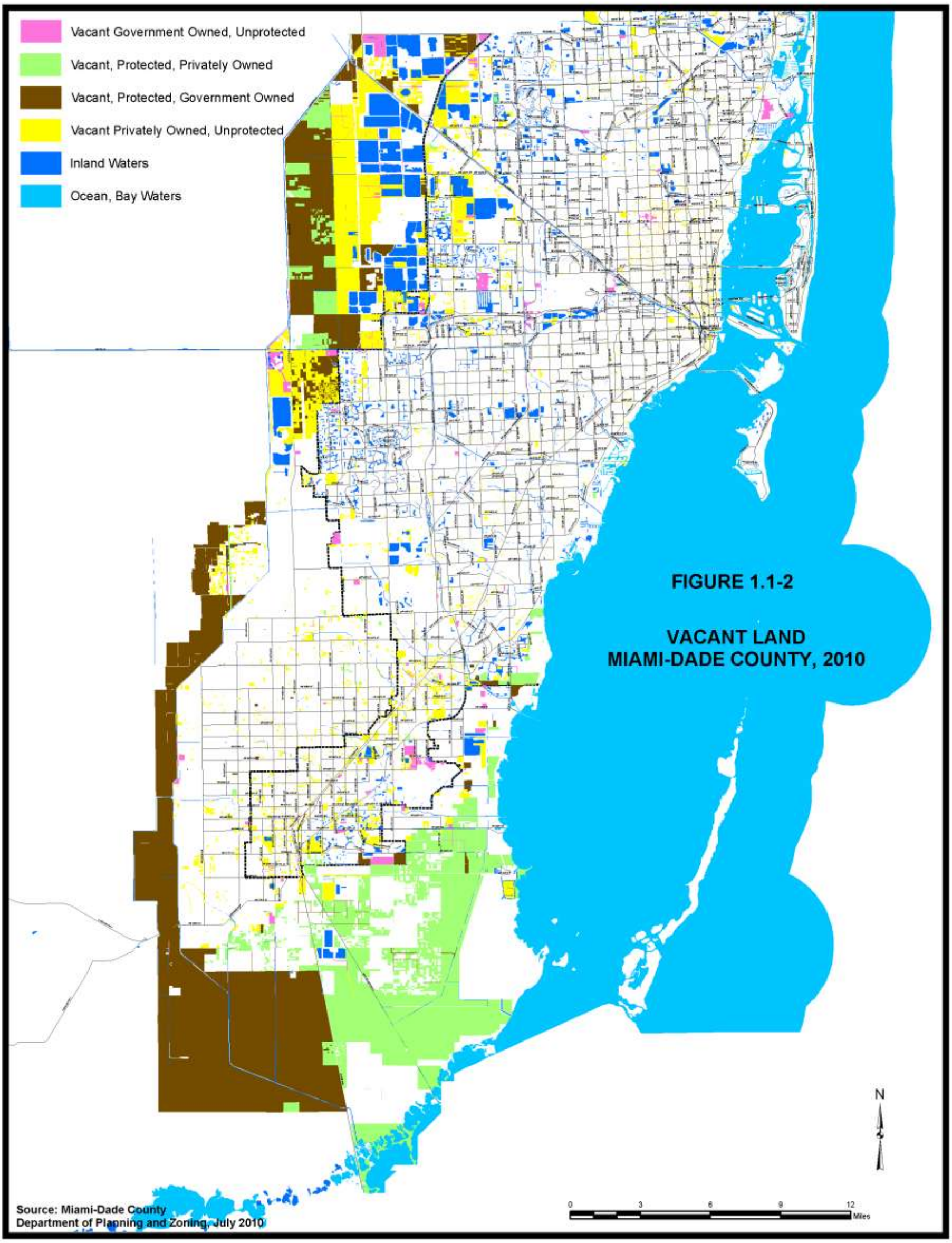
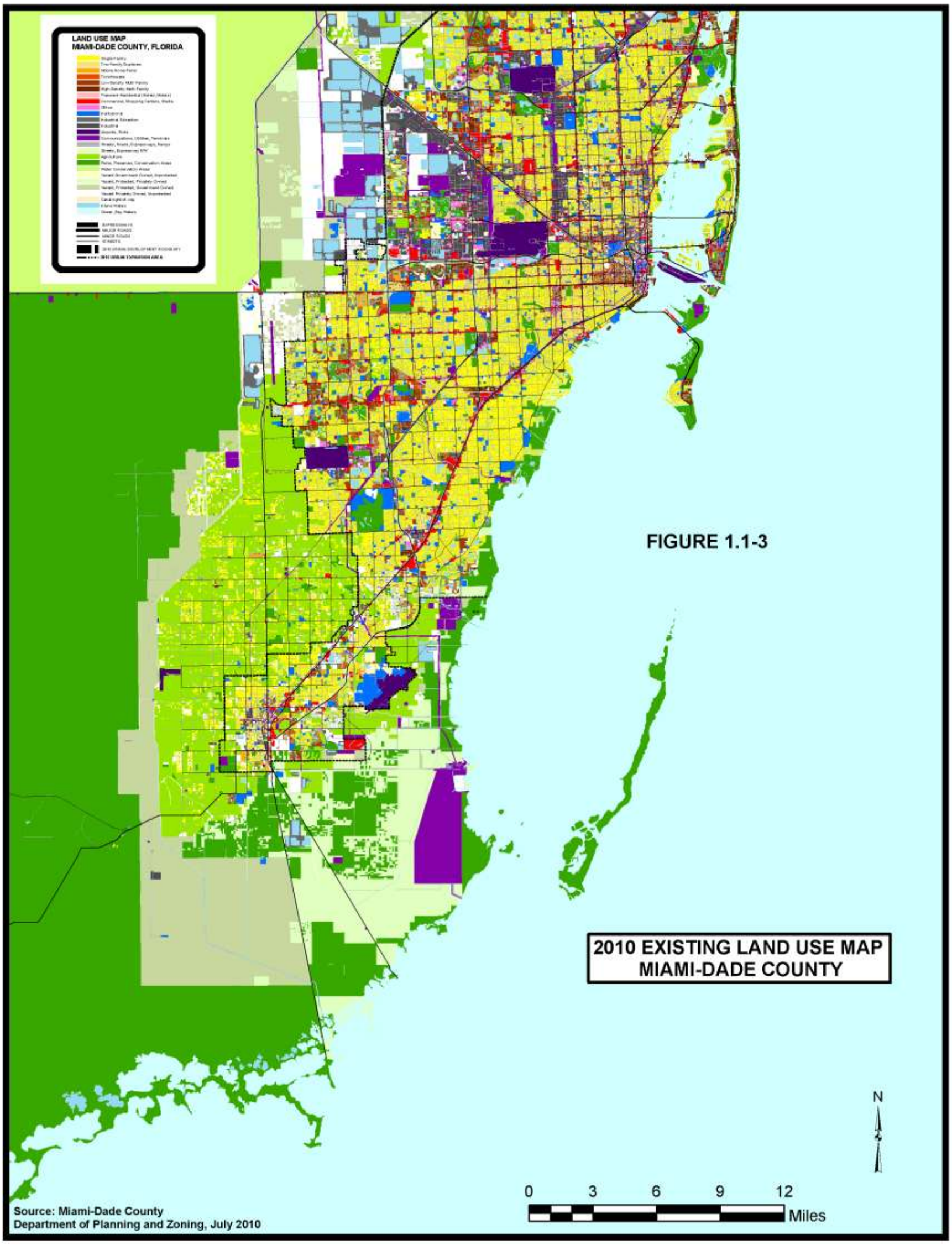


FIGURE 1.1-2

VACANT LAND
MIAMI-DADE COUNTY, 2010


LAND USE MAP
MIAMI-DADE COUNTY, FLORIDA
FIGURE 1.1-3
2010 EXISTING LAND USE MAP
MIAMI-DADE COUNTY
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0 3 6 9 12
Miles
Source: Miami-Dade County
Department of Planning and Zoning, July 2010

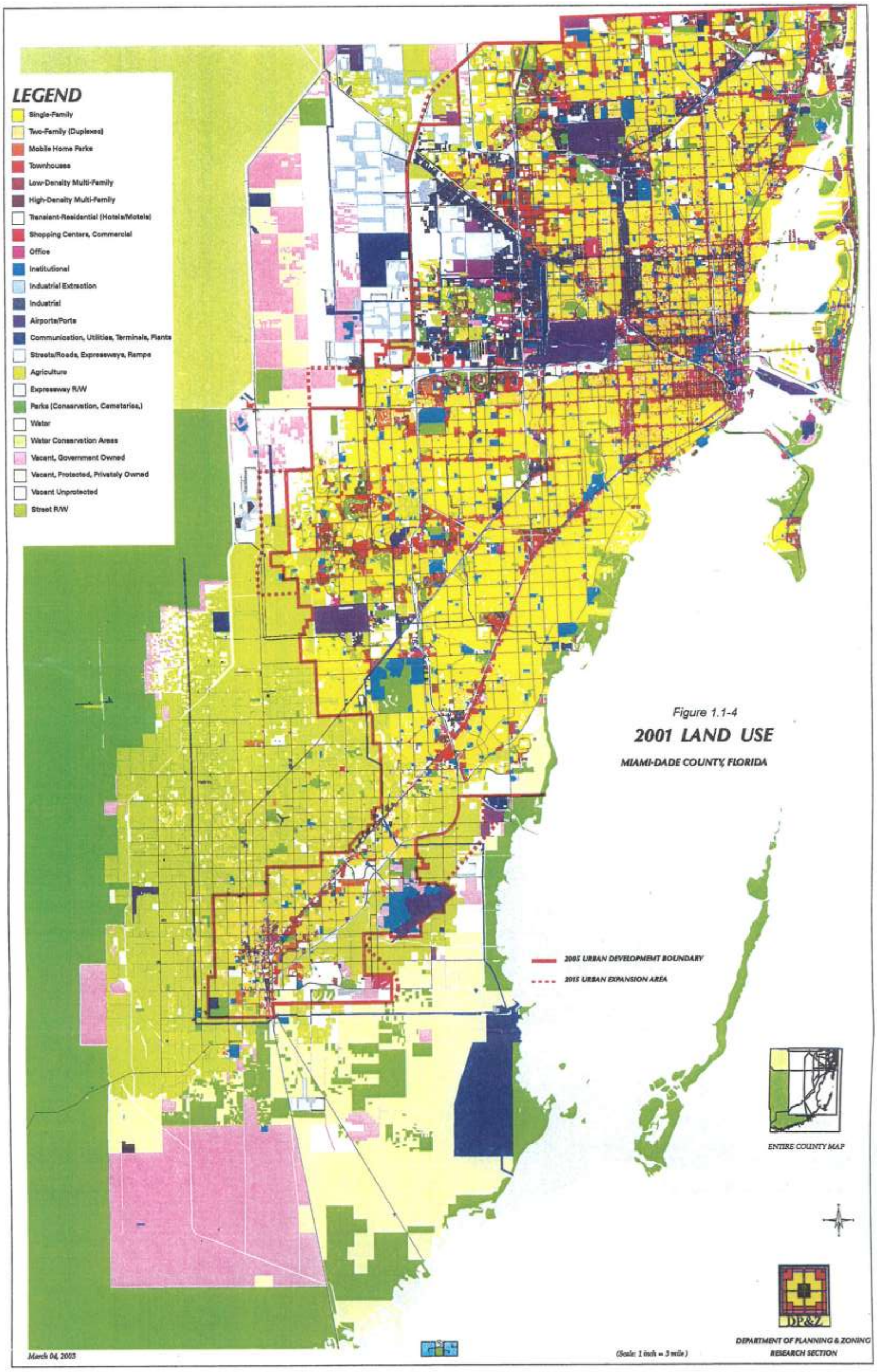

Figure 1.1-4

2001 LAND USE

MIAMI-DADE COUNTY, FLORIDA

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Location of Existing Development in Relation to Location of Development as Anticipated in the Last EAR Update to the CDMP

This section addresses the requirements of S. 163.3191(2)(d), F.S., which requires a discussion on the location of existing development in relation to the location of development as anticipated in the original plan, or in the plan as amended by the most recent evaluation and appraisal update amendments, such as within areas designated for urban growth. The adopted 2015-2025 Land Use Plan (LUP) map depicts a general land use plan for long-range development that identifies locations in Miami-Dade County where various land uses and intensities of use may be permitted to occur. The plan shows the location, character and extent of the major physical elements of the metropolitan area and provides guidance for private development decisions and public facility expenditures over the long-term. The Urban Development Boundary (UDB) is included on the LUP map to distinguish the area where urban development may occur through the year 2015 from areas where it should not occur. Figure 1.1-3 shows that the urban land uses in 2010 have generally been limited to the area within the UDB.

The development activities outside of the UDB are characterized by agriculture, surface mining activities, recreational facilities, single-family dwellings on large parcels, housing for farm workers, scattered industrial activities related to agriculture such as packaging houses, farm equipment repairs or manufacturing in agricultural areas, limited institutional and commercial development generally serving rural residents (except for the resort and convention center owned by the Miccosukee Indian Tribe) and utility, institutional and transportation facilities that are more suitable to locations outside of populated areas such as a nuclear power plant, transmission lines, landfills, sewage treatment plant, prisons and aviation facilities. In addition, public facilities requiring protection from urban development such as the Northwest Wellfield, the County's largest wellfield, are located outside the UDB.

The development activities occurring outside the UDB are still generally consistent with the adopted LUP map of the Comprehensive Development Master Plan (CDMP). However, some residential development has occurred in the area designated "Agriculture" that does not meet the density requirement of one dwelling unit per five acres allowed for properties with this land use designation. Of the 736 dwellings built since 2003 outside the UDB in areas designated as "Agriculture", approximately 90.1 percent of these units are situated on parcels less than five acres in size.

Since the EAR-based amendments were adopted in 2005, 15 applications had requested land use map changes to expand the UDB, however, only two map amendments to the LUP map were approved and are in effect. One approved application (Hialeah) was to redesignate in 2006 from "Open Land" to "Industrial and Office" an 1140-acre parcel that is located between NW 97 Avenue, the Turnpike (HEFT) and NW 154 Street. The other application (Brown) was to redesignate in 2008 from "Agriculture' to "Business and Office" a 42-acre parcel on the southside of SW 88th Street and west of SW 167th Avenue. While these applications have been approved, neither has resulted in construction of new buildings.

Three other amendments have been filed to move the UDB but are not final. The Lowe's application at the intersection of SW 8 Street and theoretical SW 138 Avenue was approved by the Board of County Commissioners but received a "Notice of Intent" from the Florida Department of Community Affairs (DCA) that it was not compatible with State growth management law. The administrative law judge and the Governor's Cabinet, functioning as the Administration Commission, concurred with DCA's conclusion and the application is currently with the District Court of Appeals. In addition, there are two other applications (Parkland and Homestead-Miami Speedway) involving Developments of Regional Impacts (DRI) that have been filed to move the UDB but have not been heard by the Board of County Commissioners.

Inside the UDB, 170 amendments have been approved to change land uses since the 2003 EAR (See Appendix 1.1.1A-Land Use Plan Map Amendments Adopted 2003-2009**)**. Of these adopted map changes, 83 were EAR-based amendments adopted in 2005 that were recommended by staff.

The other 87 adopted amendments were primarily filed by the private sector. Figure 1.1-5 shows the locations of all adopted CDMP land use map amendments since 2003.

Figure 1.1-3 shows that the urban land uses in 2010 have generally continued to be limited to the area within the UDB. This is a change from the 2001 existing land use map (See Figure 1.1-4) that had urban development not reaching the boundary in most areas. Inside the UDB, urban development as of 2010 has been extended to the boundary in most areas. However, south of SW 184 Street, there are patches of vacant or agricultural lands inside the UDB along the western boundary. Other areas with a substantial amount of vacant or agricultural land inside the UDB include the area bordered by the Turnpike, I-75, and NW 138 Street and the area west of the Turnpike and north of the Dolphin Expressway (the Beacon Lakes DRI and Shoppyland applications approved in 2002).

Within the UDB, the pattern of existing land uses is generally in accord with the LUP map. The existing development patterns as shown in the 2010 Existing Land Use map essentially reflect the general land use patterns that are shown on the LUP map. However, the LUP map does not specifically show every use that is identified on the 2010 Existing Land Use map.

The CDMP is a general land use plan for a metropolitan area. In keeping with this approach, many existing uses and zoning classifications are not specifically depicted on the LUP map. Within each plan map category numerous land uses, zoning classifications and housing types may occur. In general, a property must be greater than 5 acres to be depicted on the adopted LUP map, which has a scale of one inch to a mile. The Interpretative Text must be consulted in its entirety in interpreting any plan map category. The text provides the necessary definitions and standards for allowable land uses, densities and intensities of use for each map category and for the interpretation and application of the plan as a whole. Section 2-114(c)(4) of the Miami-Dade County Code states the following on the intent of the CDMP: "The Comprehensive Development Master Plan is intended to set general guidelines and principles concerning its purposes and contents. The Comprehensive Development Master Plan is not a substitute for land development regulations as defined by Section 163.3164(22), Florida Statutes."

Each future land use category of the LUP map generally includes a range of permitted uses. For example, the future land use categories of Estate Density, Low Density, Low-Medium Density, Medium Density, Medium-High Density and High Density Residential Communities allow a range of residential densities and neighborhood and community services as schools, parks, houses of worship, day care centers, group housing facilities, and utility facilities. The 2010 Existing Land Use map identifies a number of neighborhood facilities such as local parks, schools and houses of worship that are not specifically depicted on the LUP map but are located in areas identified as Residential Communities. Thus, they are consistent with the LUP map. Under certain conditions included in the interpretative text, these residential land use categories may also permit such uses as hotel and motels, neighborhood business nodes, marina facilities, hospitals, offices and cemeteries. In addition, a text provision generally applies to properties with five or less acres that are not specifically depicted on the LUP map. Under this provision, existing lawful uses and zoning districts are deemed to be consistent with the LUP map unless a planning study finds the use to be inconsistent based on criteria listed in the Land Use Element.

Inside the UDB, new developments/redevelopments have occurred in some urban centers. Of those with urban center district zoning, the Downtown Kendall Metropolitan Urban Center has been the most successful. This center is accessible from major highways of US-1 Highway, the Palmetto Expressway (SR 826), Snapper Creek Expressway (SR 878) and North Kendall Drive (SW 88 Street). The Downtown Kendall Urban Center District (DKUCD), is also accessible to mass transit with the Dadeland North and Dadeland South Metrorail stations, the northern terminus of the South Dade Busway and other Metrobus routes. Approximately 3,000 residential units and 642,000 square feet of retail commercial and office space have been developed in the DKUCD since its was approved.

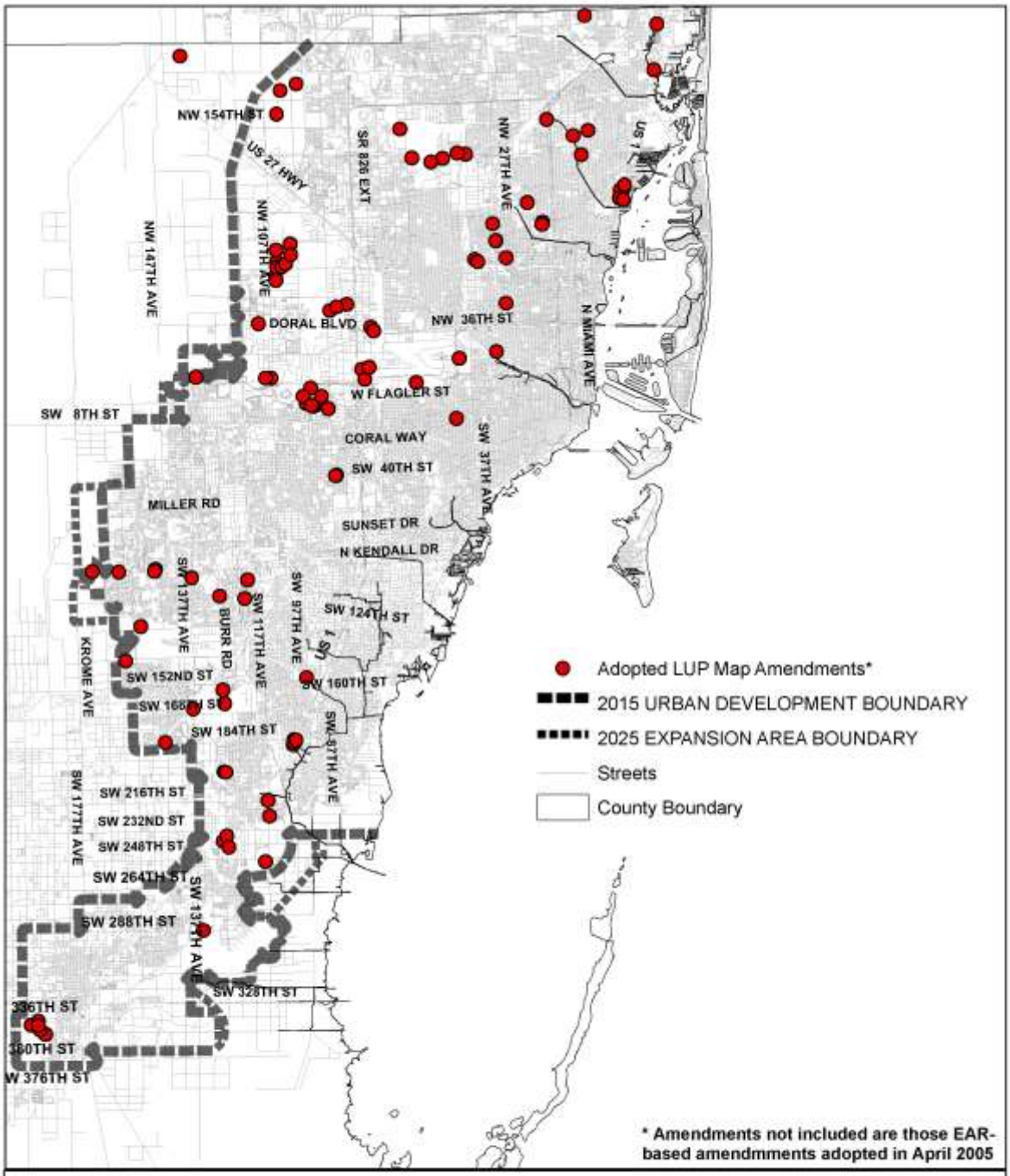


Figure 1.1-5
ADOPTED LAND USE PLAN MAP AMENDMENTS
SINCE 2003

Source: Miami-Dade County
Department of Planning and Zoning, July 2010

The more recently County-approved urban centers districts located in the Ojus, Goulds, Naranja, Perrine, Princeton and Cutler Ridge communities of the County have not experienced the same level of development as DKUCD. Several applicants with development proposals for these areas appear to be in the process of seeking site plan approval or have received the necessary zoning approvals and building permits from the County regulators but are not proceeding with construction at this time. Only projects consisting of approximately 61,000 square feet of industrial and retail commercial space in the Princeton Urban Center and a 103-unit multi-family residential development in the Naranja Community Urban Center have been constructed. Inside the City of Miami, there has been substantial development in the downtown Miami regional urban center.

Other locations in unincorporated Miami-Dade County where residential development, mostly detached and attached single-family building types, has occurred as anticipated include areas in the western fringes, near the Urban Development Boundary between SW 72 Street (Sunset Drive) and SW 8 Street (Tamiami Trail), and large areas between NW 74 Street and NW 90 Street, which are located inside the jurisdictional boundaries of the City of Doral. Residential development in the form of single-family homes and townhouses has also occurred in sparsely developed communities found between the adopted urban centers along US-1 Highway (e.g., Princeton and Naranja) between SW 288 Street and SW 268 Street, and between SW 248 Street and SW 216 Street, and in the mostly developed multi-family developed communities of the Fontainebleau located along West Flagler Street between SW 87 Avenue and SW 107 Avenue. Existing commercial and/or non-residential development had occurred in other areas of the County along major transit corridors but mainly in the incorporated areas such as in the municipal jurisdictions of Coral Gables, Doral, North Miami, Miami, Miami Beach, Sunny Isles Beach, Hialeah, South Miami, Aventura, Miami Lakes, Homestead, etc.

When comparing the 2010 Existing Land Use map (Figure 1.1-3) to the LUP map, several areas seem to have existing residential densities that exceed the land use designation on the LUP map. For the most part, these areas are consistent with the CDMP due to density averaging provisions in the interpretative text. In addition, the text also allows densities to vary in a development as long as the overall density is consistent with the land use plan map category.

Several differences are noticeable inside the UDB in the 2010 Land Use Plan map that are exceptions to the general consistency between the maps. These differences with the adopted LUP map for Miami-Dade County includes areas entirely developed with detached single-family dwellings that are designated for Low-Medium Density Residential Community (dwelling types range from detached single family to low-rise apartments), linear strips designated for Business and Office but are primarily being developed for other uses, residential and commercial developments in areas designated as Industrial and Office, a commercial use (Miami Seaquarium) in an area designated as Parks and Recreation on the unincorporated portion of Virginia Key, two large nursing complexes covering over 90 acres of land at SW 87 Avenue and Old Cutler Road with a Low Density Residential Community (2.5 to 6.0 units per gross acre) designation and more intense development in municipalities than anticipated.

Probably the most frequent type of difference is the existence of more intense uses occurring in municipalities than shown on the LUP map. While the primary function of the LUP map is to guide development decisions in unincorporated areas, it also functions as a land use guide for the entire metropolitan area. The Legislative Intent of the CDMP states that growth management components such as the UDB, UEA, Urban Centers, the population estimates and distributions mapped, and the policies on provision of public facilities should serve as standards for municipalities. The Intergovernmental Element of the CDMP addresses the coordination between the County and municipalities for purposes of growth management. Additional policy with regard to municipalities is stated in the Land Use Element section on density averaging which is the following: “The land use and residential density patterns indicated for municipalities represent the development basis that Miami-Dade County will use to plan and program public facilities and services that are its responsibility. The patterns of land use and densities indicated along municipal boundaries also seek to minimize conflicts between different jurisdic-

tions. Because municipal planning agencies possess greater familiarity and the authority to plan land use of their jurisdiction, adopted municipal comprehensive plans may average densities among different density categories indicated on the LUP map, within unit areas bounded by Major and Minor Roadways indicated on the Land Use Plan map. However, the total potential number of dwelling units and acreage of other land uses should not be changed from the total indicated by the County plan for the unit area bounded by these roadways. Moreover, maintenance of compatible uses and housing types at local government jurisdictional boundaries is particularly important." The LUP map does not reflect the changes in municipal land use plans that have been adopted since the 2003 EAR. Municipal differences in land use designations with the LUP map will be reviewed for possible inclusion on the CDMP LUP map as part of the 2010 EAR-based amendments.

The application review process for CDMP amendments has always addressed, among other things, the changing land use needs in the unincorporated areas of the County. For each amendment application involving certain proposed redesignations of subject property, the Department of Planning and Zoning conducts a county-wide and/or application-area review of the need for the land use redesignation.

The majority of the objectives, and policies of the CDMP are intended to promote and direct existing and/or new development growth to the areas where public infrastructure, facility and services are available or programmed to be available at adopted Level of Service standards or better, provided issues such as need, compatibility, enhancement or protection of environmental, historic and other natural resources of County significance are addressed. These criteria have been favorable with the properties located within the UDB. Since only two amendment applications to redesignate properties at the fringes and outside of the UDB, has been approved in the 7-year period since the last EAR, it is evident that the County has been successful in directing development inside the UDB consistent with its anticipation through its comprehensive land use planning.

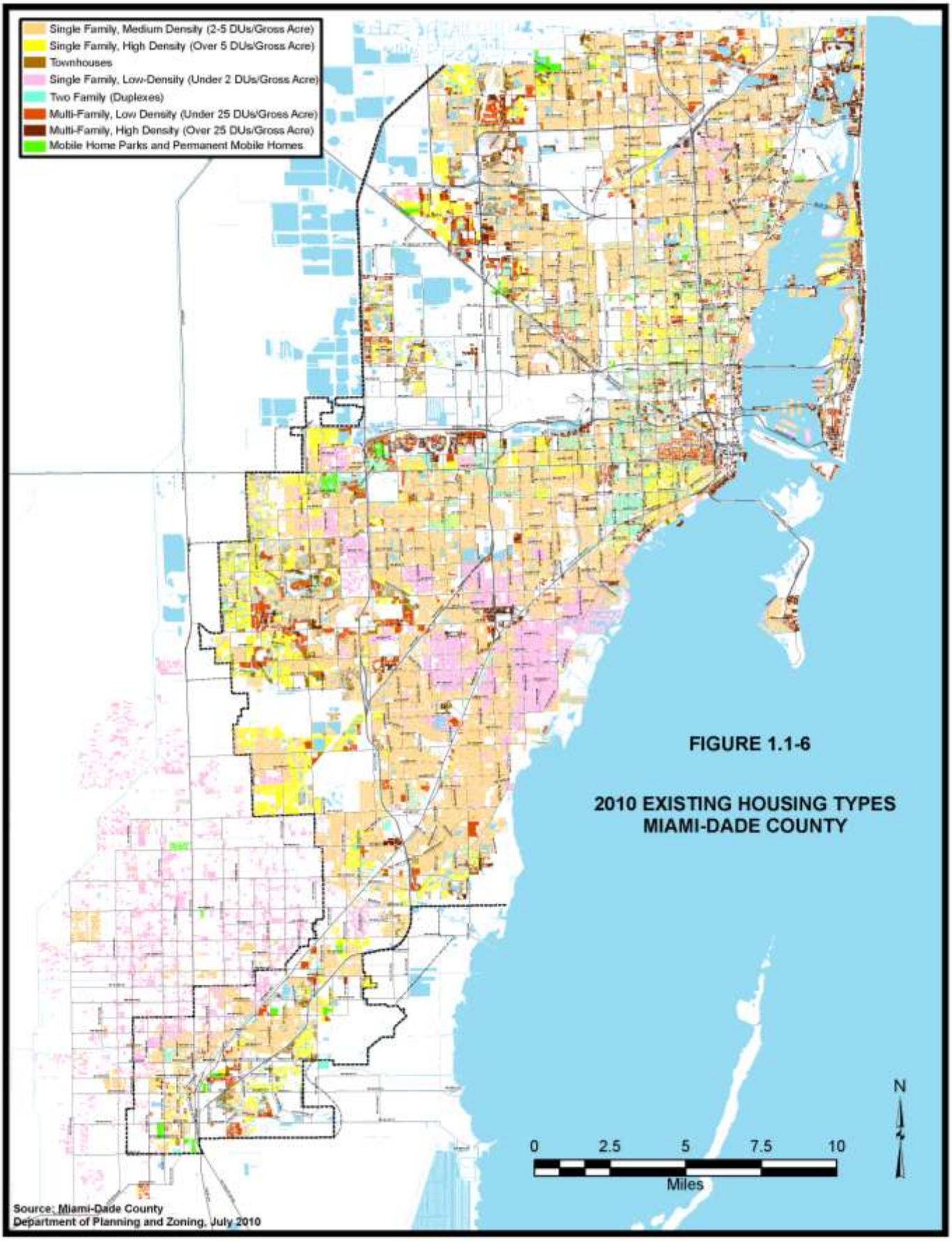
Intensity of Development

Intensity is the degree to which a property is developed for use. Residential intensities are typically measured as the number of dwelling units per gross acre. Non-residential intensities are generally measured as floor area ratios (FARs), which for a particular property, is the square footage of the buildings (not counting parking structures) divided by the net land area of the parcel. However, there are other intensity measures for non-residential development including the number of employees per acre for a particular development.

Within Miami-Dade County, there is great variation in existing and proposed intensities of development both in residential and non-residential developments. These variations are due to several factors including historic growth patterns, municipal comprehensive plans, varying zoning codes, and local community or neighborhood preferences.

Some areas of the County contain concentrations of estate or rural residential densities. These areas are generally developed with single-family homes at two (2) dwelling units or less per gross acre. As can be shown in Figure 1.1-6 (Existing Housing Types In Miami-Dade County, 2010), these estate areas are located inside and outside the UDB. Outside the UDB these densities can be found primarily west of the UDB and south of SW 104 Street. A range of estate densities can be found outside the UDB with allowed densities ranging as low as1 dwelling unit per 40 gross acres in the area west of Levee-31 North between SW 168 Street and theoretical SW 120 Street known as the 8½ Square Mile-area (a.k.a. Las Palmas area).

Other areas with concentrations of estate densities at 2 dwelling units or less per gross acre are also located inside the UDB. These estate density developments are likely due to the lack of infrastructure such as sewerage or public water when these areas were originally developed. These areas include Horse Country and several other areas west of the HEFT, an area in Kendall sandwiched by SR 874 and US-1 Highway, the area along Biscayne Canal in North Miami-Dade, and several other areas located within the municipal boundaries of South Miami, Coral Gables, Pinecrest and Palmetto Bay.


Single Family, Medium Density (2-5 DUs/Gross Acre)
Single Family, High Density (Over 5 DUs/Gross Acre)
Townhouses
Single Family, Low-Density (Under 2 DUs/Gross Acre)
Two Family (Duplexes)
Multi-Family, Low Density (Under 25 DUs/Gross Acre)
Multi-Family, High Density (Over 25 DUs/Gross Acre)
Mobile Home Parks and Permanent Mobile Homes
FIGURE 1.1-6
2010 EXISTING HOUSING TYPES
MIAMI-DADE COUNTY
N
0
2.5
5
7.5
10
Miles
Source: Miami-Dade County
Department of Planning and Zoning, July 2010

Examination of residential densities greater than estates reveals specific patterns of development within Miami-Dade County. Residential densities for detached and attached single-family dwellings are generally higher in the older cities such as Miami, Coral Gables and Hialeah. West of the turnpike in West Dade, densities generally range from 4.6 to 6 du/ac, while the older cities of Miami and Hialeah contain numerous areas between 6 and 13 du/ac. The highest single-family type housing densities are concentrated near the Miami CBD and on Miami Beach at 13 to 22 du/ac.

The 2010 existing land use records show that both low-density multi-family (less than 25 du/acre) and high-density multi-family (more than 25 du/acre) developments are found in neighborhoods surrounding the Miami CBD, adjacent to urban centers, along major roadways such as expressways and N. Kendall Drive and adjacent or near amenity features such as beaches, golf courses and water bodies. However, high-density multi-family developments are generally more concentrated in coastal areas and areas near the Miami CBD. Cities with high-density multi-family developments include Miami, Miami Beach, Aventura, Bal Harbour, Sunny Isles Beach and Key Biscayne. Using the City of Miami as a municipal example where high intensive development had occurred since 2003, 77 condominium buildings (22,955 residential units) and eight (8) rental apartments (1,189 units) have been constructed to date for a combined total of 24,144 residential homes, according to the Residential Closings and Occupancy Study report for Miami DDA updated/dated March 2010.

Land economics has created pressure for higher intensities within the Miami Downtown Development Authority District [comprising the Brickell, West and South Brickell, Miami Central Business District (CBD), Media and Entertainment, Park West, and Wynwood/Edgewater sub-areas], downtown Coral Gables, Downtown Kendall Urban Center District, and along the beaches and bayfronts. Transportation improvements and multi-modal transit centers have also created opportunities for increased concentrations of development throughout the county. Multi-story private developments have been constructed in the vicinity of the Overtown, Brickell, Douglas Road, South Miami, Dadeland North and Dadeland South Metrorail Stations. An area of intense institutional use with multi-story structures is the Civic Center area in the City of Miami, which contains the University of Miami Medical School, Medical Center Campus of Miami-Dade Community College, hospitals (Jackson Memorial, Veterans, University of Miami Hospital and Bascom Palmer Eye Institute), medical research facilities, criminal court facilities and office buildings. One of the newest redevelopment activities within the County (specifically in the City of Miami near downtown) is the new baseball stadium for the Florida Marlins, which is nearing completion. This structure is replacing the Orange Bowl football stadium where the University of Miami Hurricanes football team used to play their home college football games.

Existing commercial, office and industrial uses show great variation in intensity. The most intensely developed commercial area in the County is the Miami CBD (i.e., downtown Miami) where information in the real property file indicates that the FAR for an entire building including the parking garage can exceed 20 for office structures with 40 or more stories. Office structures with 13 to 28 stories (including parking garages) in the Brickell neighborhood immediately south of the Miami CBD have FARs that generally range from 3 to 11. The most intensively developed business area outside of the City of Miami is downtown Coral Gables where office structures with 6 to 16 stories (including parking garages) have FARs that range from approximately 2 to nearly 14.

The most intensely developed business area in the unincorporated Miami-Dade County is around the Dadeland South Metrorail Station. The Datran Center at this Metrorail station has a FAR of 8.9. Otherwise, the commercial, office and industrial areas in the unincorporated areas generally have an FAR of less than 1.0.

Currently, the CDMP and the zoning code control the intensity of development in the unincorporated area. The Interpretative Text on page I-25 specifically limits maximum intensity for individual non-residential properties in the Urban Infill Area (UIA), Urbanizing Area (the area between UIA and the UDB) and the area outside the UDB as stated in the table below.

Maximum Allowable Non-Residential Development Intensity	
Inside the UIA	2.0 FAR
Urbanizing Area, UIA to UDB	1.25 FAR
Outside UDB	0.5 FAR

The adopted text also addresses the intensity of non-residential development at Regional, Metropolitan and Community Urban Centers in both unincorporated and incorporated areas. Specifically, the Interpretative Text on pages I-46 through I-50.1 indicates the intensities and densities that should be allowed in the Urban Centers. The table below indicates the average range of floor area ratios and the maximum allowed residential densities of development with the three scales of urban centers in the County.

	Average Floor Area Ratios (FAR)	Maximum Densities Dwellings per Gross Acre
Regional Activity Centers	Greater than 4.0 in the core not less than 2.0 in the edge	500
Metropolitan Urban Centers	Greater than 3.0 in the core not less than 0.75 in the edge	250
Community Urban Centers	Greater than 1.5 in the core not less than 0.5 in the edge	125

When comparing the table for maximum intensity to the text for Urban Centers, an inconsistency is apparent. The maximum intensity for non-residential uses permitted in the Urban Infill Area (2.0 FAR) or Urbanizing Area (1.25 FAR) are higher than the maximum intensity permitted on the edge of the Metropolitan Urban Center (0.75 FAR) or the edge of the Community Urban Center (0.50 FAR). Urban Centers are located either in the Urban Infill Area or the Urbanizing Area, the area between the Urban Development Boundary and the Urban Infill Area. Using both sets of standards it is conceivable that a more intense development could be built outside the edge of the Urban Center than at the edge.

The adopted text also addresses the intensity of mixed use development. The CDMP text for Mixed-Use Development allows for a mix of compatible uses in a high quality pedestrian-oriented street environment. Presently this provision focuses primarily on vertical mixed-use development within UDB and in areas designated Residential Communities (with the exception of Estate Density and Low Density), Business and Office, and Office/Residential. The CDMP text on page I-45 specifically requires that the subject areas be located in:

1. "Neighborhood activity nodes" of 40 gross acres which, as shown in Figure 2 of the Land Use Element, Generalized Neighborhood Development Pattern, are located at the intersections of section line roads; or
2. Corridors with a maximum depth of 660 feet that are located along 'Major Roadways' as identified on the adopted Land Use Plan map; or
3. Corridors designated as mixed-use corridors in an area plan that has accepted by the Board of County Commissioners.

The Table below provides a guideline for development intensities for the Mixed-Use Developments:

Mixed-Use Developments Located Within	Floor Area Ratio Range	Maximum Residential Density (dwelling units)
Major Corridors	from 1.0 to 1.5	36
Neighborhood Activity Nodes	from 0.75 to 1.0	18

One of the objectives of zoning is to control the intensity of development in order to maintain a community's character. The current zoning code for Miami-Dade does regulate both the density and intensity of development. Single- family type housing units range from estates on 5 acres, and single family detached units, to townhouses. Some of the townhouses have been constructed on RU-3M zoned parcels, giving densities up to 12.9 units per net acre. Multi-family units range from Minimum Apartment (RU-3M) at 12.9 units per acre to (RU-4) Apartments at 50 dwelling units per acre. Some of these residential densities can be slightly increased through the purchase of Severable Use Rights (SURs) obtained from properties in the East Everglades.

The Zoning Code uses FARs to control development in business, office and industrial areas. The Zoning Code does not include parking structures in determining the Floor Area Ratio. The range of in-

tensities for offices varies considerably depending on the building height and zoning classification. For example in the Office Park District (OPD), the FAR is 0.3 for a 1-story building and 0.08 FAR for each additional floor.

Update and Analysis of Baseline Data

Population. Miami-Dade is Florida's most populous county, a position it has held for several decades. In 2009, Miami-Dade County ranked 8th in population among all metropolitan areas in the United States, up from 12th in 2000.

Miami-Dade grew by about 32,100 people annually between 1960 and 2000. During the 1960s, the range for yearly change was from a low of 15,000 to a high of 56,000 people. For the 1970s, it was 12,500 to 55,500, and in the 1980s from a loss of 2,000 to 106,000 people. The latter was sparked by the Mariel influx. During the 1990s, the range was from a loss of 27,570 resulting from Hurricane Andrew to a high of 46,889. Although the 2010 Census data is not yet available, in light of the positive adjustment by 80,500 of Census population estimates for Miami-Dade, it likely that the annual increases over the past decade will be within a narrow band averaging about 31,000.

Population Projections. The DP&Z periodically revises its population estimates and projections countywide and by subarea. The population estimates and projections are a fundamental growth management component of the CDMP used both for land use planning and to coordinate the planning of public facilities and services with the LUP map. The basis for revisions in the projected subarea population typically include: modification of the countywide population projections, updated housing counts, changes in development capacity of the CDMP LUP that result from cumulative changes to zoning and/or LUP map of the CDMP and identified redevelopment trends.

During the October 2007 Cycle of CDMP amendments, DP&Z updated its population estimates and projections. These projections were part of the 2004 EAR-based amendments (October 2004 Cycle) that were adopted on December 12, 2005. The updated projections included revisions to the countywide figures and to the subarea distribution of future population. These revisions were the result of the need to reflect the level of residential redevelopment activity over the past four years, prior to 2007, as well as other changes. The revised projections reflect existing residential units in 2006 and redevelopment capacity estimates, including updated estimates of capacity both inside and outside the Urban Development Boundary.

These countywide projections were developed in the same manner as previous series with births, deaths and net migration being separately treated and then combined to arrive at the totals. As in all projections certain assumptions are required and, in Miami-Dade County's case, it is the assumption about migration, which is most critical, and also most uncertain. It is the most critical as immigration has been the chief component of population growth in Miami-Dade County for over thirty years. In particular, trends for in-migration or immigration data are not as clear as those for the other components. Therefore, assumptions about future levels of immigration have a weaker quantitative base. In any case, the historical record does seem to support the assumption that immigration will be a constant and remain at fairly high levels. Birth and death rates, the components of Miami-Dade's natural increase, are much more stable than migration flows. Death rates are more stable than birth rates. Incorrect assumptions regarding either of these factors will not significantly alter outcomes. For these projections, a declining lower crude birth rate was assumed throughout, while the death rate showed a very small decline.

In sum, population is expected to rise to 3,178,164 in 2030. During this same period, births and deaths are expected to increase slowly. At the same time, domestic out-migration flows are expected to increase steadily although at a lower rate than in the past. Net domestic out-migration is expected to increase steadily to about 40,000 per year in 2030, but these losses are more than offset by the projected increase in immigration that is projected to climb to 55,000 for the same year.

Population projections for Miami-Dade County are shown in Table 1.1-2 below.

Table 1.1-2
Population Projections
Miami-Dade County, Florida: 2000 to 2030

Year Ending March 31	Resident Population	Population Change	Net Migration	Natural Increase	Resident Births	Resident Deaths	Net Immigration	Domestic Migration
2000	2,253,485	35,017	21,183	13,834	32,300	18,466	45,905	-24,722
2001	2,289,222	35,737	22,354	13,383	32,425	19,042	45,824	-23,470
2002	2,316,676	27,455	13,508	13,947	32,131	18,184	40,302	-26,794
2003	2,344,033	27,357	13,175	14,182	32,551	18,369	36,479	-23,304
2004	2,370,937	26,904	13,212	13,692	32,045	18,353	38,663	-25,451
2005	2,403,472	32,365	18,534	14,001	32,365	18,364	38,723	-20,189
2006	2,435,517	32,045	17,306	14,545	35,104	20,559	41,171	-23,864
2007	2,467,583	32,066	17,210	15,128	35,855	20,727	41,747	-24,537
2008	2,499,667	32,084	17,114	14,778	35,669	20,891	42,323	-25,209
2009	2,531,769	32,101	17,018	14,892	35,945	21,053	42,899	-25,881
2010	2,563,885	32,116	16,922	15,004	36,216	21,212	43,476	-26,554
2011	2,596,014	32,129	16,826	15,114	36,483	21,369	44,052	-27,226
2012	2,628,155	32,140	16,730	15,222	36,744	21,522	44,628	-27,898
2013	2,660,304	32,150	16,634	15,328	37,002	21,673	45,204	-28,571
2014	2,692,461	32,157	16,538	15,432	37,254	21,822	45,781	-29,243
2015	2,724,623	32,162	16,442	15,535	37,502	21,967	46,357	-29,915
2016	2,756,788	32,165	16,345	15,635	37,745	22,110	46,933	-30,588
2017	2,788,954	32,166	16,249	15,733	37,983	22,250	47,509	-31,260
2018	2,821,119	32,165	16,153	15,829	38,216	22,387	48,085	-31,932
2019	2,853,282	32,162	16,057	15,924	38,445	22,521	48,662	-32,604
2020	2,885,439	32,158	15,961	16,016	38,669	22,653	49,238	-33,277
2021	2,917,590	32,151	15,865	16,106	38,887	22,781	49,814	-33,949
2022	2,949,731	32,142	15,769	16,194	39,101	22,907	50,390	-34,621
2023	2,981,861	32,130	15,673	16,280	39,310	23,030	50,967	-35,294
2024	3,013,979	32,117	15,577	16,364	39,514	23,150	51,543	-35,966
2025	3,046,081	32,102	15,481	16,446	39,713	23,267	52,119	-36,638
2026	3,078,165	32,084	15,385	16,526	39,906	23,381	52,695	-37,311
2027	3,110,230	32,065	15,289	16,603	40,095	23,492	53,271	-37,983
2028	3,142,273	32,043	15,192	16,679	40,279	23,600	53,848	-38,655
2029	3,174,293	32,020	15,096	16,752	40,458	23,705	54,424	-39,328
2030	3,206,287	31,994	15,000	16,824	40,631	23,807	55,000	-40,000
Decade	Ten-Year Annual Average Change, 1961 to 2030							
1961-1970		33,295	25,511	7,784	18,451	10,667	NA	NA
1971-1980		35,800	32,025	3,775	18,311	14,536	NA	NA
1981-1990		30,731	20,163	10,568	27,882	17,314	36,717	-13,423
1991-2000		28,648	14,712	13,936	32,452	18,516	32,213	-17,501
2001-2010		31,023	16,635	14,355	34,031	19,675	41,161	-24,525
2011-2020		32,155	16,394	15,577	37,604	22,027	46,645	-30,251
2021-2030		32,085	15,433	16,477	39,789	23,312	52,407	-36,974

Source: U.S. Bureau of the Census, Decennial Census 1960-2000.

Post-2000 figures, Miami-Dade Planning & Zoning Department, Research Section, 2007.

Population Distribution. For most planning purposes, the geographic distribution and change in population are analyzed using 32 areas of the County called Minor Statistical Areas (MSAs). Minor Statistical Areas are based on census tracts, which are a component of the United States Census geography, and may contain one large census tract or an aggregation of census tracts. The Department of Planning and Zoning established MSAs as planning areas to standardize areas within the County for the development of statistical data and projections.

The relative population distribution projected for 2020 shows that sub-urban areas of the County, particularly MSAs 3.1, 3.2, 6.1, and 6.2, will account for approximately 28.5 percent of the total County population (see Population Estimates and Projections map below). The remainder of the County (the urbanized area) will account for approximately 71.5 percent of the County's total population. A comparison with population projections extrapolated to 2015, which was reported in the Adopted 2003 EAR, reveal little change.

In South Miami-Dade, the current population projections show approximately 13.3 percent of the total County population living south of Eureka Drive (SW 184 Street) in 2020; up from 9.7 percent projected in 2003 (this figure was projected to 2015). Annual average growth rates in South Miami-Dade in 2000-2003 were higher than the County average. Beyond 2010, the rate of growth in South Miami-Dade will increase rapidly as other areas of the County exhaust residential capacity. The distribution of projected population growth out to the year 2030 is presented in Tables 1.1-3 and 1.1-4 and Figure 1.1-7 below.

Table 1.1-3
Population Projections, 1990 to 2030
Miami-Dade County by Minor Statistical Area

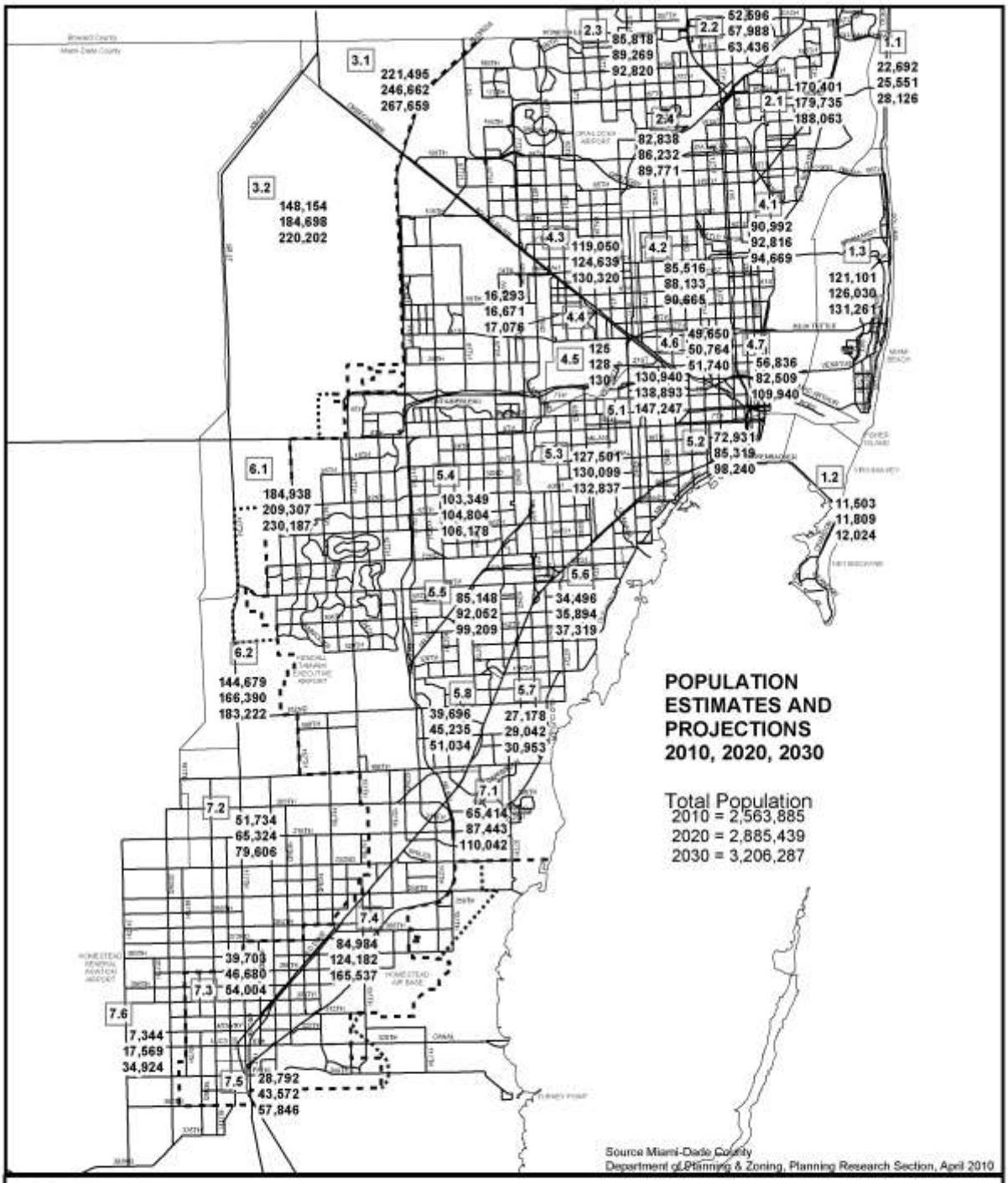
Area	1990	2000	2006	2010	2015	2020	2025	2030	Capacity
1.1	12,546	16,278	21,781	22,692	24,145	25,551	26,665	28,126	26,665
1.2	8,854	10,513	11,392	11,503	11,671	11,809	11,829	12,024	11,829
1.3	110,126	108,526	118,734	121,101	123,553	126,030	129,263	131,261	130,840
2.1	129,542	160,589	167,574	170,401	175,167	179,735	183,440	188,063	183,440
2.2	41,795	48,988	50,483	52,596	55,279	57,988	60,991	63,436	61,621
2.3	77,397	82,976	84,577	85,818	87,525	89,269	91,351	92,820	92,005
2.4	75,900	78,931	81,508	82,838	84,517	86,232	88,340	89,771	89,122
3.1	131,084	201,811	213,482	221,495	234,570	246,662	253,359	267,659	253,359
3.2	82,657	122,540	135,543	148,154	166,304	184,698	203,023	220,202	203,128
4.1	91,146	87,834	89,408	90,992	91,952	92,816	94,220	94,669	95,446
4.2	83,779	80,689	82,925	85,516	86,925	88,133	89,944	90,665	91,394
4.3	106,641	115,905	117,058	119,050	121,821	124,639	127,899	130,320	128,764
4.4	15,480	16,060	16,161	16,293	16,478	16,671	16,929	17,076	17,053
4.5	105	122	122	125	127	128	129	130	159
4.6	44,930	47,631	49,367	49,650	50,221	50,764	51,200	51,740	51,200
4.7	36,432	35,945	43,106	56,836	69,557	82,509	97,380	109,940	100,994
5.1	117,989	122,903	127,018	130,940	134,911	138,893	143,880	147,247	146,029
5.2	53,742	55,896	66,863	72,931	79,106	85,319	92,559	98,240	94,770
5.3	118,198	120,126	126,796	127,501	128,766	130,099	131,814	132,837	132,476
5.4	97,439	102,262	103,099	103,349	104,073	104,804	105,621	106,178	105,653
5.5	74,262	80,111	82,055	85,148	88,586	92,052	96,165	99,209	97,544
5.6	30,072	32,431	34,014	34,496	35,188	35,894	36,720	37,319	36,947
5.7	22,727	25,346	26,424	27,178	28,104	29,042	30,131	30,953	30,447
5.8	33,358	35,040	36,273	39,696	42,501	45,235	48,629	51,034	50,112
6.1	110,762	156,640	177,233	184,938	197,487	209,307	216,705	230,187	216,705
6.2	67,648	125,812	137,515	144,679	156,192	166,390	169,957	183,222	169,957
7.1	33,467	41,575	56,610	65,414	76,248	87,443	99,382	110,042	100,790
7.2	36,214	39,327	44,920	51,734	58,490	65,324	73,199	79,606	75,352
7.3	31,173	32,367	35,823	39,703	43,205	46,680	50,854	54,004	52,382
7.4	46,921	48,364	67,549	84,984	104,187	124,182	146,118	165,537	149,476
7.5	10,425	14,635	24,139	28,792	36,024	43,572	49,979	57,846	49,979
7.6	4,283	5,189	5,966	7,344	11,744	17,569	28,406	34,924	39,092
Total	1,937,094	2,253,362	2,435,517	2,563,885	2,724,623	2,885,439	3,046,081	3,206,287	3,084,730

Source: Miami-Dade County, Department of Planning and Zoning, Research Section, 2008.
Note: Capacity includes capacity outside the Urban Development Boundary.

Table 1.1-4
Annual Average Change, Population Projections 2000 to 2030
By Minor Statistical Area, Miami-Dade County

Area	Decade 2000-2010	Decade 2010-2020	Decade 2020-2030
1.1	641	286	258
1.2	99	31	22
1.3	1,257	493	523
2.1	981	933	833
2.2	361	539	545
2.3	284	345	355
2.4	391	339	354
3.1	1,968	2,517	2,100
3.2	2,561	3,654	3,550
4.1	316	182	185
4.2	483	262	253
4.3	315	559	568
4.4	23	38	41
4.5	0	0	0
4.6	202	111	98
4.7	2,089	2,567	2,743
5.1	804	795	835
5.2	1,703	1,239	1,292
5.3	737	260	274
5.4	109	146	137
5.5	504	690	716
5.6	206	140	142
5.7	183	186	191
5.8	466	554	580
6.1	2,830	2,437	2,088
6.2	1,887	2,171	1,683
7.1	2,384	2,203	2,260
7.2	1,241	1,359	1,428
7.3	734	698	732
7.4	3,662	3,920	4,135
7.5	1,416	1,478	1,427
7.6	215	1,023	1,736

Source: Miami-Dade County Department of Planning and Zoning, Research Section, 2010.


POPULATION ESTIMATES AND PROJECTIONS 2010, 2020, 2030
Total Population
2010 = 2,563,885
2020 = 2,885,439
2030 = 3,206,287
Source Miami-Dade County
Department of Planning & Zoning, Planning Research Section, April 2010
FIGURE 1.1-7
1.1 Minor Statistical Area
2025 Urban Expansion Area
2015 Urban Development Boundary
0 2.5 5 7.5 10
Miles
N

Seasonal/Transient Population. Miami-Dade County has been a major destination for tourists and winter visitors since the 1920s. Although, as a fraction of the resident population, seasonal and overnight visitors have become a smaller share, its size is still substantial and must be accounted for in all types of planning. This group, just as permanent residents, places demands on urban services and facilities. They constitute a "peak load" factor for water and sewer facilities, solid waste collection and disposal, health care, recreational facilities and many other services and facilities. This population includes all nonresidents of Miami-Dade who spend at least one night in the County. Non-residents are distinguished from residents on the basis of their usual home, i.e. the place where they live most of the time (more than six months is the Census criterion).

The measure used in analyzing transient population in Miami-Dade County was the average daily population in the peak month. [1] The basic approach was to estimate the peak seasonal population based on the fluctuations in sales tax data. The annual change was added to a low season tourism base established via hotel/motel occupancy rates. Table 1.1-5 shows the average daily visitors by month for Miami-Dade County, Florida, for the period 2009-2010. As can be seen in the table below the peak month for 2009 was March, while the peak month for 2010 is likely to be February when, on average, 157,308 overnight visitors were staying in Miami-Dade County. These visitors were then classified by type. The geographic distribution of this population within Miami-Dade County was also estimated.

Table 1.1-5
Average Daily Overnight Visitors (Monthly)
Miami-Dade County 2009 – 2010

	Average Visitors	
Month	2009	2010
January	133,003	130,568
February	142,615	157,308
March	142,680	146,165
April	131,203	132,306
May	117,200	119,442
June	107,347	112,268
July	107,183	114,492
August	106,657	
September	96,645	
October	109,945	
November	112,129	
December	135,656	
Average	120,188	

Source: Miami-Dade Department of Planning and Zoning, Research Section, 2010.

Table 1.1-6 presents the distribution of visitors by category in Miami-Dade County by MSA. Almost one-half of all visitors stayed in MSAs 1.1, 1.3, and 2.1, the coastal locations. The second largest concentration (about 10 percent) stayed in the downtown Miami - Brickell – Coconut Grove area, that are within MSAs 4.7 and 5.2. The areas adjacent to the airport, MSAs 3.2 and 5.1 also accounted for about 10 percent of visitors with the rest distributed in all other areas of the County.

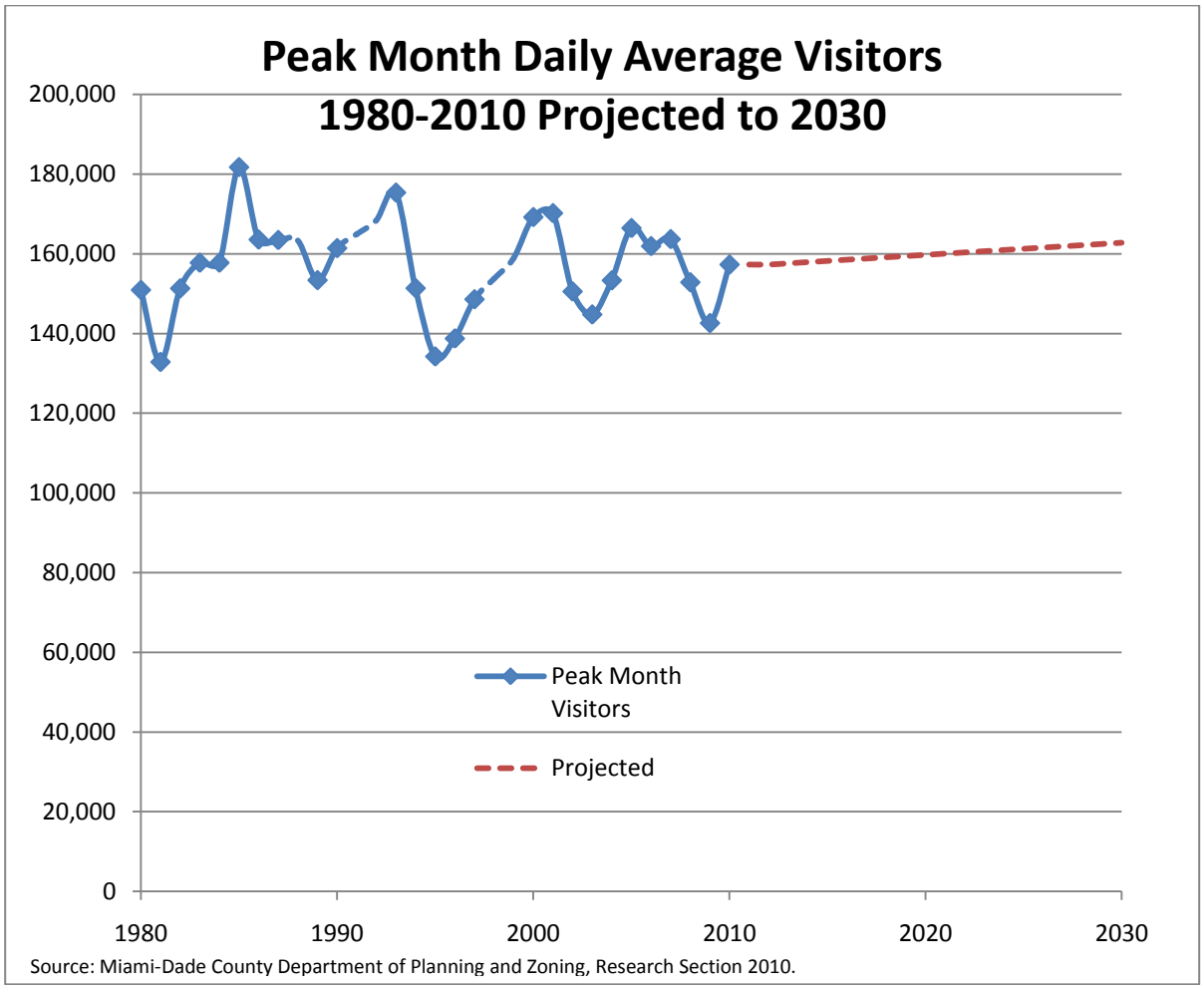
[1] For a full explanation of the Methods used, see Seasonal-Transient Population, Miami-Dade County, Florida, Research Section, Miami-Dade County Department of Planning and Zoning, November 2010.

Table 1.1-6
Peak Month Distribution of Transient Population
by Type of Accommodation
Miami-Dade County 2010 by Minor Statistical Area

Area	Total Visitors	Hotels, Motels, & Rooming Houses	With Family & Friends	Trailer Park, Marinas & Campgrounds	Nonresident Households
1.1	9,942	2,469	401	26	7,046
1.2	3,877	540	179	578	2,580
1.3	45,568	24,792	2,122	277	18,378
2.1	15,276	1,406	1,931	919	11,020
2.2	1,387	0	507	0	880
2.3	1,241	484	627	0	130
2.4	961	63	682	0	216
3.1	4,382	1,595	1,904	90	793
3.2	11,311	6,987	1,322	62	2,940
4.1	3,716	1,191	869	201	1,456
4.2	890	107	666	31	86
4.3	2,547	1,473	902	37	135
4.4	2,362	2,105	164	0	93
4.5	4,201	4,200	1	0	0
4.6	1,305	620	392	108	185
4.7	8,268	6,687	519	127	935
5.1	4,588	3,112	1,204	0	273
5.2	7,295	2,561	859	130	3,745
5.3	5,475	3,233	1,307	9	926
5.4	1,725	199	865	0	661
5.5	2,942	1,529	860	0	552
5.6	717	0	335	195	187
5.7	429	151	243	15	20
5.8	420	0	321	0	100
6.1	2,217	181	1,526	0	510
6.2	2,088	161	1,267	0	659
7.1	1,323	424	596	203	100
7.2	2,474	21	409	1669	374
7.3	1,823	558	318	720	226
7.4	2,202	762	649	475	315
7.5	3,329	1,328	253	1474	274
7.6	1,027	0	52	975	0
Totals	157,308	68,941	24,251	8,321	55,795
	100%	43.8%	15.4%	5.3%	35.5%

Source: Research Section, Miami-Dade Department of Planning and Zoning, December 2010

Between 1980 and 2010 the peak month average daily visitors figure has not changed substantially and shows no clear trend. Excluding the outlier years of 1987, 1991 and 1992 that were, in part, affected by Hurricane Andrew, the historical average has stood at between 141,895 and 159,046 visitors. It should be noted that the data for 1998 and 1999 was unavailable. The 2010 figure of 157,308 is in line with the 31-year average of 155,978 during 1980-2010. As shown in the figure below the peak month for average daily visitors will remain flat through 2012 and then increase by about 2.5 percent through 2030.



Source: Miami-Dade County Department of Planning and Zoning, Research Section 2010.

Projected Residential Land Supply and Demand

Residential supply and demand analysis is done to determine the adequacy of the existing capacities to accommodate projected growth. The methodology has been modified from the one used in the past in order to arrive at a more accurate picture of residential supply and demand. In particular, the methodology on the supply side was revised as follows: an improved procedure for determining capacity in Urban Center was used; and redevelopment capacity was introduced for the first time. On the demand side: Persons per Household was used to convert population growth into the need for housing units with certain adjustments as specified below.

Residential supply is based on the amount of developable vacant land, redevelopment capacity, and capacity within urban centers. In terms of developable vacant land, the analysis determines how many housing units can be built on vacant land under existing land use and zoning regulations approved municipal plans, covenants, other legal restrictions and so forth. (A detailed discussion of the methodology used to determine developable capacity is found on pages 1.1-6 through 1.1-9 of this document). The capacity of vacant parcels is 100 percent of allowable capacity and then reduced by 20 percent to account for build-out limitations. Capacity of urban centers only includes vacant land, underutilized parcels and approved projects. For the vacant and underutilized parcels, the maximum allowable density was applied and then the total units were reduced by 20 percent. In addition, there is a 3 percent reduction in capacity to account for the existence of all vacant parcels even in a built-out area.

Projects included on the Redevelopment List are large scale approved by County or municipal commissions with an unexpired permit. The capacity of these projects is reduced by 50 percent of approved capacity. Residential development capacity is based on the potential of specified types to parcels with existing structures to be redeveloped. In addition, projects under construction are counted at 100 percent of their capacity. The procedure to estimate redevelopment capacity was restricted only to residential parcels (excluding single-family type parcels) and parking lots without a structure. In addition, only those parcels inside the Urban Infill Area were analyzed. To qualify as a candidate for redevelopment a parcel had to satisfy the following requirements: (i) The building to land value ratio had to be 0.75 or lower (ii) The structure had to be built before 1970; and (iii) The ratio of allowable to existing density was at least 4.

Residential demand is assessed in terms of housing units that will be needed to accommodate projected population growth of the County over the planning horizon. Future population figures for the County as a whole are developed by using the component method. Using these countywide numbers, population is allocated to the County's 32 Minor Statistical Areas (MSAs) by extrapolating from historic trends and capacity. The population figures are converted into housing units by applying the persons per household ratio to determine residential demand. In order to adjust for the demand for second homes, a procedure to estimate the number of units used by non-residents for seasonal purposes was added. (The percent of units used for this purpose, by MSA, was derived from the 2000 Census. Also examined was the trend since 1980). Finally, a four percent vacancy factor was included in the calculation of residential demand to account for normal residential market turnover. Finally, a downward adjustment in residential demand was made to account for group quarters population.

Before reviewing the new figures, it is worth noting a caution that has invariably accompanied population and housing projections for Miami-Dade County. These are projections, not predictions, of future conditions. They are an indication of what will happen if the current assumptions hold true. These assumptions are based on a thorough review of current trends in Miami-Dade County. However, experience has shown that the Miami-Dade County housing market, like its population growth, is quite variable, and the future may be different from the projections. This is especially relevant during the recent period of high foreclosures and exceedingly high vacancy rates.

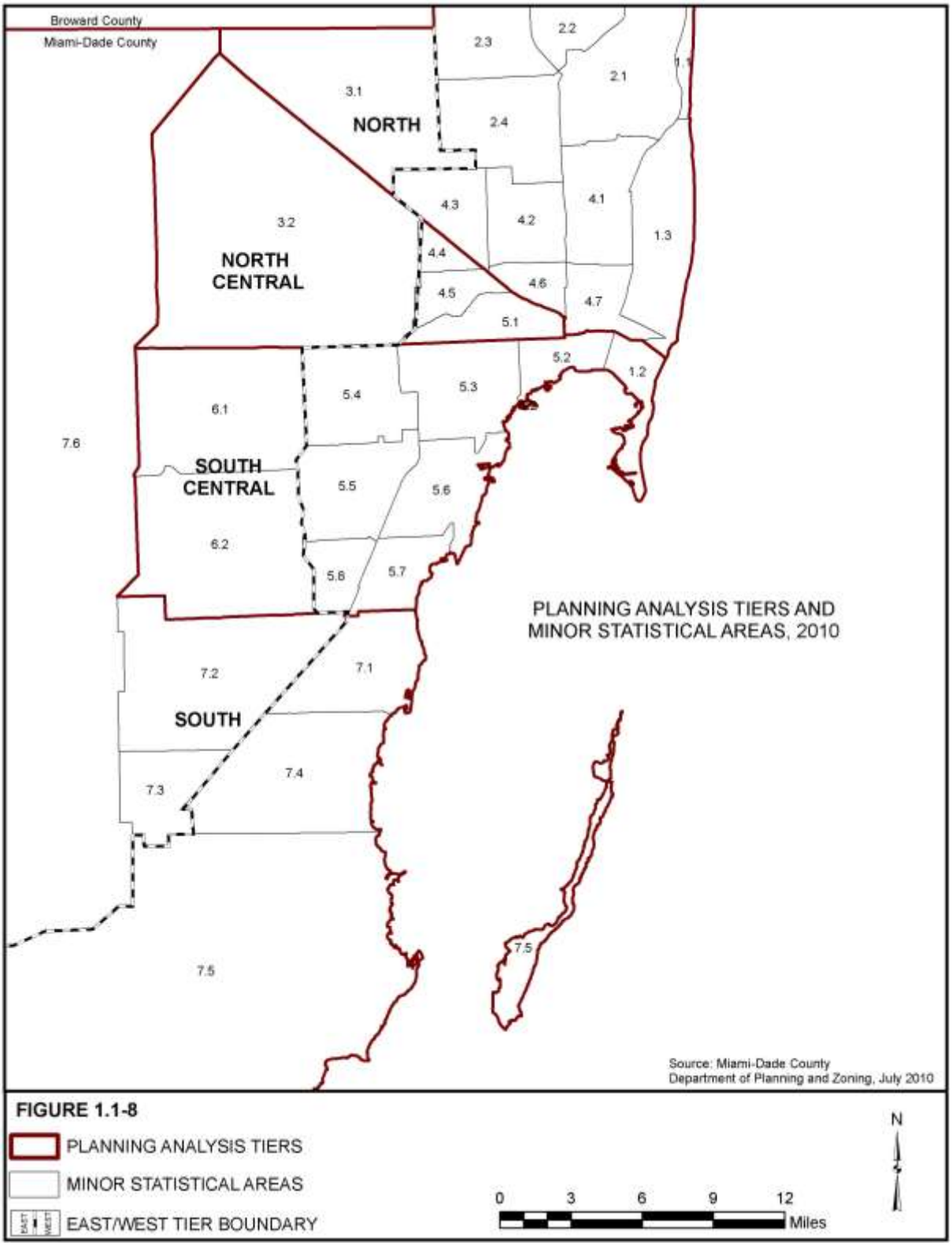
Table 1.1-7 shows that the projected demand for single-family and multi-family housing countywide and compares this with the existing residential land supply within the year 2010 UDB. Currently sufficient capacity exists within the UDB to accommodate projected demand through the year 2021. The single-family supply is projected to be exhausted by 2016; the multi-family in 2026.

Table 1.1-7
Residential Land Supply/Demand Analysis
Miami-Dade County by Tier and Subtier, 2010 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Structure Type		
	Single Family	Multi-Family	Both Types
Capacity in 2010	43,543	92,186	135,729
Annual Demand in 2010-2015	6,293	5,125	11,418
Capacity in 2015	12,078	66,561	78,639
Annual Demand 2015-2020	6,602	5,448	12,050
Capacity in 2020	0	39,321	18,389
Annual Demand 2020-2025	6,492	5,726	12,218
Capacity in 2025	0	10,691	0
Annual Demand 2025-2030	6,809	5,275	12,084
Capacity in 2030	0	0	0
Depletion Year	2016	2026	2021

Source: Miami-Dade County Department of Planning and Zoning, Research Section, 2011.

Tables 1.1-8 through 1.1-11 show similar data for the four tiers used for the residential supply/demand analysis. These tiers are further broken down by subtier into eastern and western halves.


Broward County
Miami-Dade County
NORTH
NORTH CENTRAL
SOUTH CENTRAL
SOUTH
1.1
1.2
1.3
2.1
2.2
2.3
2.4
3.1
3.2
4.1
4.2
4.3
4.4
4.5
4.6
4.7
5.1
5.2
5.3
5.4
5.5
5.6
5.7
5.8
6.1
6.2
7.1
7.2
7.3
7.4
7.5
7.6
PLANNING ANALYSIS TIERS AND
MINOR STATISTICAL AREAS, 2010
Source: Miami-Dade County
Department of Planning and Zoning, July 2010
FIGURE 1.1-8
PLANNING ANALYSIS TIERS
MINOR STATISTICAL AREAS
EAST/WEST TIER BOUNDARY
EAST
WEST
N
0 3 6 9 12
Miles

The North Tier has sufficient capacity to accommodate projected demand through the year 2019. The single-family supply is projected to be exhausted by 2019, whereas the multi-family supply is depleted in 2020. The projected demand for housing is lower in the western half. The capacity there is projected to be used up by 2015. In the eastern half the projected depletion year is 2023.

Table 1.1-8
Residential Land Supply/Demand Analysis
North Miami-Dade Tier, 2010 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subtier								
	Eastern Part			Western Part -- MSA 3.1			North Miami-Dade Total		
	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types
Capacity in 2010	3,036	10,013	13,049	3,070	1,871	4,941	6,106	11,884	17,990
Demand 2010-2015	276	665	941	372	494	866	648	1,159	1,807
Capacity in 2015	1,656	6,688	8,344	1,210	0	611	2,866	6,089	8,955
Demand 2015-2020	299	723	1,022	365	485	850	664	1,208	1,872
Capacity in 2020	161	3,073	3,234	0	0	0	0	49	0
Demand 2020-2025	291	704	995	212	283	495	503	987	1,490
Capacity in 2025	0	0	0	0	0	0	0	0	0
Demand 2025-2030	290	700	990	432	574	1,006	722	1,274	1,966
Capacity in 2030	0	0	0	0	0	0	0	0	0
Depletion Year	2020	2024	2023	2018	2013	2015	2019	2020	2019

Source: Miami-Dade County Department of Planning and Zoning, Research Section, 2010.

The more established and heavily developed North Central Tier has sufficient capacity to accommodate project demand through the year 2024. The single-family supply is projected to be exhausted by 2015, whereas the multi-family supply is depleted in 2027. The projected demand for housing is higher in the eastern half and land is projected to be exhausted by 2026. In the western half the projected depletion year is 2019.

Table 1.1-9
Residential Land Supply/Demand Analysis
North Central Tier, 2010 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subtier								
	Eastern Part			Western Part -- MSA 3.2			North Central Total		
	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types
Capacity in 2010	2,522	36,525	39,047	2,398	10,286	12,684	4,920	46,811	51,731
Annual Demand 2010-2015	265	1,857	2,122	664	611	1,275	929	2,468	3,397
Capacity in 2015	1,197	27,240	28,437	0	7,231	6,309	275	34,471	34,746
Annual Demand 2015-2020	296	2,004	2,300	693	637	1,330	989	2,641	3,630
Capacity in 2020	0	17,220	16,937	0	4,046	0	0	21,266	16,596
Annual Demand 2020-2025	375	2,379	2,754	694	639	1,333	1,069	3,018	4,087
Capacity in 2025	0	5,325	3,167	0	851	0	0	6,176	0
Annual Demand 2025-2030	244	1,852	2,096	656	604	1,260	900	2,456	3,356
Capacity in 2030	0	0	0	0	0	0	0	0	0
Depletion Year	2019	2027	2026	2013	2026	2019	2015	2027	2024

Source: Miami-Dade County Department of Planning and Zoning, Research Section, 2011.

The South Central Tier has sufficient capacity to accommodate projected demand through the year 2017. The single-family supply is projected to be exhausted by 2013, whereas the multi-family supply is depleted in 2027. The projected demand for housing is higher in the western part and the capacity there is lower. This capacity is projected to be depleted by 2014. In the eastern half, the projected depletion year is 2020.

Table 1.1-10
Residential Land Supply/Demand Analysis
South Central Tier, 2010 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subtier								
	East of Turnpike			West of Turnpike			South Central Total		
	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types
Capacity in 2010	2,173	12,419	14,592	4,607	1,711	6,318	6,780	14,130	20,910
Annual Demand 2010-2015	616	679	1,295	1,494	71	1,565	2,110	750	2,860
Capacity in 2015	0	9,024	8,117	0	1,356	0	0	10,380	6,610
Annual Demand 2015-2020	684	740	1,424	1,436	68	1,504	2,120	808	2,928
Capacity in 2020	0	5,324	997	0	1,016	0	0	6,340	0
Annual Demand 2020-2025	800	869	1,669	753	35	788	1,553	904	2,457
Capacity in 2025	0	979	0	0	841	0	0	1,820	0
Annual Demand 2025-2030	614	674	1,288	1,748	83	1,831	2,362	757	3,119
Capacity in 2030	0	0	0	0	426	0	0	0	0
Depletion Year	2013	2026	2020	2013	2049	2014	2013	2027	2017

Source: Miami-Dade County Department of Planning and Zoning, Research Section, 2011.

The South Tier has sufficient capacity to accommodate projected demand through the year 2022. The single-family supply is projected to be depleted by 2019, whereas the multi-family supply is exhausted by 2034. The projected demand for housing is greater in the eastern half, and so is its capacity. This capacity is projected to be depleted by 2022. In the western half, the projected depletion year is 2021.

Table 1.1-11
Residential Land Supply/Demand Analysis
South Dade Tier, 2010 to 2030

Analysis Done Separately for Each Type, i.e. No Shifting of Demand between Single & Multifamily Type	Subtier								
	East of US-1			West of US-1			South Total		
	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types	Single Family	Multi-Family	Both Types
Capacity in 2010	18,387	13,545	31,932	7,350	5,816	13,166	25,737	19,361	45,098
Annual Demand 2010-2015	1,772	630	2,402	834	118	952	2,606	748	3,354
Capacity in 2015	9,527	10,395	19,922	3,180	5,226	8,406	12,707	15,621	28,328
Annual Demand 2015-2020	1,876	669	2,545	953	122	1,075	2,829	791	3,620
Capacity in 2020	147	7,050	7,197	0	4,616	3,031	0	11,666	10,228
Annual Demand 2020-2025	1,978	675	2,653	1,390	141	1,531	3,368	816	4,184
Capacity in 2025	0	3,675	0	0	3,911	0	0	7,586	0
Annual Demand 2025-2030	1,853	672	2,525	972	116	1,088	2,825	788	3,613
Capacity in 2030	0	315	0	0	3,331	0	0	3,646	0
Depletion Year	2020	2030	2022	2018	2052	2021	2019	2034	2022

Source: Miami-Dade County Department of Planning and Zoning, Research Section, 2011.

Commercial, Office and Industrial Land

The Department's most recent assessment of commercial and industrial land availability is presented below. This will provide the reader with a picture of the existing land use character and development rates throughout the County for these types of uses.

The adequacy of the Plan's existing capacities to accommodate projected commercial and office development is evaluated both on a countywide basis, and for smaller areas of the County, namely the Planning Analysis Tiers and Minor Statistical Areas (MSAs). Absorption tables are presented for Commercial and Office and Industrial land.

Projected Commercial and Industrial Land Supply and Demand

The Research Section of the Department of Planning and Zoning has conducted an inventory (2010) of the supply, and assessed the use of land for industrial and commercial development in Miami-Dade County to determine whether it can sustain projected commercial and industrial demand through the years 2020 and 2030. Following are estimates and projections of commercial and industrial absorption in Miami-Dade County.

Commercial Land

The first step in deriving countywide control totals was to obtain existing commercial acreage, commercial employment, and total population for the years 1994, 1998, 2000, 2001, and each of the years 2003 to 2010. Secondly, a linear regression was run with commercial acres being the dependent variable and commercial employment and population as the independent variable. The regression coefficient was then applied to the independently projected population and commercial employment to arrive at projected demand for commercial land.

The next step consisted in the allocation of projected countywide demand for commercial land to each MSA. To obtain the MSA's share of the countywide demand for commercial land, the following procedures were followed: The annual change in "in-use" commercial land for the 1994-1998, 1998-2000, 2000-2001, 2001-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, and 2009-2010 periods was calculated. Then the average of these 11 periods, by MSA, was computed. If the average was negative, the MSA's share was put as zero. Next, the growth in population from 2010 to 2030, for each MSA, was calculated. The final step involved averaging the annual growth in commercial land and the population growth for each MSA. This was done to better take into account the historical demand for commercial land and the projected growth in population by MSA. It represents a refinement of the method previously applied. Lastly, the countywide demand was distributed proportionately to the MSA's share of the total average growth (average of historical growth of "in-use" commercial land and projected population growth) for all MSAs. The end result is an annual absorption rate for the 2010-2030 period.

Table 1.1-12 below presents countywide projections of commercial land absorption. For purposes of this analysis, the only vacant land included in commercial supply is land that is specifically zoned for business, professional office, office park, or designated "Business and Office" on the CDMP Land Use Plan (LUP) map. While vacant industrially zoned or designated land may be and often is used for commercial use (in particular for office development, but including retail uses such as hotels and restaurants), for purposes of this analysis none was included in the commercial land supply.

The first four columns of Table 1.1-12 summarize the result of applying the method described. Countywide, the 2,942.9 acres of vacant commercially zoned or designated land available in 2010 would be depleted in the year 2034, at the average annual absorption rate of 124.00 acres. However, the projected depletion year varies from Tier to Tier. It should be noted that MSAs are aggregated into Tiers. Only in the South-Central Tier will supply be depleted before 2030. Individual MSAs reveal more variability. In MSAs 1.1, 1.2, 5.2, 5.5, 6.1, and 7.6 the supply of commercial land will be depleted before 2020. At this point, it is necessary to point out that the projected year of depletion provides only one indication of the areas within the County where additional land for commercial use may be warranted. However, it cannot be concluded that land for commercial use should automatically be added in the specific MSAs where the numbers indicate

Table 1.1-12
Projected Absorption of Commercial Land
Miami-Dade County, Florida 2010-2030

Tier and Minor Statistical Area	Vacant Commercial Land 2010 (Acres)	Commercial Land in Use 2010 (Acres)	Avg Annual Absorption Rate 2010-2030 (Acres)	Projected Year of Depletion	Commercial Land per Thousand Persons 2020 (Acres)	2030
North Tier						
1.1	1.2	55.00	0.52	2012	2.2	2.0
2.1	85.9	1,088.60	2.93	2030+	6.5	6.2
2.2	21.0	259.10	1.54	2024	4.8	4.4
2.3	138.7	650.60	3.39	2030+	8.8	8.5
2.4	48.7	499.70	0.67	2030+	6.4	6.1
3.1	349.5	999.10	16.66	2030+	5.5	5.0
Total	645.0	3,552.10	25.71	2030+	6.1	5.8
North Central Tier						
1.3	12.3	221.90	0.98	2023	1.9	1.8
3.2	476.9	1,595.50	16.27	2030+	11.2	9.4
4.1	50.0	357.20	0.35	2030+	4.4	4.3
4.2	115.6	425.30	0.50	2030+	6.1	6.0
4.3	14.7	887.10	1.25	2022	7.2	6.9
4.4	3.2	68.30	0.08	2030+	4.3	4.2
4.5	25.0	216.20	1.08	2030+	--	--
4.6	21.8	310.20	0.48	2030+	6.5	6.5
4.7	71.6	289.20	5.13	2024	4.4	3.3
5.1	16.2	509.10	1.57	2020	3.8	3.6
Total	807.3	4,880.00	27.69	2030+	6.3	5.7
South-Central Tier						
1.2	0.0	97.10	0.08	2010	8.2	8.1
5.2	11.1	229.20	2.44	2015	2.8	2.4
5.3	25.5	596.00	0.51	2030+	4.8	4.7
5.4	13.5	578.00	1.39	2020	5.6	5.6
5.5	9.9	588.10	2.71	2014	6.5	6.0
5.6	2.8	228.50	0.27	2020	6.4	6.2
5.7	7.7	259.90	0.54	2024	9.2	8.6
5.8	24.0	94.90	1.76	2024	2.6	2.3
6.1	53.1	525.50	10.86	2015	2.8	2.5
6.2	258.9	591.40	13.69	2029	5.1	4.6
Total	406.5	3,788.60	34.25	2022	4.6	4.3
South Tier						
7.1	120.4	300.00	4.31	2030+	4.8	3.8
7.2	87.5	228.50	5.09	2027	4.8	4.0
7.3	199.2	195.20	1.38	2030+	8.4	7.3
7.4	316.7	366.50	13.19	2030+	5.5	4.1
7.5	360.1	453.10	9.51	2030+	18.7	14.1
7.6	0.0	4.90	2.87	2010	0.3	0.1
Total	1083.9	1,548.20	36.35	2030+	6.8	5.2
Grand Total	2,942.9	13,768.9	124.00	2034	5.8	5.2

-- Insignificant population.
Source: Miami-Dade County Department of Planning & Zoning, Planning Division, Research Section, June 2010.

depletion of supply before the year 2020. Because of the dual purposes of commercial land use category, the land allocation process and planning for future land availability are more complex than for the case of residential or industrial land use.

One important consideration related to the absorption of commercial land in the future is the land cost factor. As the supply of vacant developable land keeps decreasing and land becomes more expensive, commercial developments will tend to be built and sized more efficiently by utilizing a higher ratio of building square footage to land acreage. As a result, the average annual absorption rate for commercial uses may be lower in the future than it has been in the past.

It is worth noting that by redeveloping or adding additional uses to existing sites, the existing supply would accommodate significant growth. A second consideration is that some commercial uses are "population serving" and should be distributed throughout the community with consideration for convenience to the residential population, while some commercial uses can be categorized as "export" uses which may be better located in areas having good transportation access to larger areas, and where other similar or complementary uses can agglomerate into commercial or employment centers. In this regard, "export" oriented commercial centers - like regional centers, industrial centers, and transportation facilities - can help give structure to the urban pattern and comprehensive planning should foster this.

In an effort to gauge what is an appropriate allocation of commercial land to "population serving" commercial uses, the ratio of commercial acres per 1,000 persons by MSA, Tier, and countywide was analyzed. The final two columns of Table 1.1-12 indicate commercial acres per 1,000 persons for each MSA, Tier and the countywide average. The countywide ratio for 2020 is projected to be 5.8 acres per 1,000 persons declining to 5.2 per 1,000 persons by the year 2030. This assumes that no industrial land is used for commercial purposes and no further supply is added. While 5.8 acres per 1,000 persons is the County average, this includes commercial uses that are characterized as "export" uses such as regional centers, race tracks, commercial stadiums, and other such commercial uses. If a local area registers a commercial land/population ratio below average, it does not necessarily indicate an undesirable condition. However, those MSAs or Tiers showing ratios significantly below the Tier or countywide ratio should warrant closer review to determine whether the commercial needs of the area's population would be adequately met.

Where both measures – projected commercial land depletion year and the commercial acres per 1,000 population ratio – indicate a future need for additional commercial land, it is probable that this need will become apparent during the projection period, unless additional land is designated on the LUP map for Commercial or Office use. Thus, both the vacancy condition and the adequacy of the commercial land to population ratio need to be considered when determining locations where additional commercial land should or need not be added.

Another factor that must be considered is the existence of vacant industrial land. There has been a continuing pattern in which there is much crossover in the use of industrial land for commercial purposes. In March 2005, the Research Section of the Planning and Zoning Department completed a study analyzing the demand and supply of vacant industrial land. In the study, all vacant industrial land in 1994 was identified. Next, these parcels were examined in 2003 to determine what actually occurred to them over this time period. The data showed that 16.9 percent of all industrial designated vacant land was in industrial use nine years later, while 23 percent was in non-industrial uses and 60 percent remained vacant. Even in those MSAs that experienced the highest growth in industrial land use, it was found that a significant amount of the industrially designated land was converted to non-industrial uses. It is highly probable that as land for commercial and/or residential uses is depleted, the conversion of industrial land will also increase.[2] An earlier study utilizing a sample of 5,600 acres and employing data going back to 1985 thru 2000 found that in the latter year, 39 percent of vacant industrial land was in industrial use or still designated for such use.

[2] Miami-Dade County Department of Planning and Zoning, Research Section, The Demand and Supply of Industrial Land in Miami-Dade County, (2005), P. 6.

The other 61 percent was either changed to a designation other than industrial or actually put to another use.

In addition to the traditional depletion analysis, a new procedure was added to analyze the adequacy of small-scale applications for commercial uses. The procedure is what is commonly known as a Trade Area analysis. It consists of drawing a radius (the size of the radius depends on the project's size) around the proposed project and computing "in-use" commercial acreage, and the vacant commercially zoned land inside its radius.

Industrial Land

Table 1.1-13 presents countywide projections of industrial land absorption. The first step in projecting Miami-Dade County's future industrial land use was to develop control totals for countywide use of this type of land in each projection year. Historical land use data for 1994, 1998, 2000, 2001, and each of the years 2003 to 2010 was divided by relevant employment data to obtain acre per employee ratios for each year. The average ratio was applied to industrial employment projections to obtain projected demand for industrial land.

Before drawing conclusions from Table 1.1-13, the reader must consider the assumptions and methods used in developing the information presented, the high potential for cross-over among the land uses which may occur on industrially designated land, and the spatial distribution of uses and sites in the area. Much cross-over can occur among business, office, and industrial uses, with commercial uses occurring in industrially designated land and, in particular, office developments occurring on land designated either for industrial use or for business use.

It is inappropriate to draw conclusions regarding the adequacy or inadequacy of supply in any individual MSA solely from the information provided in Table 1.1-13, as well as the projected supply and demand in a single MSA; it is necessary to consider all types of land supply and also land in adjoining MSAs.

In projecting future demand for industrial land, historical consumption data available for such land countywide and in each MSA were used. On this basis, average consumption of industrial land during the periods 1994-1998, 1998-2000, 2000-2001, 2001-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, and 2009-2010 was used to project the annual absorption rate for the next twenty years. In MSAs where definitional or data compatibility issues are encountered, appropriate adjustments have been made. The demand for industrial land conversion through 2030 was calculated reflecting the 2010 to 2030 time period.

Referring to Table 1.1-13, the situation with respect to industrial land supply/demand can be readily assessed. In the North Tier, MSA 1.1 has no industrial land available, but it is not considered an industrial area. Likewise, in the North-Central Tier, except for MSAs 1.3, 4.2, 4.4 and 4.6, there appears to be no candidate for additional designations of industrial land. The MSAs in the South-Central Tier mostly have small or no amounts of industrial land, and correspondingly low or no absorption rates. In particular, MSA 1.2, 5.2, 5.5, 5.7, 5.8, and 6.1 have no vacant industrial land available, but the areas exhibit very low absorption rates, Thus, except for MSAs 5.5, 5.6, 5.7, and 6.1 none indicate a need for increasing the current supply. The large supply in MSA 6.2 can meet the needs in this Tier. Similarly, no MSA in the South Tier, except 7.6, shows deficient industrial land, and this far western MSA is unique in that it is almost totally outside the Urban Development Boundary, and is not a good industrial location. However, as mentioned in the section on commercial land, there is significant conversion of vacant industrially zoned land for other uses. If this conversion continues to increase, the depletion of industrial land will take place earlier than projected.

Table 1.1-13
Projected Absorption of Industrial Land
Miami-Dade County, Florida 2010-2030

Tier and Minor Statistical Area	Vacant Industrial Land 2010 (Acres)	Industrial Land in Use 2010 (Acres)	Avg Annual Absorption Rate 2010-2030 (Acres)	Projected Year of Depletion
North Tier				
1.1	0.0	0.00	0.00	--
2.1	0.0	304.3	0.00	--
2.2	0.0	171.5	0.46	2010
2.3	99.2	49.3	0.00	--
2.4	61.7	1,486.9	7.76	2018
3.1	1,388.5	1,010.3	12.07	2030+
Total	1,549.4	3,022.3	20.30	2030+
North Central Tier				
1.3	0.4	9.9	0.08	2015
3.2	1,346.0	5,782.5	75.44	2028
4.1	3.3	161.5	0.03	2030+
4.2	16.6	769.3	2.33	2017
4.3	2.2	509.4	0.00	--
4.4	0.0	4.8	0.02	2010
4.5	34.7	106.2	0.00	--
4.6	25.5	307.1	1.95	2023
4.7	11.5	165.4	0.00	--
5.1	4.5	49.0	0.00	--
Total	1,444.7	7,865.1	79.86	2028
South-Central Tier				
1.2	0.0	0.0	0.00	--
5.2	0.0	5.2	0.00	--
5.3	19.3	63.9	0.00	--
5.4	0.9	140.7	0.00	--
5.5	0.0	102.9	1.39	2010
5.6	0.6	12.9	0.06	2020
5.7	0.0	2.1	0.12	2010
5.8	0.0	18.0	0.00	--
6.1	0.0	12.2	0.32	2010
6.2	177.1	571.9	14.61	2022
Total	197.9	929.8	16.50	2022
South Tier				
7.1	0.0	21.6	0.00	--
7.2	87.7	270.2	2.85	2030+
7.3	35.4	150.4	2.34	2025
7.4	2.5	44.5	0.28	2019
7.5	305.3	171.7	2.48	2030+
7.6	0.0	0.00	0.00	--
Total	430.9	658.4	7.95	2030+
Grand Total	3,622.9	12,475.6	124.60	2039

-- Insignificant Demand

Source: Miami-Dade County, Department of Planning and Zoning, Planning Division, Research Section, June 2010.

Part Two: Discussion of the Major Issue and Related Issues

CDMP Time Horizons

The time horizons of the CDMP are currently the near-term year 2020 and the long-term year 2030. These time horizons were approximately 12 and 22-year horizons in 2003, and they have receded today to 5 and 15-year horizons. The CDMP also contains a six-year schedule of programmed capital improvements, which is annually updated to always maintain a 6-year time horizon. The Capital Improvement Element (CIE) currently covers the period 2009/10 through 20014/2015.

The near-term period (currently 2015) has been used as the horizon for the Plan's urban development boundary and land use patterns and densities expressed on the Land Use Plan map, as well as for near-term facility planning. The long-term period (currently 2025) is used principally for planning facilities with long-term consequences such as roadways and wastewater treatment and disposal facilities. Accordingly, for long-range planning purposes the general locations considered most appropriate for long-range urban expansion are identified in the Plan, along with long-range population projections and distributions. The extension of the time horizons of the CDMP is now necessary to provide ample periods planning land development and coordinated provision of public facilities and services.

The primary purpose of the Land Use Element is to identify the geographic areas that will be promoted for future development, and to identify the types, patterns, and forms of development desired. The Land Use Plan map and associated text is the principal means of expressing this policy. Within the LUP map, the UDB delineates the overall location and amount of land that will be eligible for urban development during the near term, and the UEA Boundary identifies additional locations that are anticipated to be warranted for urban development in the distant future. Land inside the UDB is eligible for development orders and permits authorizing the urban land uses delineated in the LUP map and text, but land in the UEA is not.

The CDMP has utilized a variety of time horizons since its original adoption in 1975 as noted in the table below.

Table 1.1-14
Time Horizons Used in the CDMP Since 1975

Date of Plan or EAR Adoption	Date of UDB or Equivalent	Date of UEA or Equivalent	Interval Between Adoption and UDB Planning Horizon
1975	1985	2000	10 years
1979	1985	2000	6 years
1983	1990	2005	7 years
1989	2000	2010	11 years
1995	2005	2015	10 years
2003	2015	2025	12 years

Source: Miami-Dade County Department of Planning and Zoning, 2010

As shown in this table, the planning horizon or time interval between the date of plan adoption and the target date of the UDB or its equivalent, varied from a 6-year horizon after the 1979 plan update, to an 12-year horizon in 2003. Because of the lead time necessary to plan, finance, permit and develop public facilities as well as private development, it is desirable that the Plan's time horizons be adjusted so that the near-term interim horizon will be several years beyond the date that the next EAR (2017) will be prepared, i.e. 2020 UDB. Similarly, because of the extended time periods required to plan and build such public facilities as transportation, public water supplies and wastewater treatment facilities, the year 2030 is warranted as a long-range interim horizon. The adopted or proposed long-term planning horizons for functional plans are 2030 for the Water and Sewer Master Plan; 2035 for the Long-range Transportation Plan, Port of Miami Master Plan and Regional Transportation Plan; 2050 for the Aviation Strategic Master Plan 2060 for the Open Space

Master Plan; and 2062 for the Solid Waste Master Plan.

UDB Capacity and Expansion

Since the CDMP was adopted in 1975, four sets of concerns have been considered when determining whether to change the future land use plan and, in particular, whether, when, and where to amend the plan's UDB. These concerns include 1) supply and demand for land to accommodate projected demand for residential and economic growth; 2) intrinsic environmental suitability of land areas for urban development; 3) availability of, and ability to extend, public services and facilities to serve prospective additional development areas; and 4) compatibility of proximate land uses.

Policy LU- 8F provides the basic guidance on the concern regarding the need to expand the UDB. This policy states that "The Urban Development Boundary (UDB) should contain developable land having capacity to sustain projected countywide residential demand for a period of 10 years after adoption of the most recent Evaluation and Appraisal Report (EAR) plus a 5-year surplus (a total 15-year Countywide supply beyond the date of EAR adoption). The estimation of this capacity shall include the capacity to develop and redevelop around transit stations at the densities recommended in policy LU-7F. The adequacy of non-residential land supplies shall be determined on the basis of land supplies in subareas of the County appropriate to the type of use, as well as the Countywide supply within the UDB. The adequacy and supplies for neighborhood-and community–oriented business and office uses shall be determined on the basis of localized geography such as Census Tracts, Minor Statistical Area (MSA) and combinations thereof Tiers, Half-Tiers and combinations thereof shall be considered along with the Countywide supply when evaluating the adequacy of land supplies for regional commercial and industrial activities."

Land Use Policy LU-8G addresses the concern for intrinsic environmental suitability of land areas for urban development by identifying areas, which should not be considered for urban expansion or avoided based on environmental and resource sensitivities. This policy also identifies the priorities for including areas within the UDB. Policy LU-8G states the following:

"When considering land areas to add to the UDB, after demonstrating that a need exists, in accordance with foregoing Policy LU-8F,

i) The following areas shall not be considered:
   a) The Northwest Wellfield Protection Area located west of the Turnpike Extension between Okeechobee Road and NW 25 Street, and the West Wellfield Protection Area west of SW 157 Avenue between SW 8 Street and SW 42 Street;
   b) Water Conservation Areas, Biscayne Aquifer Recharge Areas, and Everglades Buffer Areas designated by the South Florida Water Management District;
   c) The Redland area south of Eureka Drive; and

ii) The following areas shall be avoided:
   a) Future Wetlands delineated in the Conservation and Land Use Element;
   b) Land designated Agriculture on the Land Use Plan map;
   c) Category 1 hurricane evacuation areas east of the Atlantic Coastal Ridge;
   d) Comprehensive Everglades Restoration Plan project footprints delineated in Tentatively Selected Plans and/or Project Implementation Reports; and

iii) The following areas shall be given priority for inclusion, subject to conformance with Policy LU-8F and the foregoing provision of this policy:
   a) Land within Planning Analysis Tiers having the earliest projected supply depletion year;
   b) Land contiguous to the UDB;
   c) Locations within one mile of a planned urban center or extraordinary transit service; and

d) Locations having projected surplus service capacity where necessary facilities and services can be readily extended.

Guidance in the CDMP concerning the availability of, and ability to extend, public services and facilities to serve prospective additional development areas is provided by Policy LU-8D which states the following: "The maintenance of internal consistency among all Elements of the CDMP shall be a prime consideration in evaluating all requests for amendment to any Element of the Plan. *Among other considerations, the LUP map shall not be amended to provide for additional urban expansion unless traffic circulation, mass transit, water sewer, solid waste, drainage and park and recreation facilities necessary to serve the area are included in the plan and the associated funding programs are demonstrated to be viable."* (*emphasis added*). This concern regarding financial feasibility is consistent with Section 163.3187(3)(b)1, F.S., which requires comprehensive plans to be financially feasible.

Policy LU-8E provides guidance that is applicable to all land use amendments to the LUP map including UDB changes. This policy states the following:

LU-8E. Applications requesting amendments to the CDMP Land Use Plan map shall be evaluated to consider consistency with the Goals, Objectives and Policies of all Elements, other timely issues, and in particular the extent to which the proposal, if approved, would:

i) Satisfy a deficiency in the Plan map to accommodate projected population or economic growth of the County;

ii) Enhance or impede provision of services at or above adopted LOS Standards;

iii) Be compatible with abutting and nearby land uses and protect the character of established neighborhoods; and

iv) Enhance or degrade environmental or historical resources, features or systems of County significance; and

v) If located in a planned Urban Center, or within 1/4 mile of an existing or planned transit station, exclusive busway stop, transit center, or standard or express bus stop served by peak period headways of 20 or fewer minutes, would be a use that promotes transit ridership and pedestrianism as indicated in the policies under Objective 7, herein."

The area within the UDB provides enough countywide capacity of residential land to accommodate projected development through 2021, which gives the County an overall capacity of 10 years. Policy LU-8F states that the UDB should contain a ten-year supply of developable land having capacity to sustain projected countywide residential demand for a period of ten years after adoption of the most recent EAR plus a 5-year surplus (a total of 15-year countywide supply beyond the EAR adoption date). A careful review of the housing supply and demand conditions is warranted due to the new Census 2010 population figures and housing market conditions. The recently released Census 2010 population figures were below projected levels; this will result in significant revisions in the upcoming population projections and, in turn, on residential demand. Further, housing market conditions remain uncertain as the County is faced with high vacancy rates, continuing high levels of foreclosures, lack of residential construction activity coupled with high unemployment rates and a tight credit market. Together, these conditions lend support to a thorough review of conditions within the EAR-based amendment time frame.

The Department's continuous monitoring of residential land supply and demand will allow staff to assess conditions and propose recommendations as warranted.

An expansion of the UDB is not warranted to meet the needs for commercial and industrial lands. Countywide, the 2,942.9 acres of vacant commercially zoned or designated land available in 2010 would be depleted in the year 2034, at the average

annual absorption rate of 124.00 acres. County-wide, the 3,622.9 acres of vacant industrially zoned or designated land available in 2010 would be depleted in the year 2039, at the average annual absorption rate of 124.60 acres. However, the projected depletion year varies from Tier to Tier. For both commercial and industrial lands, only the South Central Miami-Dade Tier will deplete its supply before 2025. In this tier, both commercial and industrial lands will be depleted in 2022.

However, the County could expand the urban development boundary by including the 521-acre hole-in-donut area north of the Dolphin Expressway and west of the Turnpike by redesignating this area from Open Land to Restricted Industrial and Office. The area is primarily bordered by land designated as Restricted Industrial and Office on the north and west, the Dolphin Expressway to the south and the Homestead Extension to the Florida Turnpike to the east. Areas east and south of these expressways are also designated for these uses. Thus, areas planned for urban development surround the hole-in-donut area. This area is a good location for industrial uses since it is only five miles from Miami International Airport. Access to this area is provided by Dolphin Expressway, which links this area to Miami International Airport and the Port of Miami, and HEFT, which links this area to Broward County and industrial areas in Miami-Dade County to the north and to the south around Tamiami-Kendall Executive Airport. Since the area is located within the Northwest Wellfield Protection area, the most appropriate industrial land use category for redesignation is "Restricted Industrial and Office." While no need exists for additional industrial land, adding industrial use at this location could allow other industrial land that is not needed to buffer airports to be converted to residential development.

Evaluation of the Urban Expansion Areas (UEAs)

Land was initially set aside in 1983 and designated as potential areas where urban expansion may occur if certain criteria in the Land Use Element were met, and if there was a need for urban development to occur beyond the Urban Development Boundary (UDB). Each year, the County reviews applications from land developers proposing to intensify land uses within the UDB or utilize new, undeveloped properties for development. At times, the County has moved the UDB.

During each EAR cycle, the County evaluates the quantity and location of the remaining undeveloped unprotected land in the County. The section entitled, "Extent of Vacant and Undevelopable Land" in Chapter 1 evaluates the quantity and location of the remaining undeveloped unprotected land (not purchased for institutional or environmental protection purposes) in the County. The County also reassesses the feasibility of utilizing the Urban Expansion Areas (UEAs) for development, given new considerations. Areas that should be excluded from UEAs could include Environmentally Endangered Lands (EEL) acquisition project areas, foot prints of Comprehensive Everglades Restoration Plan projects and related areas, wetlands, wellfield protection areas, saltwater intrusion areas, 100-year floodplains, natural forest areas, accident potential zones around Homestead Air Reserve Base, and prime agricultural lands.

For this assessment, the UEAs have been divided into northern and southern areas, depicted on Figures 1.1-9 and 1.1-10. All of the UEA acreage is located within the Federal Emergency Management Agency's high flood risk zones for 2010 (they have a 1% annual chance of flooding). The County acknowledges that this land is not highly suitable for development. High flood risk zones will be further analyzed as part of the County's efforts to study and plan for climate change impacts including rising sea level and groundwater, which may exacerbate flooding in certain areas of the County. However, the County also notes that at this time there are many areas within the UDB that are also located in FEMA high flood risk zones.

A preliminary analysis indicates that some of the UEA areas may also be jurisdictional wetland areas. The County is committed to protect wetland areas and mitigate for impacts to them, when they occur. All jurisdictional wetland areas carry development limitations, as established by the County Code.

Northern UEAs

No designated Natural Forest Communities or contaminated areas have been identified within these UEAs, and no EEL acquisitions have occurred with-

in these areas. However, the northernmost UEA is located entirely within the Rockmining Overlay Zoning Area (ROZA) boundary. The ROZA, like the Lake Belt, is an area where rockmining uses are considered to be potential uses. Policies in Objective CON-6 suggest that mineral resource lands should be considered as a priority before 'premature encroachment by incompatible uses'. Some of this acreage, therefore, may be prioritized for uses other than urban development.

Roughly the northern half of the UEA that borders the north side of theoretical SW 112th Street is within the West Wellfield Protection Area. The County Code establishes some protections for this area, through the restriction of certain land uses and hazardous materials management, to protect the County's public drinking water supply. Some of this acreage, therefore, may not be suitable for development, or may only be suitable for development specifically designed for this sensitive area.

Similar to the situation in 2003, the South Florida Water Management District has purchased some properties within the UEA that borders theoretical SW 42nd Street. These properties are no longer available for development and must be removed from the UEA. The SFWMD has also indicated its intent to purchase various additional properties in the northern half of this UEA, and in the western half of the UEA area that is west of NW/SW 137th Avenue and north of SW 8th Street, as indicated on Figure 1.1-9. The SFWMD's land acquisitions reflect the SFWMD's CERP study area boundaries, which include the northern portion of the theoretical SW 42nd Street UEA; this area is recognized as the Bird Drive Recharge Area. According to SFWMD data, this area may eventually be associated with seepage management projects to support Everglades National Park, which is west of this UEA.

Southern UEAs

In addition, Figure 1.1-10 indicates that the SFWMD has projected and planned to acquire various properties within the southern UEA that is adjacent to the South Dade Landfill. The two southern UEAs are adjacent to the Biscayne Bay Coastal Wetlands area; both the SFWMD and the County's EEL program have indicated intent to purchase various properties within these UEAs (see Figure 1.1-10). These proposed acquisitions or easements would be used for preservation of rare habitats or wetland ecosystems as part of regional wetland restoration initiatives, supported and funded in collaboration with the federal government. Again, as mentioned above, since these areas are currently within a high risk flood zone, and climate conditions are projected to result in some degree of sea level rise, some of these properties may not be suitable for development. Portions of the southernmost UEA lie east of the County's 2008 saltwater intrusion line. This means that the Biscayne Aquifer probably has chloride levels in this location that would preclude the use of a private well for drinking water without additional treatment.

Development in part of the southernmost UEA is additionally encumbered by the Homestead Air Reserve Base's Accident Potential Zones (APZ). These areas are depicted on Figure 1.1-10. The HARB's Air Installation Compatible Use Zone (AICUZ) study established these accident zones to promote compatible land development in areas where aircraft overflight operations may pose a risk. Although the UEA does not encompass a Clear Zone, the area with highest risk for accident at either end of the airport runways, the UEA is within APZ I and II. These areas are in the departure and approach flight paths and have potential for aircraft accidents. These areas are recommended to be removed from the southernmost UEA.

In conclusion, this analysis indicates that the UEAs should be modified, and the suitability of the UEAs is likely to change again as the County continues to analyze conservation plans, projected climate change impacts, and growth management strategies. Some acreage has been purchased by governmental agencies for conservation and should be removed from the UEAs. Additionally, County analysis may result in recommendations to remove additional acreage or to redirect any needed additional development outside of the Urban Development Boundary to a more suitable location. The County is committed to contemplate creative options to support existing land use goals, objectives, and policies in the CDMP to create compact pedestrian-oriented communities within the UDB that have minimal risks from flood and storm hazards. By directing development, through strategies such

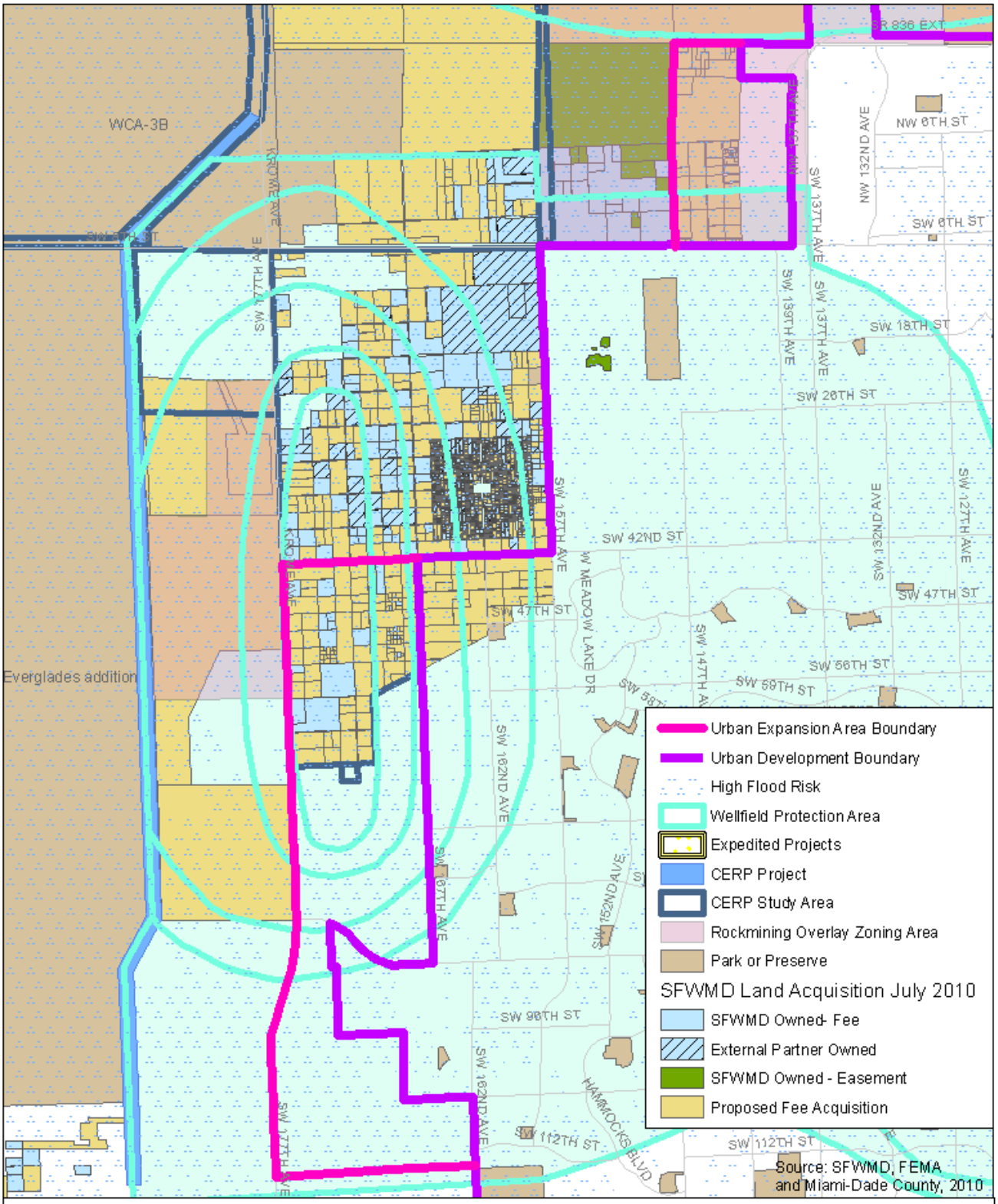


Figure 1.1-9

PLANNING CONSIDERATIONS: NORTHERN URBAN EXPANSION AREAS

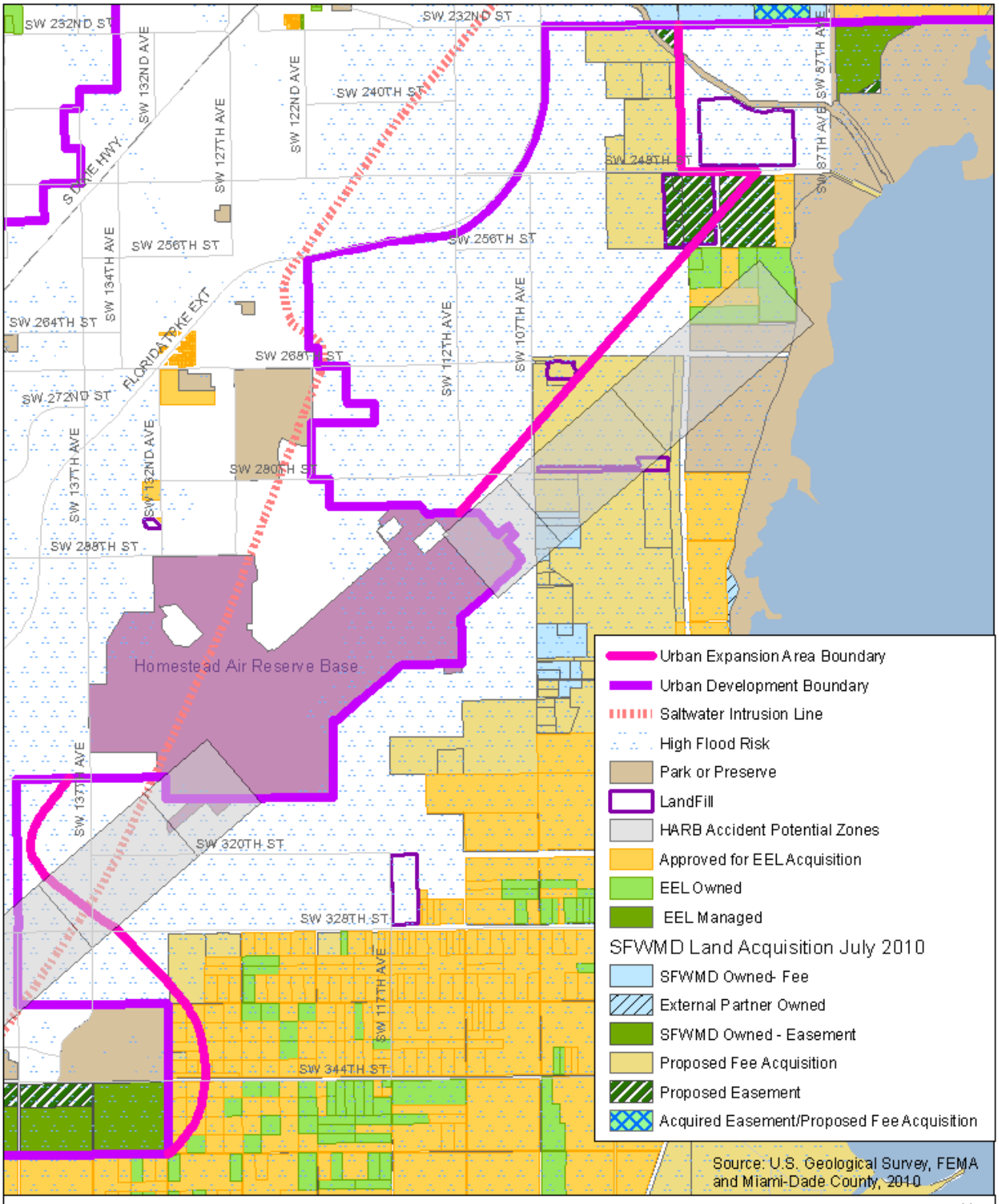


Figure 1.1-10

PLANNING CONSIDERATIONS: SOUTHERN URBAN EXPANSION AREA

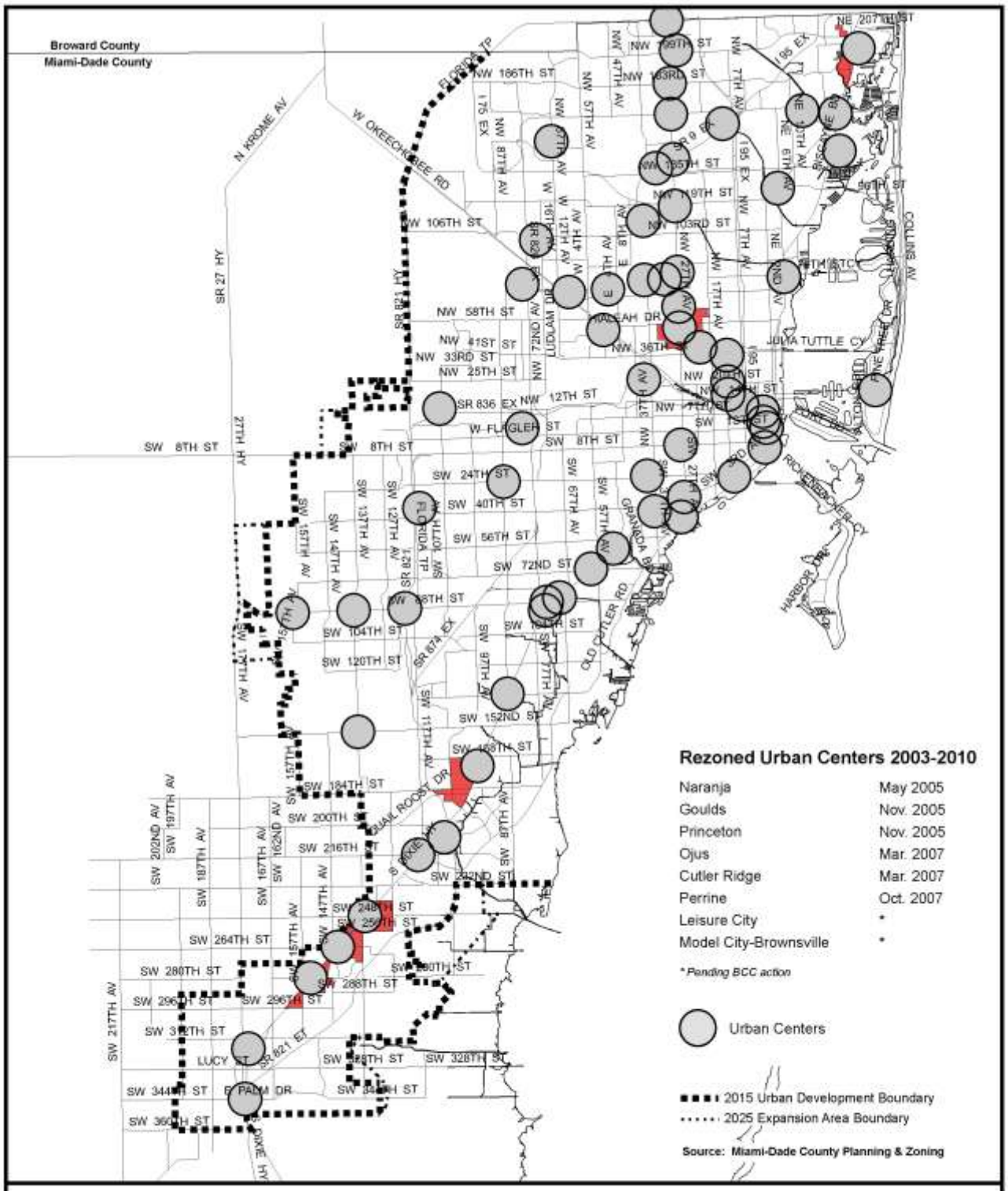


Figure 1.1-11

CDMP DESIGNATED URBAN CENTERS AND AREAS SUBJECT TO NEW URBAN CENTER ZONING DISTRICTS

as UEAs, the County is able to accomplish its objectives to discourage growth in areas that are prioritized for preservation, such as agricultural land, wetlands, and sensitive upland areas.

Optimize Urban Centers Potential

Since 2003, Miami-Dade County has adopted and rezoned six urban center districts. Currently two additional urban center districts have been adopted and await rezoning by the Board of County Commissioners. Vision plans for these areas were developed with community input during charrettes held in the specific area. The charrettes were a culmination of steering committee and public meetings with stakeholders.

Urban Centers are located inside the Urban Development Boundary on major existing and proposed transportation corridors (see Figure 1.1-11). Areas on the Land Use Plan Map designated as Urban Centers allow for residential densities up to 125 units per acre, mixing of residential and commercial uses and encourage a pedestrian-friendly environment.

Table 1.1-15
Adopted Urban Centers Since 2003

Adopted & Rezoned CUC	# of units under new zoning district	# of units under previous zoning district	Difference between previous zoning district and new district
Naranja	8,224	3,211	5,013
Goulds	4,004	1,064	2,940
Princeton	15,006	2,009	12,997
Ojus	6,033	3,159	2,874
Perrine	11,037	2,461	8,576
Cutler Ridge	4,613	197	4,416
Leisure City*	17,414	4,168	13,246
Model City*	14,007	3,198	10,809
Total	80,337	19,467	60,870

*Rezoning expected to be completed in December 2010

Overall, Urban Center districts adopted since 2003 provide for 60,870 more residential units than the previous zoning districts.

A variety of housing types are permitted, including single-family homes, duplexes, urban villas, rowhouses, townhouses, live-work and apartments. The districts also permit mixed-use development that may include businesses, professional offices, light industrial, civic uses with residential development.

Natural Resource and Agricultural Constraints

Retention of Agricultural Lands (Major Issue)

Although the number of acres of farmland decreases each year the agriculture industry continues to play an important role in the overall economy of the County. Agriculture employs almost 12,000 people and directly adds $661 million to the local economy each year. According to the United States Department of Agriculture's most recent (2007) Census of Agriculture the market value of crops sold increased by 14 percent from 2002. The number of farms also increased from 2,244 to 2,498 over the same five-year period. Major agricultural crops produced in the County include traditional and tropical vegetables, tropical fruits, and ornamental nursery and greenhouse products. Miami-Dade County farms also produce smaller quantities of seed crops, livestock, and aquaculture species. The majority of these commodities are exported out of the County to the State, national and international markets. Agri-tourism is an added component of the industry. There are several locations throughout the agricultural area that afford visitors the opportunity to sample and purchase locally grown products. Visitors can grab a tropical fruit or strawberry milkshake at an area fruit stand while out shopping for orchids, fresh vegetables, fruits and house plants. The area is also home to the country's only tropical fruit winery where travelers can sample some excellent tropical fruit wine.

The agricultural industry faces significant challenges in South Florida and farmland is being lost for various reasons. Some farmland is needed for Comprehensive Everglades Restoration Plan (CERP) projects, including water table increases. Between 2000-2005 the South Florida Water Management District (SFWMD) acquired approximately 5,000 acres in a wetlands area west of the Redland known as the "Rocky Glades" and approximately 5,300 acres in a second area known as the "Frog Pond"; both areas were designated as Agriculture Subarea 1 (East Everglades Agricultural Area). This acquired land will be used for CERP efforts. The amount of acreage actively farmed in the County has also been reduced due to hurricanes, infestations, and competition from international producers utilizing less expensive supplies and labor.

Due to inconsistencies with previous agricultural data sets used for the last EAR, the base year was adjusted to 2005 to allow for an accurate comparison with 2010 GIS layers. In 2005, Miami-Dade County had 61,966 acres of agricultural land located outside of the urban development boundary. Although 9,310 acres of agricultural land were lost over the last five years outside of the UDB, 3,492 acres were added for a net loss of 5,606 acres bringing the total down to 56,360 acres. Forty-five percent of the acres lost during this time period went to government ownership or privately owned lands protected from development. Most of these areas were purchased by the SFWMD for CERP projects. Eighteen percent is vacant and remains available for farming in the future. Development has only occurred on thirty percent of the land converted from agricultural use. Housing makes up most of the development with approximately 100 units being constructed each year.

Although agricultural land conversions have also occurred inside the urban development boundary, these conversions were anticipated and are consistent with the overall intent of the CDMP which calls for the intensification of development inside the UDB. As land uses intensify inside the UDB, the need to add land capacity outside the UDB will diminish. Figure 1.1-12 illustrates agricultural land conversions from 2005 to 2010.

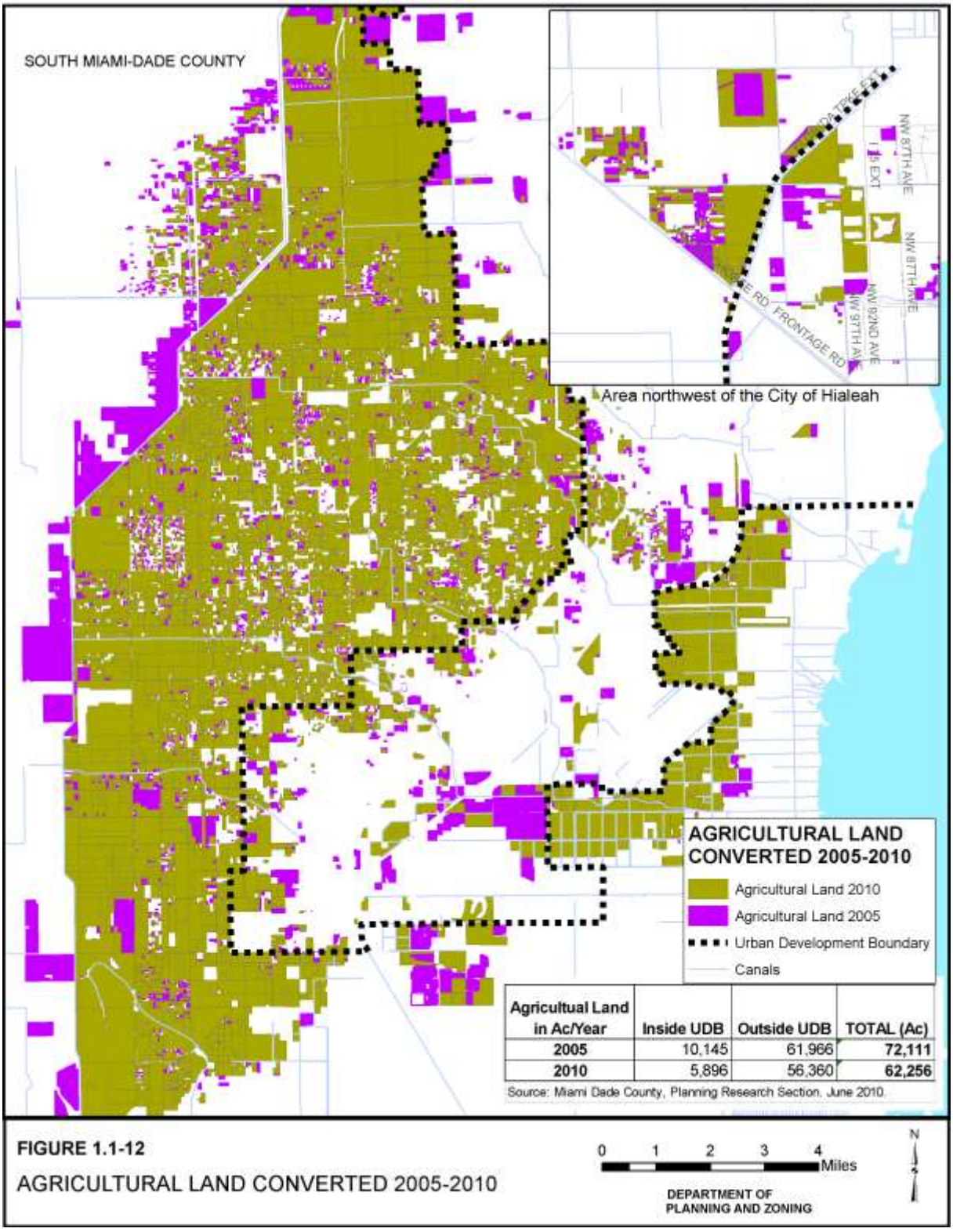


FIGURE 1.1-12

AGRICULTURAL LAND CONVERTED 2005-2010

In an effort to retain agricultural land, the County completed the Agriculture and Rural Land Study discussed in the 2003 EAR. Recommendations included in the final study included a "Preferred Development Scenario" for Miami-Dade County to help preserve agriculture and agricultural land in Miami-Dade County. However, in November 2003, the CAC voted 7-5 to "recommend that the report be rejected with prejudice." A report written by the Majority group of the CAC contended that property rights of current owners were being reduced and farmland preservation as recommended in the Agriculture Study would unduly burden existing farmers already in financial distress due to market conditions.

The policy that initiated the Agriculture Study was removed from the CDMP in 2003. The only recommendations implemented from the Agriculture Study was the creation of a County staff position of Agricultural Manager and the development of a Purchase of Development Rights program. The goals of the manager are as follows:

- To unveil the regional banding marketing campaign logo;
- To educate the community on the importance and benefits of the agricultural industry;
- To conserve farmlands through the creation and administration of the Purchase Development Rights program;
- To create an informative disaster preparedness brochure for the agriculture industry;
- To develop marketing programs for growers in Miami-Dade agriculture area;
- To develop an emergency plan of action for the agricultural industry;
- To create a unified request for changes to the 2007 Farm Bill; and
- To host annual "Get to Know Your Government/Growers" meetings.

Two major accomplishments of the agricultural manager were the implementation of a PDR program and a marketing partnership with Publix Supermarkets for *Redland Raised* produce.

Miami-Dade County's agricultural lands are a unique and economically important resource. On September 20, 2007, the Board of County Commissioners adopted a resolution creating the County's PDR Program. The PDR Program implements the will of Miami-Dade County voters by utilizing General Obligation Bond funds to preserve agricultural land. This program serves as one mechanism for farmland preservation by providing the County with the ability to purchase residential development rights from willing property owners, ensuring that the related properties remain undeveloped and available for agricultural uses. The County has acquired development rights for approximately 80 acres. Although federal matching funds are available, budget constraints have put a hold on County funds until the year 2017.

The new produce brand, *Redland Raised*, was released in more than 1,000 Publix stores in 2010. This local branding initiative was created by Miami-Dade County, in conjunction with the Florida Department of Agriculture and Consumer Services, to promote a "buy local" program throughout the County and the State of Florida. The brand will be in line with the *Fresh from Florida* brand, of which the majority of local growers and packers are members.

In 2007, the CDMP was amended to allow additional land uses in land designated Agriculture, such as bed and breakfast uses, that will be supportive of the agriculture industry and will allow agricultural land owners to benefit from potential new sources of income. Zoning ordinances to allow agriculture uses within utility right-of-ways and improve sign regulations are expected to be adopted later this year.

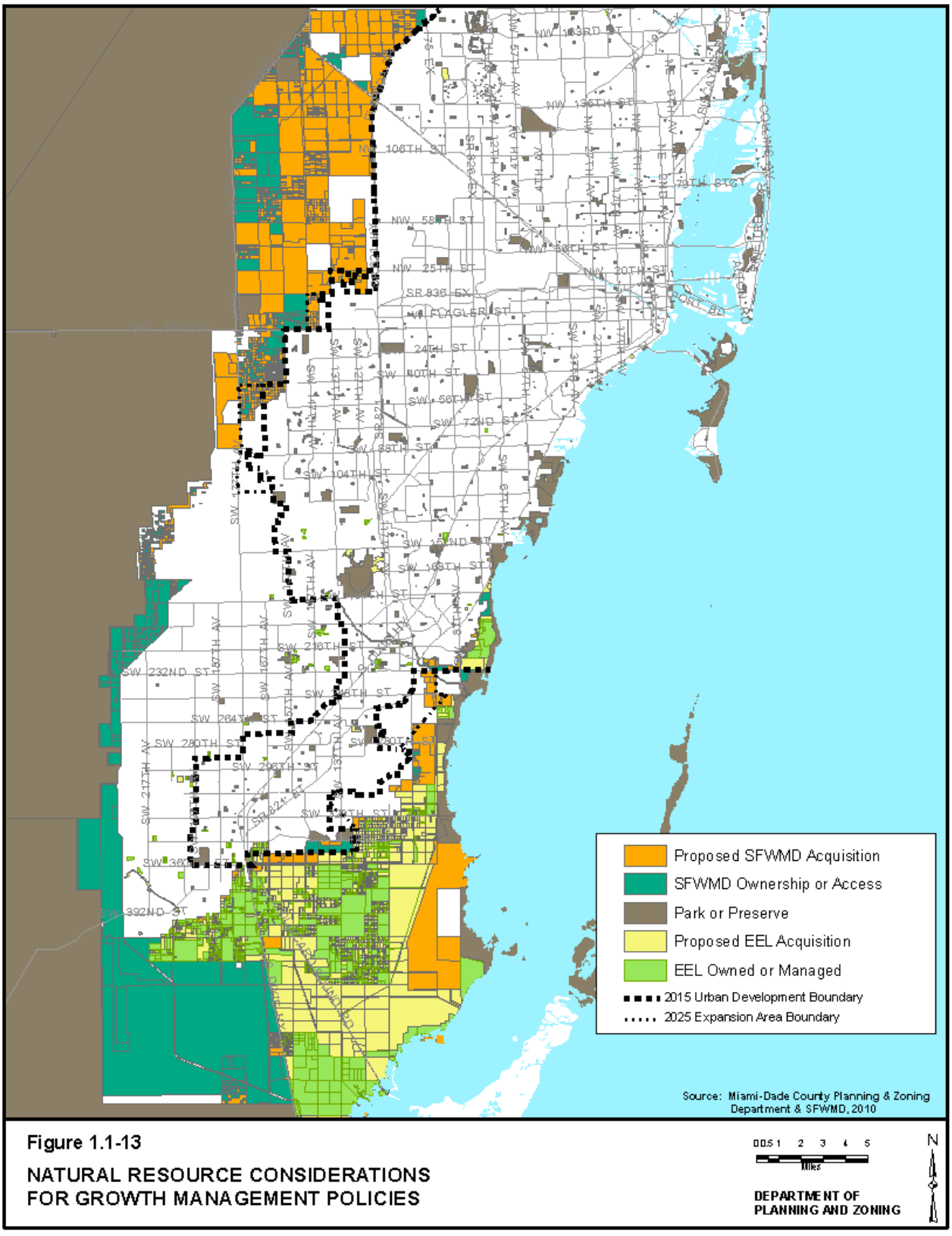


Figure 1.1-13

NATURAL RESOURCE CONSIDERATIONS FOR GROWTH MANAGEMENT POLICIES

UDB and Growth Policy Decisions: Natural Resource Impacts

This analysis discusses how pressure to expand urban uses affects efforts to protect and restore natural resources in Miami-Dade County. Land is needed to support natural resources, including water, rare plant and animal species, and marine ecosystems.

Remaining undeveloped acreage on both sides of the Urban Development Boundary is being pursued for development or uses that support urban development, including institutional uses. Significant acreage that remains undeveloped outside the UDB provides water quality and supply functions, and is composed of ecosystems that indirectly support the Miami-Dade economy, especially industries such as tourism.

The analysis below should inform policy decisions related to the location of the Urban Development Boundary and the County's overall growth management vision. Figure 1.1-13 reflects some of the conservation planning and land acquisitions that support County goals and policies related to natural resource conservation.

Acreage of Wetlands Converted to Other Uses

In 2003, there were a total of 33 active rockmining operations in wetland areas within the county. Rockmining operations usually span several years from start to finish and are permitted on an annual basis. Information on County wetland permits for rock mines is summarized below:

- 1988-1994 approximately 4,050 acres of wetlands were permitted for rockmining.
- 1994-2002 approximately 4,600 acres of wetlands were permitted for rockmining (15 new permits)
- 2003-2009 approximately 4,309 acres of wetlands were permitted for rockmining (22 new permits)

There are now 40 active permits for rockmining in wetland areas; the permitted areas encompass 9,110 acres. The County receives annual reports filed by each rockmining operator. These reports allow the County to summarize the actual acreages mined by year.

- 1994-2002 approximately 2,900 acres of wetlands were mined.
- 2003-2009 approximately 2,650 acres of wetlands were mined.

Freshwater wetland permits have been issued to allow other types of impacts to 9,940 acres of land that were determined to be 'jurisdictional wetlands' between 2003 and 2009. Between 2003 and 2009, Everglades National Park created 3,000 acres of wetlands within the Hole-in-the-Donut Regional Offsite Mitigation Area.

Acreage Acquired by DERM (and future acquisitions)

Miami-Dade's urbanized area is bounded on the east and west by Environmentally Protected Parks, which include the Everglades National Park, Big Cypress National Preserve, and Biscayne National Park. The National Park Service has not purchased significant acreage since 2003; limited purchases are slated to support ranger activities. However, the County's land preservation program, the Environmentally Endangered Lands Program (EEL) continues to pursue fee-simple land purchases. EEL owned properties are generally coastal or inland wetland areas, endangered pine rockland sites, or lands with tropical hardwood hammocks or other sensitive ecological features. The table below explains the purchase activity of the EEL program from 2003 through 2009. As also noted in the Conservation Element assessment, the EEL program now includes 75 preserves encompassing over 24,000 acres. (EEL properties are located on both sides of the UDB.)

Table 1.1-16
EEL Program Acquisitions 2003-2009

Habitat type	Acreage	Cost
Coastal Wetlands	4.5 acres	$15,000
Freshwater Wetlands	5,705 acres	$31,524,900 (EEL) and $6,292,300 (SFWMD Save Our Rivers)
Hammock	8.4 acres	$1,112,400
Hammock/Pineland	0.8 acres	$167,400
Pineland	27 acres	$2,791,600
Total	5,745.7 acres	$41,903,600

The EEL program also has a proposed land acquisition list that includes property that has been approved for acquisition. The EEL program proposes eventual acquisition of approximately 17,500 acres, according to current estimates. These estimates vary from year to year and acquisitions do not occur until funding and willing sellers are available.

Acreage Acquired by SFWMD (and future acquisitions)

Most of the South Florida Water Management District's Miami-Dade County land acquisitions will support implementation of the Comprehensive Everglades Restoration Plan (CERP) and related wetland restoration efforts. The SFWMD has acquired approximately 6,512 acres of land from December 2002, to December 2009. Data in the table below was provided by the SFWMD in January 2010. The United States Army Corps of Engineers (USCOE) have also completed some land purchases to support CERP and related water management projects.

Table 1.1-17
South Florida Water Management District Land Acquisitions in Miami-Dade County: 2002- 2009

Project Name/ Component	Acres Acquired	Land Cost (N/A if donated)
East Coast Buffer Project (8.5 Square Mile COE, Cell 26 and Cell 24):	953.91	$10,016,944.00
Water Conservation Areas Project	1,005.00	$100,500.00
C-111 Spreader Canal Project	321.95	$2,736,600.00
Everglades National Park Seepage Management- Bird Drive Recharge Area	444.33	$15,441,642.00
Biscayne Bay Coastal Wetlands	1,731.87	$31,558,253.00
Central Lake Belt Storage Project	60.93	$1,909,768.00
North Lake Belt Storage Project	5	$22,500.00
8.5 Square Mile	0.3	N/A
C-4 Flood Mitigation	1.3	$536,060.00
COE C-11/ L-31N	1,809.78	$27,412,652.00
Water Preserve Area/ WCA 3A & 3B Levee Seepage Management	165.55	$10,978,433.00
Water Preserve Area Conveyance- Dade/Broward Levee and Canal	11.45	$371,949.00
C-1 Project	0.23	N/A
C-1W Project	0.05	N/A
C-2 Project	0.03	N/A
C-7 Project	0.01	N/A
Total SFWMD Acquisitions in Miami-Dade County from 12/1/2002 through 12/31/2009:	6,511.69	$101,085,301.00

Source: South Florida Water Management District, 2010.

In addition, the South Florida Water Management District proposes additional land acquisitions or easements for land use within Miami-Dade County. Proposed land acquisition may include an additional 83,000 acres within the County; however, actual land acquisition is dependent on many factors. The SFWMD estimates of needed land are broad; water management project planning is ongoing at this time and until final engineering designs are completed, land acquisition plans will continue to evolve. Funding levels also will directly affect land acquisition.

Demand for Land to Support Urban Development

Both private business interests and government agencies are seeking to utilize land outside the UDB to support other uses. Adopted state legislation will require the development of wastewater reclamation facilities and water processing facilities that will require land. Solid waste master plans anticipate the need for additional acreage for resource recovery facilities. The County's Open Space Master Plan discusses proposed uses for land outside the UDB. Land uses such as jails and rehabilitation facilities, and fossil fuel and nuclear power generation facilities, progressively expand outside the UDB. More recent pressure on land outside the UDB has resulted in CDMP text amendments to allow commercial vehicle storage in Open Land Subarea 1.

Land outside of the UDB, that is designated for Environmentally Protected Parks is primarily composed of environmentally sensitive land and water areas within national parks. Although these areas are managed primarily through National Park Service management policies and programs, there is pressure to allow uses such as electrical transmission lines and ATV riding in some areas of these parks.

Some utility uses and public facilities, on a case by case basis, may be permitted in Environmental Protection Subarea A (State Water Conservation Area), Environmental Protection Subarea C (Miami-Dade Broward Levee Basin), Environmental Protection Subarea E (Southeast Wetlands), Environmental Protection Subarea F (Coastal Wetlands and Hammocks), and Wellfield Protection Areas. The remaining land outside the UDB primarily includes land designations for Agriculture, Parks and Recreation, and Open Land. There are some smaller areas designated for Institutions, Utilities,

and Communications that are already occupied by uses such as jails and rehabilitation facilities.

The CDMP states that to protect the agricultural industry, uses incompatible with agriculture, and uses and facilities that support or encourage urban development are not allowed in land designated Agriculture. Some utilities, compatible with agriculture and the rural residential character may be approved under certain circumstances. However, the preservation of agricultural land is a priority for Miami-Dade County, and the County is pursuing means to minimize the conversion of agricultural land to other uses.

Open Land Subareas allow a variety of uses that vary by subarea; these uses include utility and communication uses, public facilities, residential and recreational uses, and limestone quarrying and ancillary uses, among others. Some Open Land Subareas are being extensively mined and thousands of acres have been converted to deep water (up to 80-100 feet in some areas) artificial lakes.

Changing conditions that will affect land supply
Projected sea level rise and projected additional heavy rain events are expected to cause more extensive flooding in low-lying areas to the east and west. More powerful storms are projected to further affect coastal high hazard areas, as climate change conditions intensify. Comprehensive Everglades Restoration Plan initiatives are also expected to increase water levels in outlying sections of the County (although most of this land has already been purchased by public agencies).

Conclusion
There is growing pressure to use the County's remaining undeveloped land in various ways, some uses complement one another, and others cause conflict. As the amount of acreage that is available for future uses outside of the Urban Development Boundary shrinks, it is critical that the County establish a long-term land use vision for these important areas, and take action to implement that long term vision.

Annexation/Incorporation Trends

In November 2005, the Board of County Commissioners adopted Ordinance 05-192, which placed a moratorium on all incorporations and annexations. This moratorium was lifted in March of 2007. The last incorporation in Miami-Dade County was Cutler Bay which occurred in 2005. In September 2007, the Board of County Commissioners adopted Ordinance 07-120 placing a moratorium on incorporations only. As of the writing of this report, this moratorium on incorporations is still in effect. The moratorium will remain until such time as a report regarding efforts to maximize annexations and updated financial information related to the North Central Dade Municipal Advisory Committee Study Area is presented to the Board of County Commissioners. While adoption of an ordinance by the Board of County Commissioners is required in order to effect a boundary change, an affirmative vote by a majority of those resident electors voting is also required, if the area being annexed has more than 250 resident electors or is more than 50% residentially developed.

Annexations are generally initiated by a municipality. Chapter 20 of the Code of Miami-Dade County, Boundary Change Procedure, addresses annexation and was revised to provide specific guidelines on parties initiating any proposed change in boundaries. The guidelines require that the governing body of the municipality adopt a resolution after a public hearing is held and that all owners of property within the area and within six hundred feet of the proposed boundary change be notified. Also, various property descriptions, including land use, zoning and sketches of the locations must be filed with the Clerk of the Board of County Commissioners. The municipality must describe in detail the character and amount of services, which the municipality would provide to the area if annexed. The character and amount of services currently provided to the area proposed for annexation must be described for comparative purposes. In addition, a timetable addressing the provision of the services must be described, as well as the financing of the services and the tax load (clearly and concisely appraise the tax impact on the property owners and others residing and/or doing business in the area, and on those residing and/or doing business with the municipality) on the area to be annexed.

Currently there are five annexations applications in process from five cities:

1. Medley
2. Doral
3. Virginia Gardens
4. Miami Springs
5. Sweetwater

The first four applications were submitted in 2009 and are moving through the process. The next step for these will be a public hearing before the Planning Advisory Board currently scheduled for September 2010 and then to the Board of County Commissioners. The Sweetwater boundary change application has already been approved by the Board of County Commissioners and is awaiting a vote of the electors in the annexation area.

Due to economic and political conditions it is difficult to project if there will be any additional annexations, other than the ones aforementioned, or incorporations over the next 7 years.

Need for Compact Urban Development. To accommodate future population growth and to continue to protect our natural resources the County needs to consider and find ways for encouraging compact urban development.

Miami-Dade County has a total of 243,071 acres of land in the developed existing land use categories (residential; commercial, hotel/motel; industrial; institutional; and transportation, communications and utilities); 109,157 acres or 44.9 percent of which was residential. Of the residentially developed area, 96,280 acres or 88.2 percent was developed with detached and attached single-family homes. Excluding the street network required to serve these subdivisions, this constitutes 39.6 percent of the developed area of the county. As density directly affects land consumption it, in turn, affects the need to expand the UDB and extend associated service delivery programs.

One way to reduce the land consumption rate and protect the natural resources such as the Everglades is to provide residents an alternative to the sprawl pattern of development that has occurred in the United States since World War II. Segregated land uses, low residential densities and heavy dependence on automobiles characterize suburban sprawl. Vehicular traffic controls the form and scale of development. The streetscape, especially in commercial areas, is dominated by parking lots. Sprawl does offer some advantages such as more private open space for individual property owners and cheaper development costs for developers.

The alternative to sprawl is compact urban development which was the prevailing development pattern found in American cities and towns prior to the end of World War II. Walkable neighborhoods and mixed-use development characterized the need for compact urban development or "urban villages." Small density increases lead to significant land savings. In the 2001 publication of the National Governors Association, *New Community Design to the Rescue,* it is reported on pages 36 and 37 that the rate of vehicles miles traveled per household is reduced 15 to 25 percent when moderate increases in densities are combined with such other measures such as transit oriented development, mixed uses with employment opportunities, pedestrian and cycling improvements, and parking management. Today's diversity of households includes young single people, childless couples, and parents with children, empty nesters and retirees. Mixing housing types in a well designed, walkable community allows all of these groups to continue to live in the same community, as their housing needs change. Walkable communities also provide greater independence for children, seniors, low-income persons and others who may lack ready access to cars. These alternatives will not completely replace the existing market desire or need for single family residential development in the west, but can bring it more into balance with the opportunities for urban village lifestyle, for which the market demand is steadily increasing.

Identification of CDMP Elements Impacted by Issue and Assessment of Each Objective Impacted in Elements

The UDB and CDMP time horizons are tools used to manage growth and control the adverse impacts of suburban sprawl. Thus, all the elements of the CDMP are affected by the issue of UDB capacity and expansion. The issue of UDB capacity and ex-

pansion is key to the Land Use and Housing Elements since it impacts the supply of land available for development. Since the UDB helps control the consumption of natural resources and agricultural lands, the elements of Land Use, Coastal Management, Recreation and Open Space, and Conservation, Aquifer Recharge, and Drainage are impacted. The UDB and CDMP time horizons are tools for controlling public expenditures and the provision of services, thus, the elements of Capital Improvements; Educational; Transportation; Recreation and Open Space; Conservation, Aquifer Recharge; and Drainage and Water, Sewer and Solid Waste are affected. Since the cities of Florida City and Homestead, have extended municipal boundaries beyond the UDB, this issue also impacts the Intergovernmental Coordination Element.

A number of Objectives and Adopted Text in the various Elements and Subelements relate directly or indirectly to the issue of UDB capacity and expansion. The objectives impacted include: Land Use Element Objectives LU-1 and LU-2 and LU-7 thru LU-12; Traffic Circulation Subelement Objective TC-4; Mass Transit Subelement Objective MT-2, Aviation Subelement Objectives AV-6 thru AV-8; Housing Element Objectives HO-2, HO-3, HO-6 and HO-7; Conservation, Aquifer Recharge, and Drainage Element Objectives CON- 3 thru CON-5; Water and Sewer Subelement Objectives WS-1, WS-4 and WS-5; Solid Waste Subelement Objective SW-1; Coastal Management Element Objectives CM-9 and CM-10; Intergovernmental Coordination Element Objectives ICE-1 and ICE-3; Capital Improvements Element Objectives CIE-1 and CIE-3 thru CIE-5; and Educational Element Objective EDU-1.

Adopted Text also provides policy guidance. Adopted text that is impacted by this issue in the Land Use Element includes such sections and subsections as Introduction, Business and Office, Office/Residential, Guidelines for Urban Form, Mixed-Use Development, Urban Expansion Area and Ultimate Development Area in the Interpretative Text of the Land Use Element.

The objectives most significantly impacted by the findings of this issue review are Objectives LU-1, LU-8, LU-11 and LU-12 in the Land Use Element; and Objective CIE-3 in the Capital Improvements Element. Objective LU-1 needs to be revised so that the target date for emphasizing intensification and contiguous urban expansion should match the interim long term planning horizon of 2030. New policies are needed under Objective LU-1 to focus its efforts on locations and intensity of future development activity; to address the role that the UDB plays in the County's efforts to conserve energy and reduce green house gases; and to encourage the use and expansion of the PDR program. A new policy under Objective LU-8 is need to provide criteria for moving the UDB for developments that contain residential uses when need has not been demonstrated. In addition, Policy LU-8F should be revised to include areas located in accident potential zones of Homestead Air Reserve Base as areas not to be considered when considering land areas to add to the UDB; to make reference to the Urban Expansion Area (UEA); and to replace the reference of Category 1 hurricane evacuation areas east of the Atlantic Coastal Ridge as areas to be avoided when considering lands to add to the UDB with a reference to Hurricane Evacuation Zones A and B east of the Atlantic Coastal Ridge. New policies are needed under Objectives LU-11 and LU-12 to address incentives and the removal of barriers to infill and redevelopment. Policy CIE-3A needs to be revised to list areas where infrastructure upgrades are needed.

Summation of the Social, Economic and Environmental Impacts on the CDMP, if Applicable

The promotion of compact development as an alternative to suburban sprawl in the CDMP can have a wide range environmental, social and economic effects on the County. Segregated land uses, low residential densities and heavy dependence on automobiles characterize suburban sprawl. Depending solely on automobiles for getting to destinations contributes to greenhouse gas emissions and increases the risk of car crashes due increases in auto use and miles traveled. Environmental impacts with sprawl include increase air pollution from more trips by vehicles, lost of open space and agricultural land due to the consumption of land for urban purposes and increased water pollution from runoff.

Social impacts of sprawl may include "road rage" and the lack of time that people have for participating in community events and organizations during

the workweek. The incidences of "road rage" may be related to the frustrations of commuters stuck on congested roadways. Because people spend so much time commuting between work and home, they may not have the time or energy to give to community events and organizations. The sense of community could be impacted by reduced participation.

Sprawl can have adverse economic impacts to businesses, governmental agencies and people. Businesses are impacted by employees who lose work time due to long commutes and being stuck in traffic. Infrastructure costs including maintenance can be higher with sprawl development. Infrastructure takes more land per housing unit to service low- density development than higher density development, simply because dwelling units are further apart. As reported in *Whither Eastward Ho!* that was prepared by The Growth Management Institute, a study by Rutgers University indicates that continued sprawl into the Everglades ecosystem of Southeast Florida would cost taxpayers an additional $1.1 billion annually to pay for public services.

Sprawl can adversely impact the health costs for individuals and families. It discourages physical activity such as walking and cycling, which can lead to obesity and such health problems as high blood pressure and diabetes. Sprawl increases the potential and promotes pedestrian injuries and facilities since the roads are designed primarily to move traffic.

Compact urban development has been recognized by many for the benefits it can provide, particularly in fast growing metropolitan areas. Compact development is often touted as a fundamental way to combat sprawl and create a complete and livable community. Higher density development houses people more efficiently on land thereby reducing the need to extend the reach of public facilities and service delivery programs and the need to urbanize environmentally sensitive or poorly suited land. Compact development fosters social interaction that helps create a cohesive community and can provide a sense of comfort and security as an alternative for many who may experience a feeling of isolation in the suburbs. This form of development reduces dependency on the automobile by making it easier for walking or bicycling to destinations and encourages independence for the elderly, the young and others who do not drive or have access to a private motor vehicle. Building at moderately higher densities lowers infrastructure costs for all taxpayers because the costs are shared by more people who, in turn, free tax revenue to support other community needs or amenities.

Conclusions and Proposed Revisions

The issue of Comprehensive Development Master Plan (CDMP) Urban Development Boundary (UDB) capacity and expansion impacts both the Land Use Plan (LUP) map and all the elements of the CDMP. A component of this issue is the short-term and long-term planning horizons. The time horizons of the CDMP are currently the near-term year 2015 and the long-term year 2025. These horizons are reflected on the LUP map as the 2015 UDB and the 2025 Urban Expansion Area (UEA) boundary.

The Department is recommending that the planning horizons for the CDMP be updated to year 2020 for the near term and UDB and to year 2030 for the long term and UEA boundary. Because of the extended time periods required to plan and build such public facilities as transportation, public water supplies and wastewater treatment facilities, the year 2030 under Objective LU-1 is warranted as a long-range horizon.

The area within the UDB provides enough countywide capacity of residential land to accommodate projected development through 2021, which gives the County an overall capacity of 10 years. Policy LU-8F states that the UDB should contain a ten-year supply of developable land having capacity to sustain projected countywide residential demand for a period of ten years after adoption of the most recent EAR plus a 5-year surplus (a total of 15-year countywide supply beyond the EAR adoption date). A careful review of the housing supply and demand conditions is warranted due to the new Census 2010 population figures and housing market conditions. The recently released Census 2010 population figures were below projected levels; this will result in significant revisions in the upcoming popu-

lation projections and, in turn, on residential demand. Further, housing market conditions remain uncertain as the County is faced with high vacancy rates, continuing high levels of foreclosures, lack of residential construction activity coupled with high unemployment rates and a tight credit market. Together, these conditions lend support to a thorough review of conditions within the EAR-based amendment time frame.

The specific recommendations for this issue and related issues are the following:

1. The CDMP planning horizons should be 2020 for short-term and 2030 for long-term.
2. Develop a new policy under Objective LU-8 with criteria for moving the UDB for urban uses. The criteria could include a minimum acreage size, a minimum density requirement, a minimum intensity requirement for non-residential uses, limited impact on natural or agricultural resources, a positive or neutral net fiscal impact to the County generated by the proposed land use change, the land use change would not discourage or inhibit infill and redevelopment efforts in existing neighborhoods and communities, sustainability practices, and for developments containing residential uses participation in a Transfer of Development Rights (TDR) Program that would preserve agricultural or environmentally sensitive areas.
3. Policy LU-8G should be revised:
    a. To include areas located in accident potential zones of Homestead Air Reserve Base as areas not to be considered when considering land areas to add to the UDB. This revision would help insure compatibility between Homestead Air Reserve Base and adjacent lands, which is required by Section 163.3175(1) of the Florida Statutes.
    b. To make reference to the Urban Expansion Area (UEA). Currently UEAs are not included as a factor in this policy for moving the UDB.
    c. To replace the reference of Category 1 hurricane evacuation areas east of the Atlantic Coastal Ridge as areas to be avoided when considering lands to add to the UDB with a reference to Hurricane Evacuation Zones A and B east of the Atlantic Coastal Ridge. This revision would make this criterion consistent with the revisions made by Application No. 15 of the April 2007 Cycle of CDMP Amendments to the Coastal Management and Land Use Elements.
4. Modify the existing four UEAs. These areas contain limitations for urban development such as wetlands, wellfield protection areas, foot prints of CERP projects, EEL properties, prime agriculture, and accident potential zones associated with Homestead Air Reserve Base.
5. The following changes to the Adopted Land Use Plan (LUP) map for increasing capacity are proposed:
    a. Locate a Community Urban Center at Palmetto Expressway and Bird Road.
    b. If prior to the end of the filing period for the EAR-based CDMP Amendments funding is committed for the proposed commuter rail line using the FEC right-of-way between Miami and Jupiter, potential commuter rail stations should be considered for urban center locations.
    c. Review and modify the LUP map to encourage increase densities around existing and proposed transit stops; and along transit corridors; and identify where modest density increases may be feasible to properly maintain a balance between residential supply and absorption of units.
6. Expand the urban development bound boundary by including the 521-acre hole-in-donut area north of the Dolphin Expressway and west of the Turnpike by redesignating this area from “Open Land” to “Restricted Industrial and Office”. The area is primarily bordered by land designated as Industrial and Office on the north and west, the Dolphin Expressway to the south and the Homestead Extension to the Florida Turnpike (HEFT) to the east. This hole-in-donut area was created 2002 when areas to the north and west were brought into the UDB and redesignated from “Open Land” to “Restricted Industrial and Office” as the result of the Beacon Lakes DRI application and the Shoppyland application in the April 2001 Cycle of CDMP applications. Thus, the entire area is surrounded

by urban development. If public service and environmental issues can be addressed and it is financially feasible, the area should be urbanized. Since the area is located within the Northwest Wellfield Protection area, the most appropriate industrial land use category for redesignation is 'Restricted Industrial and Office.' Industrial use at this location could allow other industrial land to be converted to residential development.

Additionally, in order to accommodate countywide residential demand until 2026, proposed EAR-based amendments will first address appropriately increasing residential densities and intensities inside the existing UDB; second, propose modifying the existing UEA's to realistically reflect future development potential; third, propose expanded or new UEA boundaries to accommodate future residential and non-residential demand, when warranted; and fourth, consider expanding the UDB into the land proposed for the modified and/or new UEA's, as warranted, to address any deficiency in the land supply not adequately addressed by the increased densities and intensities inside the existing UDB.

7. Optimizing the implementation of urban centers will require infrastructure upgrades and the availability of jobs. The County shall list priority areas in Policy CIE-3A where infrastructure upgrades are needed and will be programmed. These priority areas include the urban infill area, urban centers and transit corridors.
8. The County needs to focus its efforts on locations and intensity of future development activity. Growth management tools such as parking studies, public investments, policies that would implement this assertion should be clearly identified in a new policy under Objective LU-1.
9. Add new policies under Objectives LU-11 and LU-12 to address incentives and the removal of barriers to infill and redevelopment.
10. Add a new section to the text of the Land Use Element addressing density and intensity bonuses or other measures that will facilitate green building, infill and transit-oriented development. These bonuses were recommended by the public at town hall meetings on the EAR.
11. Review the maximum floor area ratios (FARs) in the table entitled "Maximum Allowable Non-Residential Development Intensity" that is found in the section of the text entitled "Interpretation of the Land Use Plan Map: Policy of the Land Use Element" to determine if they can be increased.
12. The prime use of property designated as "Business and Office" or "Office/Residential" is commercial or office. However, some properties with this designation are being developed only with residential uses. Require in the text of the Land Use Element properties being residentially developed in these land use categories to include a percentage mix of residential and business and/or office activities with minimum and/or maximum.
13. A new land use category, such as Commercial Recreation, needs to be created to cover major sporting facilities such as Sun Life Stadium, the new baseball park, horse racing tracks, and Homestead-Miami Speedway that are important to the County's economy and tourism. These major sporting facilities serve the South Florida region, cover large tracks of land and operate only during the season for the sport. The land use category needs to address characteristics of major sporting facilities. Currently, these facilities are included in the "Business and Office" category, which is oriented to service, retail, and wholesale activities that generally operate year-round in shopping centers, commercial strips and business nodes. The text of the "Business and Office" land use category is silent regarding major sporting facilities.
14. Guidelines for Urban Form

    Create separate guidelines for suburban and urban areas. Areas that are estate and low density residential communities have different requirements for urban form than residential communities with higher densities. In addition, the Guidelines need to address neighborhoods where residents can walk or bicycle to carry on their daily needs.
15. The Interpretative Text should be updated to provide for horizontal mixed-use development that will facilitate the development of walkable and transit-supportive neighborhoods and corridors. This provision should provide the flex-

ibility to create places that are diverse, sociable and reflective of business and technology.

16. Add a new policy under Objective LU-1 addressing the role that the UDB plays in the County's efforts to conserve energy and reduce green house gases.
17. The County recently instituted a Purchase of Development Rights (PDR) program, which holds great potential to protect sensitive land outside the UDB. A policy should be added under Objective LU-1 to encourage the use and expansion of the PDR program.
18. A new monitoring measure under LU-1 should be added to measure the success of TDR, PDR, SUR programs in the County designed to preserve land designated for Agriculture on LUP map.
19. Update the Ultimate Development Area section on pages I-75 and I-76 of the Land Use Element.
20. Develop a new policy under Objective LU-8 or LU-9 that would recommend changes to the County Code regarding the processing of proposed amendments to the CDMP that would result in changing the land use designations for land located outside the Urban Development Boundary (UDB) or in moving the UDB or the Urban Expansion Area (UEA). Section 2-116.1 (2) (a) of the County Code currently authorizes these types of amendment applications to be filed as EAR-based amendments during either the April or October filing periods or during the April filing period in odd number years.

Land Use Plan Map Amendments Adopted 2003-2009

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
April 2003-04	1	LIMOCH 19680 West Dixie, LLC and LIMOCH 19770 West Dixie, LLC.	Begin 100 ft east of NE 26 Ave to West Dixie Hwy and lying north of Theo NE 197 St	LOW-MEDIUM DENSITY RESIDENTIAL (L-MDR)	BUSINESS AND OFFICE (B & O); Adopt with the changes as staff recommended, and with a 115 foot setback from NE 26 Ave	1.888
	2	Blue Green Commercial Corp./ Jeffrey Bercow, Esq. and Michael W. Larkin, Esq.	Begin 80 ft east of NE 26 Ave to West Dixie Hwy and lying north of NE 195th St.	L-MDR	INDUSTRIAL AND OFFICE (I & O); Adopt with changes, including the northern one-half of the property being redesignated to "B & O", a 115 foot setback from NE 26 Ave and acceptance of the proffered covenant, as modified by the County Attorney	2.90
	3	Williams Island Country Club, Ltd.		PARKS AND RECREATION (Parks & rec)	LDR	142
	4	Young Women's Christian Association Of Greater Miami and Dade County, Inc		LOW DENSITY RESIDENTIAL (LDR)	B & O City of Miami Gardens	2.14
	5	Carlos Rodriguez		LDR	B & O City of Miami Gardens	0.67
	6	Comanche, Inc./	Property is situated approx 165 ft west of NW 27 Ave and btwn NW 97 and NW 98 Sts	L-MDR	B & O	1.11
	7	Aran Properties, Inc.		OFFICE/RESIDENTIAL (Off/Res)	B & O Doral adopted	26.0
	8	Consolidated Properties of West Dade, Inc.	The intersection of NW 24 St and NW 108 Ave	I & O)	B & O	0.36
	10	Lowe's Home Centers, Inc.	Only parcel B adopted	I & O	B & O	16
	11	Century Homebuilders, LLC	Southeast corner of SW 126th St and SW 122nd Ave.	I & O	B & O	10
	12	CB at 152nd, LLC.	Northwest corner of SW 152nd St and SW 157th Ave.	AGRICULTURE (Ag)	B & O	9.51
	13	Numero Uno Properties, Inc	North side of SW 288 St approx 625 ft east of SW 137 Ave	LDR	B & O	2.05
October 2003	1	Cornerstone Group Assoc. Inc	East side of NW 6 Ave btwn NW 159 St and NW 161 St	LDR	L-MDR, with acceptance of proffered covenant	7.25
	2	Cornerstone Group Assoc. Inc.	North of NW 84 St and 380 ft west of NW 27 Ave	B & O	MDR (MEDIUM DENSITY RESIDENTIAL)	2.5
	3	Cornerstone Group Assoc. Inc	East side of NW 27 Ave btwn NW 77 St and NW 78 St.	I & O	MDR, With Change, As Recommended by Staff	5.369
	5	Silver Group 137, Inc./	West side of SW 137 Ave at theo SW 164 St	I & O	Off/Res	7.84
	6	Manuel C. Diaz	Approx 995 ft south of SW 248 St fronting on the Florida Turnpike Access Ramp	LDR and Off/Res	Off/Res	6.32
	7	Lucky Start at Centraland, LLC	Southwest corner of SW 137 Ave and SW 272 St	L-MDR	B & O	9.99
APRIL 2004-05	1	Aventura Village, LLC	North side of NE 179 St, btwn Oleta River and West Dixie Hwy, approx 300' west of West Dixie Hwy	L-MDR	MDR	1.4 Acres
	2	DO'QW, Director, DPZ	Btwn I-75 and NW 97 Ave from NW 170 St to HEFT	ESTATE DENSITY RESIDENTIAL (EDR)	I & O	260.15
	3	Carolyn Sakolsky /	East Fontainebleau Golf Course bounded on the East by NW 87 Ave, on the North by the Dolphin Expressway (SR 836), on the West by NW 97 Ave and on the South by West Flagler St.	Parks and Recreation and MDR	MDR and Parks	152.28 Acres
	4	Nationwide Theatres West Flagler, LLC	Southwest corner of SW 87 Ave and West Flagler St	Off/Res	B & O with acceptance of covenant	8.71
	6	BMS Development, LLC	North side of SW 88 St (N. Kendall Drive) and approx 640 ft west of SW 162 Ave	LDR	B & O with acceptance of covenant	9.18
	7	College Park II, LLC.	Southwest corner of SW 117 Ave and SW 104 St	L-MDR	B & O	9.5
	8	Century Business Park, LLC	Btwn SW 152 Ave and SW 157 Ave and From SW 116 St to SW 120 St	I & O	B & O	67.8

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	9	Garoe Holdings LLC	Btwn SW 158 Ave & SW 162 Ave, and from SW 136 St to CSX Railroad line)	I & O	LDR	27.5
	10	University of Miami	Located on the south side of SW 152 St (Coral Reef Drive) and immediately west of SW 124 Ave	INSTITUTIONAL AND PUBLIC FACILITY (Institut & PF)	ADOPT WITH CHANGE by redesignating the entire 143.5-acre site to 'L-MDR Communi-ties" and ACCEPT Proffered Covenant limiting the density to 9 dwelling units per acre and the total number of units to 1,200.	143.5
	11	Silver Group 137 Inc..	Southwest corner of SW 137 Ave and theo SW 164 St)	I & O	B & O	±4.93
	12	Gadinsky Development Co., Inc	Northeast corner of SW 200 St and SW 127 Ave	LDR	B & O	1.37
	13	Numero Uno Properties, Inc.	North side of SW 288 St and 660' East of SW 137 Ave	LDR	B & O	2.05
	Doral-1		Btwn Theo NW 74 and NW 90 Sts from Theo NW 97 Ave to Theo NW 107 Ave		*ADOPT WITH CHANGE as listed below and ACCEPT the proffered covenant limiting the total number of dwelling units to 4,632.*	453.19
			Tract A	I & O	Off/Res (±73 Acres)	
			Tract B	B & O (5 ac) and I & O (194.99 ac)	L-MDR with DI-1 (199.99 Acres)	
			Tract C	I & O	L-MDR with DI-1 (199.99 Acres) (72.59 Acres)	
			Tract D-1	I & O	B & O (±34.51 Acres)	
			Tract E-1	I & O	Off/Res (10.1 Acres)	
	Doral-2		North of Theo NW 78 St and btwn Theo NW 97 and NW 102 Aves (170 Acres)	I & O (72.1 Acres) and Water (97.9 Acres	Off/Res; *ADOPT and ACCEPT proffered covenant providing for a max of 1,250 dwelling units and 138,000 gr sq ft office development.*	170
October 2004-05	had 114 Parcels	Ordinance 05-219,	December 12, 2005	This cycle has	Parcel Numbers	
	1	Aventura:	North and South sides of NE 213 St East of NE 30 Ave	MDR	B & O	23
	2	Aventura:	SE corner of NE 213 St and NE 27 Ct	L-MDR	B & O	14
	3	Aventura:	East side of Country Club Dr West, south of Aventura Blvd	Parks & Rec	B & O	17
	4	Aventura:	North of NE 187th St, East and West of NE 29 Ave	I & O	B & O	15
	5	Aventura:	North and South sides of NE 188 St, East of NE 30 Ave	I & O	MEDIUM-HIGH DENSITY RESIDENTIAL (M-HDR) and B & O	32
	6	Sunny Isles Beach:	NW corner of Ocean Blvd and NE 193rd St	MDR and B & O	LDR	18
	7		West of I-95, btwn NE 215 St and NE 207 St	I & O	Parks & Rec	94
	8	Miami Gardens:	SE Corner of NW 199 St and NW 32 Ave	Off/Res and B & O	Parks & Rec	29
	9	North Miami Beach:	North side of Sunny Isles Blvd west of Oleta River	B & O	ENVIRONMENTALLY PRO-TECTED PARKS (EPP) ENVIRONMENTALLY EN-DANGERED LANDS (EEL)	3
	10	North Miami:	SE corner of NE 151st St and Biscayne Blvd	Parks & Rec	M-HDR	188
	11	Opa-locka:	NE corner of NW 22 Ave and NW 139 St	B & O and I & O	MDR	10
	12	Opa-locka:	NW corner of NW 17 Ave and Opa-locka Blvd	LDR	I & O	10
	13	Opa-locka:	SW corner of NW 32 Ct and NW 132 St	I & O	Off/Res	11
	14	Opa-locka:	SW corner of NW 28 Ave and NW 132 St	I & O	MDR	11
	15	Opa-locka:	SW of NW 27 Ave and NW 132 St	I & O	B & O	18
	16	Opa-locka:	NW corner of NW 27 Ave and NW 127 St	I & O	MDR	5
	17	Hialeah:	NE corner of NW 102 Ave and NW 138 St	EDR w/ DI-1 (with one density category increase)	B & O	72

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	18	Hialeah:	NE corner of NW 97 Ave and West 80 St	I & O	MDR	10
	19	Miami Shores:	South side of NW 115 St btwn NW 2 Ave and NW 5 Ave	L-MDR	Institut & PF	24
	20	Miami Beach:	South side of West 63 St, btwn Inter Coastal Waterways	LDR	MDR	9
	21	Miami:	NE corner of NE 80 St and NE 1 Ave	B & O	Off/Res	17
	22	Miami:	NW corner NE 4 Ave and NE 80 Terr.	B & O	Off/Res	8
	23	Miami:	Btwn NE 75 St and NE 78 St, btwn NE 2 Ct and NE 3 Place	I & O	MDR	19
	24	Miami:	NE Miami Ct to NE 2 Ave, btwn 71 St and 72 St	I & O	MDR	12
	25	Miami:	Btwn I-95 and NE Miami Ct, btwn 71 St and 72 St	I & O	B & O	45
	26	Miami:	Btwn NW 7 Ave and I-95, btwn NW 71 St and NW 72 St	I & O	B & O	11
	27	Hialeah:	NE corner of West 20 Ave and West 41 St	MDR, M-HDR and I & O	B & O	12
	28	Hialeah:	East and West sides of West 16 Ave from West 41 St to 42 St	MDR	B & O	6
	29	Hialeah:	SW corner of West 16 Ave and West 37 St	I & O	B & O	20
	32	Medley:	Northeast corner of NW 107 Ave and NW 90 St	MDR	I & O	88
	34	Miami Springs:	East and West side of Curtiss Parkway south of the circle	LDR	L-MDR	23
	35	Miami Springs:	NE corner of Red Road and NW 38 St	MDR	B & O	15
	42	Miami	NW corner of Watson Island	Parks & Rec	B & O	7
	43	Miami	Btwn NW 1 Ave and NE 2 Ave, btwn NW/NE 3 St and NW/NE 5 St	B & O	Institut & PF	29
	44	Miami	North side of Miami River btwn NW 22 Ave to NW 27 Ave	I & O	MDR	16
	45	Miami	From Miami River to NW 17 St btwn NW 13 Ave and NW 17 Ave	M-HDR and Institut & PF	Off/Res	47
	46	Miami	Btwn Miami River and NW South River Dr btwn NW 18 Ct and NW 19 Ct	I & O	M-HDR	7
	47	Miami	SE corner of NW North River Dr and NW 18 Ave	I & O	M-HDR	8
	49	Miami	SE corner of NW 7th St and NW 17th Ave (Orange Bowl)	B & O	Institut & PF	47
	50		Area bounded by NW 21 St, NW 37 Ave, NW 25 St and NW 42 Ave	B & O and I & O	TRANSPORTATION TERMIN-ALS (Trans Terminals)	77
	51	Miami	West of NW 42 Ave btwn State Road 836 and NW 20 St	B & O	Trans	24
	52	Miami	Btwn I-95 and SW 15 Road, btwn SW 1 Ave and Coral Way	LDR	Off/Res	18
	53	Miami	Btwn SW 7 St and SW 2 St on both sides of SW 42 Ave	LDR	Off/Res	15
	54	Miami	West Flagler to SW 8 St btwn 2 FEC RR ROW	I & O	B & O	27
	55	Miami	SE corner of Brickell Ave and SE 32 Road	Institut & PF	LDR	11
	56	Miami	North of Biscayne Bay btwn East Glencoe St and West Fairview St	L-MDR	HIGH DENSITY RESIDENTIAL (HDR)	6
	57	Miami	SE corner of Virginia St and Day Ave	B & O	MDR	6
	58	Miami	An area north and south of Grand Ave btwn Margaret St and Plaza St	L-MDR	Off/Res	10
	59	Coral Gables	North side of Coral Way from SW 42 Ave to Segovia St	LDR	MDR	6
	61		North of NW 12 St, west of the turnpike, under the overpass	I & O	Trans	24
	62		NE corner of NW 107 Ave and West Flagler St, btwn NW 107 east to approx. NW 105 place	Off/Res	Institut & PF	39

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	63		Partially Withdrawn	OPEN LAND (OL) and URBAN EXPANSION AREA (UEA)	ENVIRONMENTAL PROTEC-TION (Envir Prot) with the UEA moved east to NW/SW 147 Ave btwn NW 12 St and SW 8 St.	910
	64		Btwn SW 10 St and Theo SW 22 St and btwn SW 147 Ave and theo SW 149 Ave	LDR	EPP (EEL) and Parks & Rec	122
	65	South Miami:	West side of SW 57 Ave btwn SW 76 St and SW 80 St	LDR	Off/Res	7
	66	South Miami:	SE and NE corner of SW 62 Ave and SW 76 St	B & O and MDR	Off/Res	5
	67	South Miami:	W of SW 64 Ct to E of SW 63 Ave and from S of SW 72 St to N of SW 72 St	Off/Res	LDR	8
	69	Coral Gables:	SW corner of Neda Ave and Monfero St	EDR	EPP (EEL)	10
	70	Coral Gables:	SE corner of SW 120 St and SW 57 Ave	EDR	Institut & PF	30
	71		NW corner of SW 80 Terrace and SW 107 Ave, an area btwn SW 107 Ave and SW 109 Ave	Parks & Rec	Institut & PF	21
	72		SE corner of SW 76 St and SW 110 Ave, an area btwn SW 110 Ave and SW 109 Ave	Institut & PF	Parks & Rec	8
	73		North of SW 120 St, an area btwn SW 142 Ave and W of SW 137 Ave	I & O and Off/Res	Parks & Rec	22
	74		West side of SW 157 Ave btwn SW 157 Ave and SW 162 Ave and btwn SW 120 St and SW 112 Terrace	I & O	Parks & Rec	162
	76	Palmetto Bay	West of Old Cutler Road and south of SW 157 Terrace	EDR	EPP (EEL)	10
	78		SW corner of SW 232 St and SW 97 Ave, an area btwn SW 232 St and SW 236 St	Agriculture	Institut & PF	13
	79		SE corner of Plummer Dr and SW 248 St	OL, Ag and Envir Prot	Institut & PF	121
	80		SE corner of SW 248 St and theo SW 95 Ave	OL	Envir Prot	124
	81		SW corner of SW 268 St and SW 121st Ct (Florida Ave), an area btwn SW 268 St and SW 280 St	Institut & PF	Parks & Rec	222
	82		NE corner of SW 112 Ave and theo SW 214 St	MDR	EPP (EEL)	8
	86a		SE corner of Newton Road (SW 157th Ave) and SW 224th St	Ag	EPPs	5
	87		NE and SE corners of SW 157 Ave (Newton Road) and SW 268 St (Moody Dr)	EDR	EPP (EEL)	15
	89	Homestead:	SW corner of Campbell Dr (SW 312 St) and SW 142 Ave	I & O	B & O	17
	90	Homestead:	SE corner of SW 147 Ave and Campbell Dr (SW 312 St)	I & O	LDR	44
	91	Homestead:	NE corner of Campbell Dr and SW 147 Ave	LDR	Institut & PF	21
	92	Homestead:	Btwn North Canal Dr (SW 328 St) and C-103 Canal along and btwn SW 142 Ave and SW 147 Ave on the NW and w of SW 147 Ave on the SW	I & O	LDR	275
	93	Homestead:	SE corner of SW 157 Ave and SW 308 St	LDR	B & O	39
	94	Homestead:	South side of Campbell Dr and East of the Canal, west of HEFT	LDR and Off/Res	B & O	14
	95	Homestead:	South side of Campbell Dr and West of Canal, west of HEFT	L-MDR	B & O	19
	96	Homestead:	Btwn NE 16 Ave and NE 20 Ave and btwn NE 9 Ct and NE 5 St	LDR and Off/ Res	B & O	32
	97	Homestead:	Btwn NE 12 Ave and NE 16 Ave and btwn NE 9 St and NE 5 St	L-MDR and Off/Res	B & O	42
	98	Homestead:	SE corner of SW 169 Ave and SW 304 St (Kings Hwy)	LDR	B & O	11

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	99	Homestead:	North/West and South/East of NE Washington Ave and NE 9th St Intersection and east of Krome Ave	L-MDR	B & O	6
	100	Homestead:	NE corner of Park Place and English Ave	B & O	Institut & PF	6
	101	Homestead:	NW corner of Palm Dr And SW 142 Ave	B & O	Parks & Rec	7
	102	Homestead/Florida City:	North side of SR 821 Ext. (HEFT) approx. btwn US 1 and SE 12th Ave	L-MDR	B & O	199
	103	Homestead:	NW corner of SW 169 Ave and East Palm Dr	L-MDR and LDR	B & O	69
	104	Florida City:	NE corner of Factory Shops Blvd. and East Palm Dr (SW 344 St)	L-MDR	B & O	20
	106		SW corner of SW 192 Ave (Tower Road) and SW 336 St	EDR	EPP (EEL)	10
	107		West of SW 202 Ave from SW 364 St to SW 368 St	Ag	EPP (EEL)	40
	108		South of SW 353 St btwn SW 210 Ave and SW 209 Ave	Ag	EPP (EEL)	21
	111		South of theo. SW 408 St. and east of SW 212 Ave	Ag	EPP	20
	112		East of SW 137th Ave, an area btwn theo SW 176 St and theo SW 168 St	Institut & PF	Parks & Rec	134
	113		SE corner of SW 180 St and SW 142 Ave	LDR	EPP	19
April 2005-06	1	46 ACRES, LLC	South side of NE 215 St approx 900 ft east of San Simeon Way	I & O	L-MDR	26.13
	2	AKOUKA LLC	East side of Memorial Hwy at theo NE 145 St	LDR	L-MDR	2.98
	3	Dynamic Biscayne Shores Associates, Inc.	West side of Biscayne Blvd to NE 13 Ave btwn NE 112 and NE 115 Sts.			15.89
		Parcel A		LDR	MDR	1.12
		Parcel B		L-MDR	MDR	2.78
		Parcel C		L-MDR	MDR	1.89
		Parcel D	(Originally 2.97 acres, revised by partial withdrawal request received November 3, 2005 to a total of 1.73 acres and withdrawal request received December 22, 2005, to a total of 0.0 acres)	L-MDR & B & O	MDR	0.0
		Parcel E		L-MDR & B & O	B & O	10.10
	4	Liberty Investment, Inc.	Btwn NW 12 Ave and NW 9 Ave, and btwn NW 95 Terrace and NW 99 St			27.6
			Parcels A, C, D, & E:	L-MDR	MDR	
			(Parcel B was originally "To: M-HDR (25 to 60 DU/Ac") but was revised by letter dated November 18, 2005 to "MDR".	L-MDR	MDR w/ DI-1	
	5	City of Hialeah	located btwn NW 97 Ave and the Homestead Extension of the Florida Turnpike (HEFT) and btwn NW 154 St and NW 170 St	Open Land	I & O	1140.8
	8	PMBC Homes at Gables edge LLC,	South of SW 9 St and west of SW 42 Ave , Parcel A (WITHDRAWN)	Parcel B LDR	MDR	1.2
	9	Eduardo Reyes;	From SW 38 St to Bird Road (SW 40 St) btwn SW 84 Ave and theo SW 85 Ave	B & O and LDR	B & O	1.19
	15	Pasadena Capital, Inc. /	Northwest corner of SW 147 Ave and SW 184 St, lying southeast of the CSX Railroad ROW.	LDR	B & O Adopted with Change and Covenant	10 net acres 14.02
	16	EBP Parcel 1, LLC, EBP Parcel 3, LLC, Ryder Investments, LLC, and West Perrine CDC, Inc.;	East and west of Homestead Ave btwn SW 184 and SW 186 Sts			7.51
			Part A– Parcels 1 and 2	I & O	B & O	
			Part B – Parcel 3	I & O	MDR w/ DI-1	

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	20	J. L. Brown Development Corporation /	Change 3.08 gross acres located at the northwest corner of SW 112 Ave and SW 216 St	MDR	B & O	
	21	Kaza 112 Property Corporation /	Change 0.91 gross acres located at the southeast corner of SW 112 Ave and SW 224 St	LDR	B & O With Acceptance of Proffered Covenant	
	22	Princeton Land Investments, LLC /	northwest and southeast corners of SW 127 Ave and SW 240 St and northeast corner of SW 236 St and SW127 Ave	The application site was originally 58.51 gross acres comprising Parcels A and B but was expanded at the hearing on November 30, 2005, by the Board to include an additional 4 acres now identified as Parcel C	Adopt With Change and Acceptance of Proffered Covenant	
			Parcel A	LDR	MDR	38.32
			Parcel B	LDR	L-MDR	20.19
			Parcel C	LDR	MDR	4
	24	Pedro Talamas, Juan J. Valdes, & Nadia Valdes	Southeast corner of SW 142 Ave and SW 312 St	Agriculture	B & O and extend UDB to encompass subject area	14.71
October 2005	1	Biscayne Greenacres, LLC and Biscayne Goldacres, LLC/	Btwn NE 116 and 117 Sts and lying west of NE 16 Ave			1.12
			Tract A (0.0 gross acres)	B & O	B & O	
			Tract B (±1.12 gross acres)	L-MDR	MDR	
	3	110 Biscayne Realty, LLC c/o Rudd and Rudd, LLC/	West side of Biscayne Blvd btwn NE 109 and 110 Sts.			3.9
			Parcel 1	L-MDR	MDR	2.26
			Parcel 2	B & O & L-MDR	B & O	1.64
	4	Biscayne Shores Star, LLC,	East side of Biscayne Blvd btwn NE 108 and 109 Sts.	B & O & L-MDR	M-HDR	2.09
	5	Poinciana Partners, LLLP/	North side of NW 78 St btwn NW 22 and NW 24 Aves.	I & O	B & O	2.7
	6	3380 NW 79th St, LLC/	South side of NW 79 St at theo NW 34 Ave.	I & O & B & O	B & O	2.07
	7	Wal-Mart Stores East, L.P.	Southwest corner of theo NW 78 St and NW 32 Ave	I & O	B & O	34.58
	9	Linda Rozynes	North side of SW 40 St (Bird Road) and east of SW 85 Ave.	B & O & LDR	B & O	1.06
	12	West Perrine Community Development Corp.	Northeast corner of SW 186 St and Homestead Ave.	I & O	B & O	2.4
April 2006	1	Solid Oaks, LLC /	Approx 165 ft west of NE 6th Ave btwn NE 147th St and NE 149th St	LDR	MDR	141
	3	2260 NW 27th Ave, LLC /	West side of NW 27 Ave btwn NW 22 St and NW 23 St (	I & O, B & O	HDR	6.64
	7	Coral Reef Drive Land Development LLC	North side of SW 152 St along the east and west sides of theo SW 97 Ave	LDR	B & O	7.98
			(Originally 8.9 gross acres but revised by partial withdrawal request received February 28, 2007 to a total of 7.98 gross acres)			
	8	Vanguardian Village L.L.P.	Northeast corner of SW 127 Ave and SW 104 St	EDR	M-HDR	5.37
	9	West Kendall Baptist Church, Inc	East side of Hammocks Blvd approx 360-ft north of SW 88 St/Kendall Drive (Originally 1.02 gross acres but revised at the hearing on November 20, 2006 by including a 2.01-acre expansion along the east side of Hammocks Blvd to SW 88 St for a total of 3.03 gross acres)	Parks and Recreation	Off/Res, ADOPTED WITH CHANGE By including a 2.01-acre expansion along the east side of Hammocks Blvd to SW 88 St for a total of 3.03 gross acres and with Acceptance of Proffered Covenant	3.03
	10	WMD London Square, LLC	Southeast corner of SW 137 Ave and theo. SW 91 Terrace; Parking lot for Costco store located at 9191 SW 137 Ave	Off/Res	B & O	5.45
	11	Frenchtex Inc.	South side of SW 186 St/Quail Roost Drive btwn the South Dade Busway and SW 103 Court	I & O	B & O	6.35
	12	Caval Commercial Development, LLC	Northwest corner of SW 200 St/Quail Roost Drive and SW 127 Ave/Burr Road	EDR	B & O	4.0

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	13	Tagoror Investments, L.L.C., A Florida limited liability company	North side of theo SW 338 St btwn theo SW 194 and SW 192 Aves	EDR	L-MDR	9.89
	14	Q2 Florida City I, L.L.C., Q2 Florida City II, L.L.C., Q2 Florida City III, L.L.C. and Q2 Florida City IV, L.L.C.	Btwn SW 336 and SW 344 Sts and btwn SW 192 and SW 197 Aves	EDR	L-MDR , ADOPT With changes to EDR with DI-1 designation west of SW 194 Ave (78 gross acres), to LDR with DI-1 designation east of SW 194 Ave (41.7 gross acres),	119.7
	15	Q2 Kings Mountain 485 L.L.C.	Southeast corner of SW 344 St and SW 192 Ave	LDR	L-MDR , ADOPT With change to LDR with DI-1 designation & Acceptance of Proffered Covenant.	20.76
		DO'QW, Director, DPZ	Appendix A	This is start of Covenant Table		
April 2007	1	Geovanis Medina/	100 ft east of NW 27 Ave btwn NW 87 Terrace and theo NW 89 St	B & O and L-MDR	B & O	1.57
	2	Blue Lagoon Development, LLC/	Southeast corner of NW 57 Ave and Blue Lagoon Drive	Off/Res	B & O; Add the Declaration of Restrictions to the Restriction Table in the Land Use Element.	8.6
	3	Anthony Balzebre Trust/	Northwest corner of NW 107 Ave and NW 12 St	I & O and B & O	B & O & RAC, ADOPT With Acceptance of Proffered Covenant limiting development and providing for capital improvements	63.95
	5	LOWE'S HOME CENTERS, INC	Two parcels located near the Northwest corner of Theo SW 138 Ave and SW 8 St		Expand the UBD to include subject property	51.7
			Parcel A: 21.6 Gross Acres;	Open Land	B & O	
			Parcel B: 30.1 Gross Acres	Open Land	Institutions, Utilities and Communications	
			ADOPT With Acceptance of Proffered Covenant limiting development to non-residential uses and providing for capital improvements		Pending DCA Action	
	6	8440 Property, Inc./	300 Ft west of SW 84 Ave and south of SW 38 St	: LDR	M-HDR, ADOPT With Acceptance of Proffered Covenant limiting residential development to 49 units	1.59
			Northwest corner of SW 101 Ave and SW 88 St (N. Kendall Drive)	LDR	B & O	1.29
	8	David Brown, Steven Brown, and Victor Brown/	Southside of SW 88 St west of SW 167 Ave	Agriculture	B & O; ADOPT With Acceptance of Proffered Covenant prohibiting residential development and providing capital improvements	42.0
	10	West Perrine Land Trust, Inc. a Florida Corp. & Wilbur B. Bell, Trustee/	Southwest corner of Homestead Ave and SW 184 St (Eureka Drive)	I & O	MDR (13 to 60 DU/Ac) with (DI-1) One Density Increase with Urban Design (25 to 60 dwelling units per gross acres). ADOPTED with Acceptance of Proffered Covenant	3.2
	11	BDG Florida City, LLC	Immediately west of SW 192 Ave btwn SW 340 and SW 344 Sts (34250 SW 192 Ave)	EDR	ADOPTED with CHANGE to LDR with One Density Increase (DI-1) with Urban Design and with Acceptance of Proffered Covenant	5.04
October 2007-08	2	Aventura Commons, II, LLC/	An area btwn NE 205 and NE 206 Sts on the east side of NE 26 Ave;	L-MDR	Off/Res	2.98
	3	Urban League of Greater Miami/	An area btwn NW 51 and NW 53 Sts & btwn NW 23 Court and NW 24 Ave;	MDR	M-HDR	5.5
	4	Alfredo Garcia Menocal/.	Northeast corner of SW 117 Ave and SW 95 St	Estate Density	Off/Res	2.5
April 2008-09	2	Tibor Hollo/	West side of NW 7 Ave Btwn NW 155 Lane and Biscayne Canal (	M-HDR	B & O	0.84
	3	Lunar Real Estate Services, Inc.	Southwest corner of NE 135 St and NE 3 Court	L-MDR	B & O	2.5
	4	Sunshine Lakes LLC	10940 NW 14 Ave (an area SW of intersection of NW 111 St)	L-MDR	MDR With DI-1	4.81
	5	Miami-Dade County Aviation Dept	East side of NW 72 Ave btwn NW 36 and NW 41 Sts	Institutions, Utilities And Communications	B & O	3.6

Application Cycle	Application Number	Applicant	Location	Change From	Change To	Acres Changed
	6	Miami-Dade County Aviation Dept	Btwn the Palmetto Expressway (SR 826) and Milam Dairy Road and btwn NW 14 and NW 19 Sts, west of the MIA	I & O AND TRANSPORTATION TERMINALS	B & O	31.04
	7	Miami-Dade County Aviation Dept	Northeast corner of Milam Dairy Road and NW 12 St, at the SW corner of the MIA	I & O	B & O	16.9
	8	Fontainebleau Lakes, LLC/	North side of Flagler St btwn theo NW 90 and NW 94 Aves	*modified by applicant*		*39.4*
			Parcel A	MDR & Parks and Rec	B & O (35.06 gr ac);	
			Parcel B	MDR	Parks & Rec (4.36 gr ac)	
	9	Blue Lake Partners, LLC (Orig. filed by Gold River Corp.)	Northeast corner of West Flagler St and NW 102 Ave	L-MDR	B & O	41.04
	10	Manuel C. Diaz and Live Oak Partners, LLC	Southwest corner of SW 112 Ave and SW 248 St	Off/Res	B & O; Delete existing CDMP Covenant from Official Records Book and add the new CDMP Covenant to the Restrictions Table.	35.0

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1.2 CLIMATE CHANGE/SEA LEVEL RISE

INTRODUCTION

In recent years climate change has become a topic widely discussed, debated at times, throughout the world among international agencies such as the International Council for Local Environmental Initiatives (ICLEI - founded in 1990), the United Nations (UN), the World Meteorological Organization (WMO), the UN and WMO established Intergovernmental Panel on Climate Change (IPCC), and at the national, regional and local levels. Miami-Dade County has and continues to participate in some of these discussions particularly at the national, regional and local levels with a focus on identifying ways that the County may address Climate Change and its potential impacts.

Purpose of Discussion

This discussion is to highlight and where possible evaluate the County's vulnerabilities to the potential impacts of climate change toward formulation of a policy direction aimed at addressing any identified vulnerabilities. Over the past decade, Miami-Dade County has undertaken several initiatives toward reducing its greenhouse gas emissions. This was borne out of the County's acknowledgemnent of and commitment to addressing global warming and Climate Change. The County's earliest efforts were demonstrated in its membership/representation on the ICLEI, since its inception, and subsequent action such as adoption and implementation of the County's Long Term CO_2 Reduction Plan and the establishment of the Climate Change Advisory Task Force, among others. This discussion lays the groundwork for an assessment of climate change in the context of the County's existing and future development and how climate change and its anticipated impacts, including sea level rise, may or should affect and inform future development and trends and patterns of development.

The County's expression of where and how it intends to develop or conserve land and natural resources is contained in the Comprehensive Development Master Plan (CDMP), as required by Chapter 163 of the Florida Statutes (F.S.) The CDMP contains general goals, objectives and policies that establish the broad parameters for County government to perform detailed land use planning and zoning activities, functional planning and programming of infrastructure and services in its area of jurisdiction (primarily the unincorporated portion of the County). Any discussion of the County's future development should be addressed in the context of the County's established parameters for undertaking development, and should therefore be made in the context of the CDMP.

The efficacy of including any policy direction into the CDMP will also be evaluated. It is acknowledged that while the CDMP has a specific long-term horizon, currently to the year 2025, the extent of climate change and projections of its anticipated impacts may not be fully understood or quantifiable during the CDMP time horizon and is taken into account in this discussion. Therefore, illustrations including maps of climate change impacts, specifically sea level rise, are not included in this document.

For purposes of this discussion the United States Environmental Protection Agency (U.S**.** EPA) definitions of climate and global warming and the IPCC (2007) definitions of climate change and greenhouse gases, are provided below.

> **Climate** is defined not only by average temperature and precipitation, but also by the type, frequency, and intensity of weather events such as heat waves, cold waves, storms, floods, and droughts.
>
> The term "climate change" is often used interchangeably with the term **global warming**. Global warming refers to an average increase in the temperature of the atmosphere near the Earth's surface, which can contribute to changes in global climate patterns. However, rising temperatures are just one aspect of climate change.
>
> **Climate change** refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic [caused by humans activities] changes in the composition of the atmosphere or in land use.

Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds. This property causes the greenhouse effect [and global warming]. Water vapour (H_2O), carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4) and ozone (O_3) are the primary greenhouse gases in the Earth's atmosphere. Moreover, there are a number of entirely human-made greenhouse gases in the atmosphere, such as the halocarbons and other chlorine and bromine containing substances, dealt with under the Montreal Protocol. Beside CO_2, N_2O and CH_4, the Kyoto Protocol deals with the greenhouse gases sulphur hexafluoride (SF_6), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

CAUSES OF CLIMATE CHANGE

To fully understand climate change and the impacts of greenhouse gases, one must look into what drives the earth's climate. The National Climate Data Center (NCDC) of the National Oceanic and Atmospheric Administration's (NOAA) identifies the sun as the primary force that drives the Earth's weather and climate systems. The sun radiates heat and light to the Earth's atmosphere and surface, sustaining life on this planet over billions of years. Overall, about 30% of energy radiated to Earth is reflected back to space, with 70% being absorbed by the Earth's atmosphere and surface (NCDC 2008).

The amount of energy that reaches the earth's surface can vary due to internal processes within the sun that affect's the intensity of energy radiated, changes in the Earth's orbit such as the tilt of its axis, or changes within earth's environment and climate system, such as major volcanic activity/eruptions (NCDC 2008). These factors can impact climate on a regional or global scale and are attributed to climate change events prior to the industrial era, which began around the year 1750 (IPCC 2007). Geological data going back millions of years suggests that warmer ice free periods here on earth coincided with high atmospheric CO_2 concentrations (estimated between 360 and 400 parts per million or ppm) and a sea level that was 15 to 25 meters above current levels (IPCC 2007).

The U.S. Global Change Research Program, 2009, (USGCRP 2009) indicates that the earth's climate depends on the functioning of the natural greenhouse effect, whereby heat trapping gases in the Earth's atmosphere absorb heat radiated from the Earth's surface then radiate much of that heat back towards the Earth's surface. The USGCRP also indicate that without this greenhouse effect the Earth's average surface temperature would be about 60 degrees Fahrenheit colder than it is generally. The higher the concentration of greenhouse gases in the earth's atmosphere, the more energy/heat is absorbed. Although CO_2, CH_4, and N_2O are naturally occurring greenhouse gases, human activities have significantly increased the atmospheric concentrations of these gases by approximately 36, 148, and 18 percent, respectively, from the pre-industrial era (about 1750) to 2005 (IPCC 2007). This increased concentration of greenhouse gases coincides with a warm period that has emerged in the Earth's climate over last 100 years (IPCC 2007).

The National Climate Data Center (NCDC) of the National Oceanic and Atmospheric Administration's (NOAA) issued its State of the Climate Global Analysis report for May 2010, which identified that the combined global land and ocean average surface temperature for May 2010 was the warmest on record since 1880 (0.69°C or 1.24°F above previous average of 14.8°C or 58.6°F). The report also identified the period from March 2010 to May 2010 as the warmest on record (14.4°C or 58.0°F) for the corresponding period (0.73°C or 1.31°F warmer than previous record). Additionally, the USGCRP 2009 indicates that sea level rose by about 8 inches over the past century but the rate of rise has about doubled recently.

The Current Situation

Since 1750, an estimated two-thirds of total anthropogenic (caused by humans activities) CO_2 emissions are derived from fossil fuel burning and one-third from land use change. Land use change in this instance referring to any change from natural vegetative cover to another land use including

agriculture. The atmospheric concentration of CO_2 has increased by approximately 36% from a pre-industrial era to the year 2005 (from 280 ppm to 379 ppm). Additionally, the rate of increase of CO_2 emissions has itself increased by about 35% (from 1.4 ppm to 1.9 ppm)between the years 1995 and 2005 (IPCC 2007).

Of the known greenhouse gases, CO_2 is the greenhouse gas of primary focus because it accounts for the largest volume of greenhouse gases emitted. Worldwide, CO_2 accounts for approximately three-quarters of the total greenhouse gases emitted as a result of human activities. Between 1990 and 2005 greenhouse gas emissions increased by 26 percent while CO_2 increased by 31 percent over this period. The majority of the world's greenhouse gas emissions are associated with energy use, as is the case in the United States (U.S. EPA 2010[2]). According to the U.S. EPA, anthropogenic greenhouse gas emissions in the United States increased by 14 percent between 1990 and 2008 to a total of 6,957 million metric tons of CO_2 equivalent emissions (U.S. EPA 2010[3]). According to the U.S. Department of State (U.S. DOS), CO_2 emissions accounted for 85.4 percent of the total U.S. greenhouse gas emissions, with fossil fuel combustion accounting for 80.2 percent of emissions on a global warming potential (GWP)-weighted basis[1] in 2007. Electricity generation, 34%, is the largest source of U.S. greenhouse gas emissions, followed by transportation 27%, and industrial fuel use 14% (U.S. DOS 2010). Buildings are large users of energy and the number, size, and distribution as well as appliances including heating and cooling systems that go into them influences energy consumption and greenhouse gas emissions. Buildings account for about 37 percent of total U.S. energy consumption and about 70 percent of total electricity consumption. (U. S. DOS 2010)

Of the total greenhouse gas emissions from the U.S. transportation sector, passenger cars accounted for 33%, light duty trucks (including sports utility vehicles pickup trucks and mnivans) 29% and freight trucks 21%, while buses and rail transport together accounted for less than 4% (U.S. EPA 2010[3]). Projections through to the year 2020, based on programs and measures in place as of spring 2009 and current economic projections, total U.S. greenhouse gas emissions are expected to rise steadily in the long term as population and total economic activity grow (U.S. EPA 2010[2]).

In 2005, according to the Center for Climate Strategies (CCS), Florida accounted for approximately 336 million metric tons of CO_2 equivalent emissions. Electricity generation was identified as the largest source of emissions, accounting for 42% of total emissions followed by transportation accounting for 36% (CCS 2008). In 2004, passenger cars accounted for 34% and light duty trucks 29%, freight trucks 14% and aircrafts 11% together account for 83% of total greenhouse gas emissions in the Florida transportation sector. Meanwhile, buses and raill transport together accounted for 2% of total emissions. Projections through to the year 2025, under a business as usual scenario, indicates that Florida's greeenhouse gas emissions will continue to increase with the largest rate of increase occuring in the transportation sector. Population and economic growth and an increase in total vehicle miles traveled (VMT) are identified reasons for the Sate's increased greenhouse gas emissions from the transportation sector (CCS 2008).

Miami-Dade County's CO_2 emissions were estimated at over 23 million tons in 1988 generated from the combustion of fossil fuels. Transportation (45%) and electricity generation (45%) accounted for 90% of total emissions (LT CO_2 Reduction Plan 1993). Industrial (5%), commercial (4%) and residential (1%) accounted for the remaining 10% of the County's CO_2 emissions. In 2005, Miami-Dade County's CO_2 emissions was estimated at over 31.9 million tons (LT CO_2 Reduction Plan 1993-2006), with transportation accounting for 44%, electricity generation accounting 48%, Industrial 5%, Commercial 2%, and residential 1%. This accounted for a 36.5% or 8.5 million ton increase in annual CO_2 emissions over 1988. It should be noted that the County's population grew through this period by approximately 27.1%. Additionally, the County's per capita CO_2 emissions increased by 8% from 12.5 tons to 13.5 tons over the 17-year period.

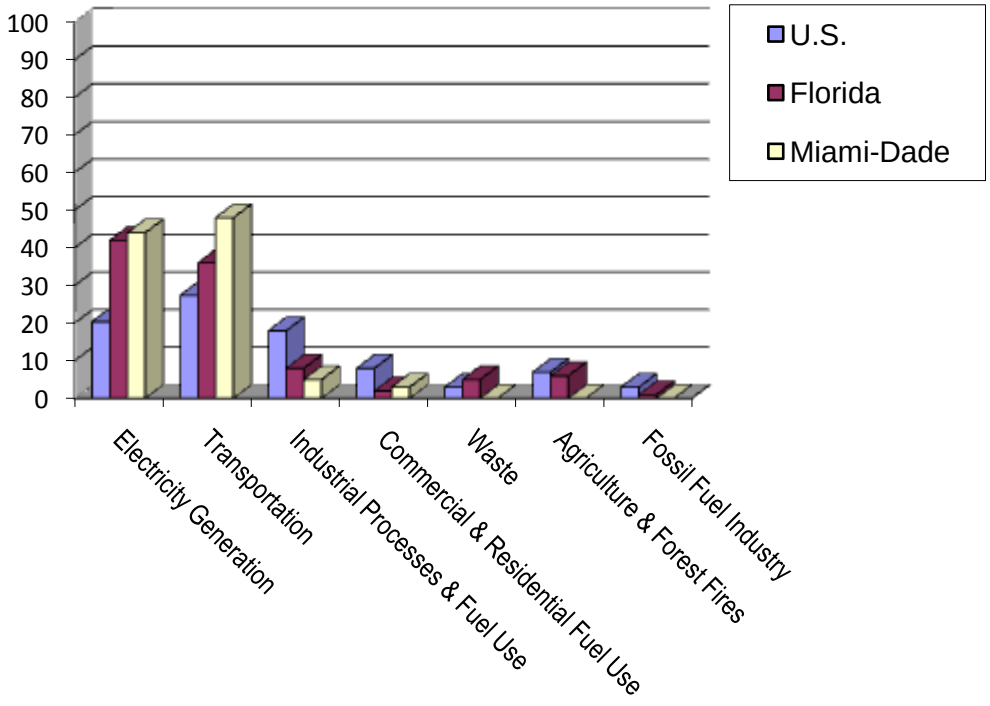
[1] The IPCC developed the Global Warming Potential (GWP) concept to compare the ability of each greenhouse gas to trap heat in the atmosphere relative to another gas. The GWP of a greenhouse gas is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram (kg) of a trace substance relative to that of 1 kg of a reference gas. The reference gas used is CO_2 (IPCC 2001).

As indicated above, passenger cars and light duty trucks account for most of the transportation sector's greenhouse gas emissions and current projections indicate that this sector's greenhouse gas emissions will experience the most growth. According to the Urban Land Institute (ULI), et al, [ULI, Smart Growth America, the Center for Clean Air Policy, and the National Center for Smart Growth], develvopment patterns contribute to the need to commute due to the spatial arrangement of land uses, particularly in developments that locates residences away from places of work and pleasure. The ULI, et al, also indicates that people drive generally between 20 to 40 percent less in more compact development supported by mass transit (smart growth). Better community planning and compact development (including transit oriented development) locates residences proximate to places of work and pleasure generating less and shorter auto trips, encourages walking and/or bicycling to some destinations within the community such as work, shops, schools, and parks, as well as transit stops. Therefore, development patterns, intensity/density of development and redevelopment contribute to greenhouse gas emissions. Additionally, compact development is generally more energy efficient and occupies less space than sprawl development leaving more land in its natural state or for environmental protection and other purposes.

As previously mentioned, the CDMP embodies the County's expression of where and how it intends to develop and therefore its evaluation becomes important in any attempt to address climate change and its effects. While climate changes are occurring over the entire planet, the impacts differ from one region to another. The U.S. Global Change Research Program (USGCRP 2009) identifies Miami [Miami-Dade County], along with New Orleans and New York, as being particularly susceptible to sea level rise due to its location along the coast and its relatively flat and low elevation terrain. The subsequent sections of this report will evaluate/explore the County's identified vulnerabilities, how they are being addressed, and if not addressed how they should be addressed.

Figure 1.2-1 below provides an at a glance comparison of 2005 greenhouse gas emissions by source and percentage of total emissions reported for the U.S., Florida and Miami-Dade County.

Figure 1.2-1 Greenhouse Gas Emissions by Sector, 2005



CLIMATE CHANGE: A MAJOR ISSUE IN THE CDMP

Consensus reached by the IPCC, the Urban Land Institute, Smart Growth America, the Center for Clean Air Policy, and the National Center for Smart Growth, among others, conclude that land use change, development intensity and type of development affects greenhouse gas emissions in some way. Land use change, development intensity and type of development also has significant impact on how much land remains in its natural vegetation or is available for environmental protection and other purposes, which also affect greenhouse gas emissions. Smart growth (compact development supported by mass transit) is seen as the most appropriate address and response to climate change in the context of the growth and expansion of the built environment.

As the data presented in the previous section indicates and as illustrated in Figure 1.2-1 above, electricity generation and transportation accounts for the majority of total greenhouse gas emissions (34% and 27% nationwide, 42% and 36% statewide, and 45% and 44% countywide, respectively). The data presented also indicates that if the built environment is developed based on the principles of smart growth, driving would reduced by 20% to 40%. This level of reduction in driving is significant when evaluating the County's efforts, as well as national and state efforts, to reduce its greenhouse gas emissions and address climate change. The smart growth approach to climate change becomes even more significant considering that greenhouse gas emissions are projected to grow, particularly for the state where transportation is projected to account for most of the growth in emissions. Additionally, compact development is generally more energy efficient than sprawl development. At the national, state or County levels, the goal of reducing greenhouse gas emissions requires a multifaceted approach, particularly as population growth and economic activities over the long-term are projected to continue to increase. Currently the County's goal is to achieve an 80% reduction in greenhouse gas emissions over current levels by the year 2050. This goal is further detailed in the County Efforts section under Participation in the U.S. Cool Counties Prgram.

Climate Change in the Context of the CDMP

The CDMP sets the broad policy statements regarding the physical development of the County previously mentioned. Toward developing a sustainable community, any known issues that would impact the development and infrastructure investments of and within the County should be addressed or at least duely considered in the formulation of the County's policy statements of how it intends to develop. As earlier discussed, the USGCRP indicates that south Florida including Miami-Dade County is anticipated to experience significant sea level rise, as well as increased hurricane intensity and storm surge among the primary impacts from climate change. Sea level rise in particular and storm surge to a lesser extent have significant potential to impact the built environment by significantly increasing the potential for flooding, significant negative impacts to the County's potable water supply, among others. To avoid or minimize the negative impacts of climate change, where possible, the relevant impacts must be taken into consideration in the CDMP.

Projections of future growth and the planned locations of such growth must be assessed for vulnerability to sea level rise, storm surge and other climate change impacts. For these reasons, climate change is addressed as a major issue in the County's CDMP.

While the current CDMP long-term horizon is to the year 2025 and is proposed to be extended to the year 2030, climate change and its anticipated impacts are not fully understood at this time and the extent of the impacts are anticipated to occur well beyond the current and proposed CDMP time horizon. This is particularly true as the global greenhouse gas emissions continue to increase. Nonetheless, the nature of the built environment and the probable costs associated with adaptation of the built environment to hazards makes climate change mitigation and impacts avoidance more desirable than adaptation. Therefore, climate change must be considered in the CDMP and the anticipated impacts addressed to the extent possible. It should be noted that this is an initial attempt to address climate change in the CDMP that will continue to be refined as the science of climate change and the magnitude of its anticipated impacts are better understood and defined. Therefore, illustrations including maps of climate change

impacts, specifically sea level rise, are not included in this document.

CHALLENGES/PROBLEMS PRESENTED BY CLIMATE CHANGE

According to the USGRCP, climate changes are already underway in the U.S. and its coastal waters. The observed changes have been recorded primarily over the last 50 years and include average temperatures rising more than two degrees Fahrenheit (2° F), rising sea level, and about a 5% increase in heavy precipitation downpours. Climate change associated impacts include increased occurrences of and more severe weather events such as heat waves, droughts, and an increase in the intensity of Atlantic hurricanes although the frequency of such hurricanes has decreased. The observed climate change impacts vary from region to region within the U.S. and are anticipated to affect water resources, energy supply and use, transportation, agriculture, ecosystems, human health, and society as a whole. The USGRCP identifies the U.S. regions composed of one or more states of similar climate that are anticipated to experience similar effects from climate change. Florida is within the Southeast region, which has a climate that is warm and wet, with mild winters and high humidity compared to the rest of the continental U.S.

The USGCRP indicates that the coastal areas within the Southeast region, including south Florida, are anticipated to experience significant sea level rise, increase in hurricane intensity and storm surge that will adversely affect coastal cities and ecosystems. (The U.S. EPA predicts that Florida will see a rise in sea level of about 18-20 inches by the next century.) These, in addition to changes in ocean currents, are also anticipated to affect coastal ecosystems.

South Florida Region and Miami-Dade County

Many of the challenges discussed below are also applicable to other regions of the United States and the world. Changing climate conditions have a wide-range of impacts that are interrelated, complex, and in several cases, are already affecting South Florida. The sections below offer a brief overview of challenges that should be considered during all long-range planning activities in Miami-Dade County. For each section below, how these challenges may particularly affect different community members are mentioned. Also the County departments that may have the expertise or resources to plan for these climate change impacts are identified.

Human Health

Increased exposure to prolonged higher temperatures will increase risks to human health. Decreased air quality due to increased carbon dioxide, ozone concentration, and increased pollen production is anticipated to cause respiratory impacts. Increased wildfires may also affect respiration. Diseases caused by insects (such as mosquitoes), rodents, and food are expected to become more prevalent (U.S. DOS 2010). Water-related disease is expected to increase as sewage overflows, contaminated beach water, and potential for contaminated drinking water increase (USGCRP 2009). Increased intensity of hurricanes and tropical storms contribute to mental and physical health risks. These impacts will affect residents and visitors, and as a result could affect local and regional tourism and productivity in other sectors of the economy. As with hurricanes, assisting those who are incapacitated, elderly, or very young, becomes more critical. The County's Health Department, public and private hospital systems, and the school system may contribute resources to minimize these impacts.

Additional Flooding

A canal network was constructed in the early 20th century in South Florida to drain surrounding wetlands and reduce flood risk by routing fresh water east toward Biscayne Bay. The Southern Florida Flood Control Project expanded efforts to drain the wetlands by constructing more canals, and new levees and water control structures (Renken 2005). The water control structures are now controlled by the South Florida Water Management District (SFWMD); the structures allow the SFWMD to alter the county's water table through the dry and wet seasons.

Today, many canals in Miami-Dade County do not have the capacity to sufficiently drain urban areas around them and flooding occurs during storm events. Currently, the SFWMD works to balance canal and water table levels to prevent salt water in coastal areas from migrating westward, to allow farmers to plant crops, and to minimize flooding in urban areas. Some areas of the County, generally south and west

of downtown Miami, were never drained by the excavation of canals. The water table (the Biscayne Aquifer) is very close to the surface of the land west of urbanized Miami-Dade County. These outlying areas naturally remain flooded during the rainy season.

As climate change causes heavier rain events, canals will be filled to capacity more frequently causing more extreme and prolonged flooding. Buildup of debris and silts in these drainage waterways will increase, further inhibiting drainage. Stormwater drainage systems in Miami Beach are already experiencing overflows when high tides do not allow runoff from streets to drain. Discharge rates from storm sewers are anticipated to be further reduced on the mainland as well if outfalls are partially submerged due to a higher water table (Deyle, 2007).

Seawalls and coastal water control structures may become submerged more frequently or on a permanent basis (Deyle, 2007). The SFWMD, the Department of Environmental Resources Management, and the Public Works Department would be directly affected by these impacts. All residents and businesses, commerce, and daily life would be affected depending on the extent and permanence of flood conditions.

Roads, Bridges, Transit and Buildings

As sea levels rise, and inland flooding becomes more frequent, road bases, bridge bases, and airport tarmacs will soften. Railroad rails may warp. Coastal land subsidence would result in permanent inundation of some roadways, depending on the extent of sea level rise (U.S. DOS 2010). Older and lower bridges may experience more damage from corrosion, spalling (structural weakening by sea water), debris, and navigation under these structures may be inhibited as sea level rises. According to floodplain maps, the County's fixed rail transit system, that includes the Metrorail and Automated People Mover system, appears to be located on higher land that will have less flood risk, except for areas near the Miami River. It is unclear how some additional flooding or a higher water table may affect this infrastructure (See Figure 1.2-3, Urban Infrastructure and Current Flood Risk on page 1.2-19). Interruptions to the electrical supply of these systems, caused by flooding, would interrupt service and may complicate maintenance.

Building foundations will be affected by flooding. Receding shorelines will erode coastal land and directly affect roadways and buildings. Interrupted access to hospitals, police and fire stations, businesses, schools, civic building, and homes will affect the local economy and residents. Planning efforts by the SFWMD, the County's Public Works Department, the Miami-Dade Expressway Authority, Miami-Dade Transit, railroad interests and state transportation agencies would be critical to address these impacts.

Saltwater Intrusion

The SFWMD explains that current sea level and withdrawals from coastal aquifers have already caused saltwater intrusion to threaten this region's water supply. The County's Water Use Permit requires a water quality monitoring program to track the western extent at which saltwater, or chloride levels from about 100 to 250 mg/L and above, have been detected at the base of the Biscayne Aquifer. Figure 1.2-2, Wellfield Protection Areas with Salt Water Intrusion 1995 and 2008, below illustrates how saltwater intrusion has changed between 2005 and 2008 in relation to County's wellfield protection areas.

Inland canal water levels are maintained to control flooding and reduce the westward migration of saltwater toward drinking water wells. Projected sea level rise could affect both the flood discharge capacity of coastal water control structures and accelerate saltwater intrusion (SFWMD 2009). The SFWMD statement below describes how sea level rise affects both flood protection and saltwater intrusion.

> *The projected rises in ocean levels may limit the District's ability to protect areas of South Florida from rain-driven flooding. The canal networks in Palm Beach, Broward, and Miami-Dade counties and in the lower West Coast are typically maintained at predetermined water levels to reduce saltwater intrusion into the wellfields that provide drinking water to the region and to provide flood protection. Water control structures maintain the water levels of the canals. When these structures discharge to the ocean, the water level difference between upstream (land side or headwater) and downstream (ocean side or tailwater) may be as little as 6 inches or less for some structures under design conditions. Projected sea level rise may reduce the flood discharge capacity of coastal structures, thus affecting flood protection in urban areas. (SFWMD 2009)*

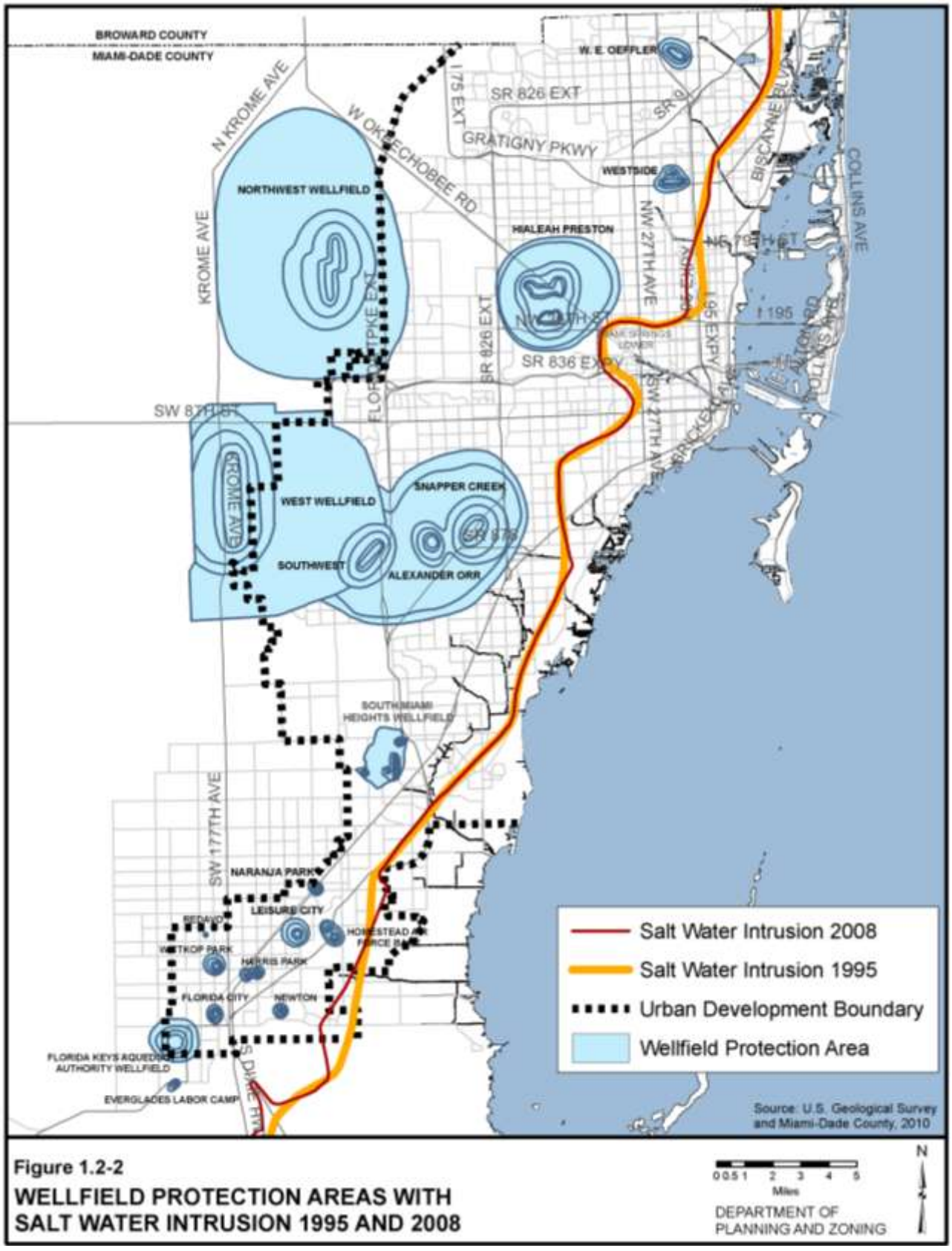


Figure 1.2-2
WELLFIELD PROTECTION AREAS WITH SALT WATER INTRUSION 1995 AND 2008

These impacts will have financial implications that may affect other SFWMD projects including wetland restoration and will affect water utilities. As salinity reaches certain elevations, groundwater must be treated through costly desalination processes.

Primary responsibility for coordination of use and protection of the Biscayne and Floridian Aquifers is delegated to the South Florida Water Management District (SFWMD), but each water utility and local government affects water resources through management and land use decisions.

Additional water supply challenges

The SFWMD has created an Interdepartmental Climate Change Group to monitor a range of conditions associated with climate change that may impact water supply and flood management. These conditions including rising seas, elevated temperature and evapotranspiration, changing rainfall, flood and drought patterns, and changing tropical storm and hurricane patterns. Water supplies would be negatively affected by multiple projected climate change conditions. Prolonged droughts are anticipated. Less frequent tropical storms and hurricanes could reduce the amount of water available to recharge the Biscayne Aquifer and thus affect water supply for human use and support of water-dependent ecosystems. Higher temperatures that increase evaporation from surface water and increase transpiration by plants would result in higher irrigation demands, affecting the water supply.

At this time, it is unclear how the SFWMD may address these anticipated impacts through changes to water supply permits. It is possible that requirements for wastewater reuse and water conservation may become more significant. Required investments in technology to minimize water loss through the water distribution system may increase.

Water Line Distribution Network and Sewer Line Collection Network (below ground)

Impacts to buried water lines and buried sewer lines and infrastructure may be extensive. Shoreline erosion may expose piping along the beaches. Saltwater intrusion may cause corrosion of older underground piping made of cast iron. More frequent inundation of underground sewer lines, or pressure from constant inundation, may cause more stormwater and groundwater to enter the sanitary sewer system, causing capacity problems at sewer treatment facilities, and overflows in the distribution system. Over time, groundwater infiltration can affect soils and cause cracks in piping, or eventual failure. Sewer lines made of lighter PVC plastic may be dislodged by rising groundwater levels if not sufficiently installed (Deyle 2007).

Onsite sewage Treatment and Disposal Systems

As discussed in Chapter 2 of this report, in the assessment of Objective CON-4 of the Conservation, Aquifer Recharge and Drainage Element, onsite sewage treatment and disposal systems, such as septic tanks with soil drainfields, are common in South Florida. Although the exact number of septic systems in the County is not known, it is possible that as many as one-third of residences and thousands of businesses depend on these systems, as opposed to the central sewer system to treat and dispose of human waste. State research has shown that soil drainfields that are seasonally flooded do not function as they are designed to and many systems may already be malfunctioning and causing groundwater contamination. As the water table rises, more systems are likely to malfunction (Bicki 1984).

Water Quality

Surface water quality and groundwater quality are anticipated to be affected by climate change (USGCRP 2009). Rising air temperature will cause inland water temperatures to rise and dissolved oxygen levels in canals and inland water bodies to decrease. Decreased oxygen levels will negatively affect some marine species. Projections for heavier rainfall will increase stormwater runoff and as a result, increase sediment loading and pollutant loads to surface and groundwater bodies. Pollutants carried by stormwater include bacteria that cause disease, pesticides and herbicides, and other contaminants that may result in algae blooms. The USGCRP explains that, “research on the impacts of climate change on groundwater has been minimal.” This lack of research may be particularly important for Miami-Dade County since the County’s shallow Biscayne Aquifer is heavily influenced by changes to surface water quality and quantity (USGCRP 2009).

The SFWMD explains that as the flood protection system is overwhelmed, water quality is also affected. Untreated floodwater carries pollutants from roadways and urban areas into surface waters. As noted above, decreased positive pressure in sewer

systems can cause complications and septic systems are more likely to malfunction (SFWMD 2009).

If drought conditions occur, and water supplies are stressed, fresh water needed to support Stormwater Treatment Areas (STAs) may not be available. STAs treat pollutants from both urban areas and agricultural areas. STAs are used to treat water before it reaches sensitive ecosystems, such as wetland areas, that support many terrestrial and aquatic species. As these species are impacted, sectors of the South Florida economy will also suffer, such as recreational fishing and charter businesses (SFWMD 2009).

Ocean Acidification

Elevated levels of carbon dioxide in the atmosphere are resulting in more absorption of carbon dioxide by oceans globally. This absorption of carbon dioxide is decreasing the pH of oceans, causing them to become less alkaline. In turn, this process of ocean acidification affects the ability of marine species to form shells and skeletons and may damage coral reefs, mollusks, plankton species and the species and industries that depend upon them (USGCRP 2009).

Environmental

The degree of stress placed on South Florida's low-lying uplands, freshwater wetlands, and coastal habitats by sea level rise will depend on the rate and degree of saltwater advances. Impacts will range significantly. More rapid intrusion of salt waters into coastal ecosystems will have more severe impacts. Eventually, if upland areas shrink significantly, some upland species endemic to South Florida would face extinction (SFWMD 2009). Coastal erosion, drought, and fires will also impact plant and animal species. In addition to loss of habitat, a warmer climate is anticipated to generally decrease biodiversity, affecting the survival of species by changing the timing of seasons, affecting migration, affecting food supplies, pests, and disease (U.S. DOS 2010).

Energy Supply and Use

Higher temperatures will result in higher electricity demands to cool buildings and will increase the costs of cooling for residents and business owners. Fossil fuel and nuclear plants dependent on limited water supplies may be impacted. Electrical distribution systems may be impacted by flooding. Increased storm activity, including hurricanes passing through the Gulf of Mexico, would affect the petroleum industry and may raise the cost of fossil fuel energy (U.S. DOS 2010). In the past, water and sewer systems in Miami-Dade County have been affected by power outages, although systems have been upgraded to better prepare the County for hurricane-type events.

Society and Economic Development

Economic and social impacts are expected in response to climate change. In Florida, oceanfront and low-lying coastal property values will shift. Cost of living will increase as homeowner's insurance costs increase, land scarcity increases, and the cost of using fossil fuel for vehicle travel increases. Tourism may be negatively affected by climate change impacts, as the U.S. Global Change Research Program has concluded that "Ecological thresholds are expected to be crossed throughout the region, causing major disruptions to ecosystems and to the benefits they provide to people" (USGCRP 2009).

There may also be opportunities to focus the Florida economy on research and development of technologies for climate adaptation. Business opportunities may be linked to investment in alternative energies. The Climate Change Advisory Task force recommends that the County collaborate with other agencies and entities involved in economic development and planning to prepare for impacts to housing, quality of life, and the economy.

Agriculture

Prolonged flooding will reduce the ability of farmers to plant crops that need a longer growing season such as corn. Increased temperatures will shorten South Florida's winter growing season potentially affecting the production of a significant portion of the crops that can be produced in South Florida. Increased temperatures will also affect soil moisture and irrigation demands. Nationally, temperature changes are expected to affect the types of pests that decrease productivity.

EFFORTS TO ADDRESS CLIMATE CHANGE

The efforts to address climate change falls within two categories, the first being mitigation and the second adaptation. It should be understood that climate change mitigation cannot be achieved by any single local jurisdiction, but requires a global approach. This is true as while local initiatives can achieve some localized reduction in greenhouse gas emissions, as a whole, the global atmospheric concentrations of greenhouse gases may increase if the emissions from other jurisdictions and countries continue to increase. Adaptation, on the other hand, is specific to local jurisdictions in their attempt at responding to the climate change scenarios and the associated impacts of climate change. The following provides in summary some of the multitude of national, State and County efforts already implemented and currently being undertaken to address climate change.

National Efforts

At the national level there are numerous ongoing efforts to address climate change including U.S. representation and participation in several international initiatives and national policy initiatives being implemented through several federal agencies geared to address climate change and its impacts. The U.S. is a participating member of the United Nations (UN), the IPCC (established by the UN and the WMO in 1988), and is party to the 1992 UN Framework Convention on Climate Change (UNFCCC) geared toward stabilizing global greenhouse gas concentrations at levels that would prevent dangerous anthropogenic interference with the Earth's climate system.

In keeping with the national greenhouse gas reporting requirements of the UNFCCC, the United States published a series of reports referred to as the U.S. Climate Action Report (CAR), and submitted the first to the UNFCCC Secretariat in 1994, the second in 1997, the third in 2002, and the fourth in 2007. The fifth and most current CAR report was published in June 2010 and details a myriad of actions the U.S. is taking to address climate change and contains updated projections on U.S. greenhouse gas emissions, and underscores the United States commitment to address climate change. Among the multitude of U.S. efforts to address climate change are the following.

A vision for future U.S. assessments

U.S. federal agencies have undertaken two coordinated national-scale efforts to evaluate the impacts of global climate change on the U.S., over the past decade. The first effort resulted in the publication in 2000 of the *Climate Change Impacts on the United States* report, and the second effort resulted in the 2009 publication of the *Global Climate Change Impacts in the United States* report. A unique feature of the 2000 report was that in reporting the state of the climate change science it created a national discourse that involved hundreds of scientists and thousands of stakeholders including farmers, ranchers, resource managers, city planners, business people, and local and regional government officials (USGCRP 2009).

American Recovery and Reinvestment Act of 2009

President Obama signed the American Recovery and Reinvestment Act in February 2009, which provided tax cuts and targeted investments to jump-start the U.S. economy. The Act provided $787 billion to multiple sectors of the economy in order to create jobs and stimulate growth. This includes extensive incentives to speed the development and growth of clean energy technologies in the United States including more than $90 billion for clean energy programs, such as weatherization assistance for low-income homes, and billions more for science and infrastructure, including the efficient modernization of mass transit systems. To create jobs and reduce use of fossil fuels/oil, the Act promotes investments aimed at doubling renewable energy production and renovating public buildings to make them more energy efficient (U.S. DOS 2010).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act was signed into law in December 2007. This Act, a major energy policy, enacted numerous key provisions designed to increase energy efficiency and the availability of renewable energy.

Executive Order 13514

Signed by President Obama in October 2009, the executive order titled "Federal Leadership in Environmental, Energy, and Economic Performance" established sustainability goals for federal agencies and focuses on improving their environmental, energy, and economic performance.

Energy Improvement and Extension Act of 2008
Signed into law in October 2008, the Energy Improvement and Extension Act of 2008 offers an array of incentives for U.S. energy production and conservation, including provisions for renewable energy production, clean coal and carbon sequestration, and efficient transportation and end-use standards and incentives.

National Policy to Establish Vehicle Greenhouse Gas Emissions and CAFE Standards
The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) of the U.S. Department of Transportation (DOT) signed a joint proposal in September 2009 to establish a national program consisting of new standards for light-duty vehicles that will improve fuel economy and reduce greenhouse gas emissions. In May 2010, the U.S. EPA and DOT published a final regulation (FR 2010).

Mandatory Greenhouse Gas Reporting Rule
The U.S. EPA issued a Mandatory Reporting of Greenhouse Gas Emissions Final Rule in 2009. The rule requires reporting of greenhouse gas emissions from large U.S. sources and is intended to collect accurate and timely emissions data to inform future U.S. policy decisions.

Department of the Interior (DOI) Secretarial Orders 3285 and 3289
The DOI issued Secretarial Order 3285 in March 2009 that made the production and transmission of renewable energy on public lands a priority. The order also created a new DOI Energy and Climate Change Task Force. Supplementary to Secretarial Order 3285, the DOI issued Secretarial Order 3289 in September 2009, establishing a Department-wide approach for applying scientific tools to increase understanding of climate change and to coordinate an effective response to its impacts on the land, water, ocean, fish and wildlife, and cultural heritage resources that the DOI manages (U.S. DOS 2010).

National Oceanic and Atmospheric Administration (NOAA): Digital Coast Details
The NOAA launched its Digital Coast initiative in 2008, which is used to address timely coastal issues, including land use, coastal conservation, hazards, marine spatial planning, and climate change. One goal of the Digital Coast initiative is to unify groups that might not otherwise work together. The initiative is building a strong collaboration of coastal professionals with the intent to address coastal resource management needs and developing a resource based website with content, provided by numerous organizations. The website content must meet certain quality and applicability standards. Miami-Dade County and other counties within the southeast Florida region are in coordination with NOAA on the development of the Digital Coast initiative.

State Efforts

In Florida, several initiatives have and/or are being taken to address climate change. These initiatives fall primarily into climate change mitigation that seeks to reduce the State's greenhouse gas emissions. These initiatives include Senate Bill 888 of 2006, three Executive Orders signed by the Florida Governor in July 2007, and House Bills 697 and 7135 of 2008. These initiatives are briefly described below and it should be noted that only House Bill 697 requires local government action to address climate change.

Senate Bill 888 (SB 888)
The Florida Legislature passed SB 888 in 2006 that enacted the Florida Renewable Energy Technologies & Energy Efficiency Act and established Florida Energy Commission, the Renewable Energy Technologies Grants Program, and the Solar Energy System Incentives Program. The SB 888 legislation also provided a one-time sales tax holiday for energy efficient products and amended the Florida Power Plant Siting Act promoting the use and development of biodiesel, ethanol, hydrogen and other renewable fuels. The SB 888 sought to, among others, address greenhouse gas emissions reductions primarily in electricity generation.

Executive Order 07-126
This executive order, titled "Leadership by Example: Immediate Actions to Reduce Greenhouse Gas Emissions from Florida State Government" required State government to measure greenhouse gas emissions and develop a Governmental Carbon Scorecard, then work to reduce emissions 10 percent by 2012, 25 percent by 2017, and 40 percent by 2025. To achieve these goals, new State buildings will be constructed to be energy efficient and include solar panels where possible, and leased office space

must be in energy-efficient buildings. Additionally, vehicles purchased by the State should be fuel-efficient and use ethanol and biodiesel fuels, as applicable.

Executive Order 07-127
This executive order required the adoption of maximum emission levels of greenhouse gases for electric utilities. The standard is to require a reduction of emissions to 2000 levels by 2017, to 1990 levels by 2025, and by 80 percent of 1990 levels by 2050. Florida will also adopt the California motor vehicle emission standards requiring a 22-percent reduction in vehicle emissions by 2012 and a 30-percent reduction by 2016, pending approval of the U.S. Environmental Protection Agency waiver. The executive order also requires a 15 percent increase, over current standards, in the efficiency of energy-efficient consumer appliances, and that the Public Service Commission adopt a 20 percent Renewable Portfolio Standard by 2020, with a strong focus on solar and wind energy.

Executive Order 07-128
This executive order established the Governor's Action Team on Energy and Climate Change charged to create a Florida Climate Change Action Plan that include strategies beyond today's Executive Orders to reduce emissions, including recommendations for proposed legislation for consideration during the 2008 Legislative Session and beyond. The Florida Climate Change Action Plan was completed in October 2008 and includes recommendations on land use and transportation supporting smart growth and multimodal transportation options, among others.

House Bill 7135 (HB 7135)
Signed into law in June 2008 by Governor Charlie Crist, HB 7135 enacted the 2008 Energy and Economic Development Legislation to address energy and climate change built on the Governor's 2007 executive orders discussed above and other discussions. The legislation authorized, among others, the Florida Department of Environmental Protection to develop an electric-utility greenhouse gas cap-and-trade program, which may begin operation in 2010 pending legislative approval of the final plan. Among other goals, the program will develop a timeline to reduce electric sector greenhouse gas emissions to 2000 levels by 2017, 1990 levels by 2025, and 80 percent below 1990 levels by 2050, in accordance with the Governor's Executive Order 07-127 and other initiatives. The legislation also established the Florida Energy & Climate Commission, housed within the Executive Office of the Governor and is the primary organization for state energy and climate change programs and policies. The Commission holds a variety of responsibilities, including administering financial incentive programs; completing annual assessments of Florida's Energy and Climate Change Action Plan; and providing recommendations to the Governor and the Legislature. The Commission will also work cooperatively with other state entities, to develop state energy and climate change policies and programs.

House Bill 697 (HB 697)
In the 2008 legislative session, Florida legislatures enacted HB 697, which was endorsed by Florida Governor Charlie Crist in June 2008 and took effect July 1, 2008. The HB 697 amends several chapters of the Florida Statutes (F.S.) including Chapter 163, Chapter 377, Chapter 489 and Chapter 553, requiring greenhouse gas emissions reduction and the provision of affordable housing, among others. The HB 697 requirements specific to local government Comprehensive plans are contained in the changes to Chapter 163 F.S., as summarized below.

1. The future land use plan (CDMP Land Use Element) of a local comprehensive plan shall be based upon, among others, the discouragement of urban sprawl, energy-efficient land use patterns accounting for existing and future power generation and transmission systems, and greenhouse gas reduction strategies
2. The Traffic-Circulation Element of a local comprehensive plan shall incorporate transportation strategies to reduce greenhouse gas emissions from the transportation sector (Not applicable to the County)
3. The Conservation Element (CDMP Conservation, Aquifer Recharge and Drainage Element) of a local comprehensive plan to include factors that affect energy conservation
4. The land use map or map series (Adopted 2015 and 2025 Land Use Plan map of the CDMP) of the future land use element of a local comprehensive plan shall identify and depict energy conservation

5. The Housing Element (CDMP Housing Element) of a local comprehensive plan should include standards, plans and principles to be followed in achieving energy efficiency in the design and construction of new housing and use of renewable energy resources. Certain counties may not receive state affordable housing funds under certain circumstances
6. Requiring each unit of local government within an urbanized area to amend the Transportation Element (CDMP Transportation Element) of a local comprehensive plan to incorporate transportation strategies addressing reduction in greenhouse gas emissions from the transportation sector

It should be noted that the Florida Department of Community Affairs (DCA) is currently in the rule development process and in March 2010 issued its second draft rules on how the requirements of HB 697 could be accomplished. The draft rules are proposed to amend Chapter 9J-5 of the Florida Administrative Code, which sets the minimum criteria used to evaluate comprehensive plans. Local governments are required to comply with the HB 697 by the due date of their EAR-based amendments and the County's EAR-based amendments become due in the fall of 2012.

Regional Efforts

Several efforts are afoot to address climate change in the south Florida and southeast Florida regions. Most significant of these efforts are the coordinated approaches of the initiatives listed below.

Envisioning Scenarios for Climate Change in Southern Florida

The Massachusetts Institute of Technology (MIT) through funding by the U.S. Fish and Wildlife Service and the United States Geological Survey is undertaking an Envisioning Scenarios for Climate Change in Southern Florida project. The project area includes Hernando, Sumter, Lake, and Volusia counties and all counties to the south. The project is an applied research effort that explores some of the most important challenges that climate change and rapid urbanization imposes on the management and conservation efforts in the Greater Everglades Region. The project simulates the possible effects of climate change under different planning trajectories in order to identify the possible effects of each trajectory in future strategic habitat conservation efforts. The ultimate goal of the project is to better inform planners and managers aiming at creating long-term strategic conservation decisions on the potential challenges they might face in an era of climate change and rapid urbanization.

Southeast Florida Regional Climate Change Compact

The Southeast Florida Regional Climate Compact was established in 2009 between Miami-Dade, Broward, Palm Beach and Monroe Counties. The purpose of the Compact is to develop a regional collaboration that supports a coordinated climate change strategy for the Southeast Florida Region.The four counties committed to develop a joint policy position and legislative policy statements on climate change issues, to develop a Southeast Florida Regional Climate Change Action Plan among other actions, and to participate in a regional climate team. Miami-Dade ratified its participation in the compact through resolution in December 2009. Broward County on behalf of and with the Compact's support, has applied for $15,000,000 in funding as part of the Florida Clean Energy or related legislation to support the development of a regional climate change adaptation strategy for southeast Florida.

County Efforts

Over the past decade, Miami-Dade County has undertaken several initiatives toward reducing its greenhouse gas emissions. This was borne out of the County's acknowledgement of and commitment to addressing global warming and Climate Change. The County's first initiatives inlcude membership on the ICLEI in 1990, which resulted in the 1993 approval and implementation of the County's 1993 Long Term CO_2 Reduction Plan (the Plan), by the Miami-Dade Board of County Commissioners (BCC). The Plan's goal was to reduce the County's greenhouse gas emissions by 20% of the 1988 levels by 2005. The Plan included a myriad of over 34 recommendations for reducing the County's greenhouse gas emissions that addressed transportation, land use, electricity production and use, and solid waste. Through implementation of the Pan's recommendations, the County has realized an annual average reduction of over 2.5 million tons of CO_2 emissions and an overall estimated reduction of 34 million tons of CO_2 between 1993 and 2005. Despite the reductions in emissions

achieved through the Plan, the County's overall greenhouse gas emissions grew by approximately 36% primarily due an approximate 27% growth in population, an increase in electricity usage per household due in part to larger homes, and an increase in sport utility vehicle (SUV) usage (Long Term CO_2 Reduction Plan for Miami-Dade County, 1993-2006). The County's initiatives were furthered through the following:

The Climate Change Advisory Task Force (CCATF) in July 2006

The CCATF serves to provide technical assistance and advice to the BCC on measures that can be taken to respond to global warming and climate change. The task Force comprises Steering Committee chaired by the Honorable Harvey Ruvin, a Built Environment Adaptation Committee, an Economic, Social and Health Adaptation Committee, a Greenhouse Gas Reduction Committee, an Intergovernmental Affairs Committee, Natural Systems Adaptation Committee, Science Committee. The CCATF is comprised of 25 members, appointed by the Commissioners, Mayor and County Manager, which are a diverse, multidisciplinary and highly knowledgeable group of individuals representing various sectors of the community. In addition to the regular CCATF membership, more than 150 individuals participate in these committees, representing various County departments, local and regional universities and organizations, environmental organizations, and local businesses.

The CCATF issued its Initial Report in July 2007, Second Report and Initial Recommendations in April 2008, Update reports in September and December 2009, and Annual Report and Supplemental Recommendations in April 2010. The April 2008 and 2010 reports contain numerous recommendations aimed at addressing climate change from each committee's specific focus area. Additionally, the CCATF's June 2010 Annual Summary and Status of Recommendations report includes a compilation of over 60 recommendations and actions taken on these recommendations to date.

The County's July 2007 membership in the Chicago Climate Exchange (CCX)

The CCX is a multi-sectoral, legally-binding, rules-based greenhouse gas emissions reduction and trading system that was consistent with the County's goals of reducing regional contributions to global warming pollution and fostering regional clean energy economic development. The County's membership in the CCX committed to reducing its greenhouse gas emissions by 1.5% annually (for total 6% reduction) over baseline emissions from 2006 to 2010.

Participation in the U.S. Cool Counties Program

In 2008, the BCC endorsed the County's participation in the U.S. Cool Counties Prgram and comitment to the goal and objectives of the program's U.S. Cool Counties Climate Stabilization Declaration. The Declaration makes the overarching commitment to achieving the climate stabilization goal of reducing greenhouse gas emissions by 80% over current levels by 2050. Toward achieving this goal, the first objective is to stop increasing emissions by 2010 and thereafter achieve a 10% reduction every five years through to 2050.

The Miami-Dade Office of Sustainability (OOS)

The OOS collaborates with County departments and other agencies and groups to protect and enhance the County's environmental quality and livability. The OOS also leads the development and implementation of the County's sustainability plan, "GreenPrint" that will leverage current sustainability goals and initiatives and develop new ones where needed, with the assistance of ICLEI.

The Southeast Florida Regional Climate Change Compact

The establishment of the Compact in 2009 between Miami-Dade, Broward, Palm Beach and Monroe Counties committing to develop a joint policy position and legislative policy statements on climate change issues, to develop a Southeast Florida Regional Climate Change Action Plan among other actions, and to participate in a regional climate team. Miami-dade ratified its participation in the compact through resolution in December 2009.

Identification of CDMP Elements Impacted by (Major) Issue and Assessment of Each Objective Impacted in Elements

Currently the CDMP includes numerous objectives and policies that address climate change mitigation, and address challenges associated with climate adaptation, to some degree. (Numerous challenges associated with climate change are already occurring

to some degree, such as saltwater instrusion.) The Land Use Element and the Mass Transit Subelement have the largest collection of objectives and policies that support the concepts of transit oriented development, urban center growth, and densification of mixed use urban areas that provide pedestrians with mobility options. Implementation of these and other existing sustainability concepts within the CDMP elements would help to mitigate climate change.

This preliminary identification of existing CDMP objectives that address concepts related to the climate change major issue will help inform more comprehensive future CDMP amendment tasks, some of which are suggested in the Recommendations section of this report. The County is committed to use the most current scientific data as a basis for recommending changes or targets related to climate change in the CDMP, and to work with regional partners to develop recommendations. This department is also committed to support other ongoing County climate change planning processes and incorporate input as appropriate, to avoid duplicative analysis, as these other processes advance. An initial sample of CDMP objectives that address concepts related to climate change are noted below.

Land Use Element
LU-1 and LU-3 and LU-8: Supports redevelopment around urban centers and discourages sprawl patterns of development that consume raw land and natural resources.
LU-2: Recommends that urban services are focused on areas within the UDB.
LU-4 and LU-5: Facilitates compatibility of adjacent uses within urban areas.
LU-7: Promotes transit-oriented, mixed-use development.
LU-10: Promotes energy efficient development.
LU-11 and LU-12: Supports redevelopment and reuse of existing structures.

Transporation Element
TE-1, TE-2, and TE-3: Advocates for providing transportation mode choices through planning and capital investments.(alternative to the personal automobile).

Traffic Circulation Subelement
TC-1: Level of service standards are intended to provide efficient transportation and help conserve energy.
TC-2: Anticipates rights-of-way and corridors needed for future transportation facilities, including non-vehicular modes of transportation.
TC-4 and TC-6: Encourages transportation planning to be coordinated with land use planning and the protection of natural resources.
TC-7: Supports long-range regional transportation planning.

Mass Transit Subelement All objectives in this Subelement strive to provide transit as an alternative to private automobile use, these initiatives minimize greenhouse gas emissions.

Housing Element
HO-5: Suggests that affordable housing resources may be attained through rehabilitation of existing housing stock and conversion of non-residential structures, as appropriate.
HO-6: Suggests that affordable housing should provide residents with access to transit, employment centers, and public services.
HO-7: Encourages housing design to maximize energy efficiency.

Conservation, Aquifer Recharge and Drainage Element
CON-1: This objective focuses on air quality and Policy CON-1J directly addresses greenhouse gas emissions.
CON-2: Additional protections for ground and surface water, and exploration of alternative water sources, will become increasingly important as flood conditions intensify and water supplies diminish.
CON-3: This objective and policies relate to wellfield protection. Since water supply shortages are anticipated with climate change, protection of the quality of the Biscayne Aquifer carries additional importance.
CON-4: Water shortages are expected to result from climate change and water conservation, advocated in this Objective, is a recommended mitigation and adaptation measure.
CON-5: Initiatives related to stormwater and drainage, and are of high priority for climate change adaptation.
CON-6, CON-7, CON-8, and CON-9: These objectives advocate for the preservation of

undeveloped lands, including pine rockland, hammocks, wetlands, and agricultural land. Undeveloped land will be a critical resource as people and ecosystems adapt to climate change and sea level rise.

Water and Sewer Subelement
WS-1 and WS-3: Prioritizes the provision of water and sewer services in the most appropriate areas.
WS-2: Discusses the need to provide water and sewer capacity and address potential overflows.
WS-4: In anticipation of rising ground and sea water levels, discontinuation of septic systems may become a priority to protect water resources and public health.
WS-5: Support for additional water conservation addresses anticipated water supply shortages.
WS-6: Development of alternative water supplies addresses anticipated water supply shortages.
WS-7: Through compliance with its Water Use Permit, the County will plan for impacts to water resources on a regional level.

Solid Waste Subelement
SW-1: This objective suggests that priority services must be focused on the most appropriate areas of the County.
SW-4: This objective discusses the importance of environmental considerations that could include climate-related challenges, in solid waste planning.

Recreation & Open Space Element
ROS-1, ROS-5, ROS-6: Acquiring and maintaining supplies of open land may provide critical resources for displaced urban communities, and ecosystems supporting flora and fauna, as climate change adaptation becomes necessary.

Coastal Management Element
CM-1 and CM-2: Objectives that involve protection of coastal resources will be directly impacted by climate change conditions.
CM-3 and CM-4: Climate conditions will create additional challenges for maintaining coastal and estuarine water quality and will directly impact coastal wetland and hammock acreage available to support species.
CM-6: Additional protection of natural coastal ecosystems may provide human developments with barriers that assist in minimizing storm impacts and sea level rise impacts.
CM-8 through CM-11: These objectives address hazard planning and are directly related to climate change adaptation. Policy CM-9H directly addresses sea level rise.

Intergovernmental Coordination Element
ICE-1: Maintaining and improving intergovernmental coordination, as suggested by this objective, is directly related to successful climate change mitigation and adaptation efforts.
ICE-3, ICE-4, and ICE-5: Coordination for service provision, natural resources management, and other regional issues is directly related to this Major Issue.
ICE-8: This objective emphasizes the need for intergovernmental coordination to ensure hurricane shelters during evacuations.

Capital Improvements Element The County will need to consider adjustments to all resource plans to anticipate the impacts of climate change. Careful consideration of these impacts should be focused on minimizing loss of investment, and incrementally preparing for major financial burdens associated with impacts such as sea level rise.

Educational Element Public education is a component of planning for significant climate change impacts. This element does not currently have an objective that discusses the County's role to prepare and disseminate information to the public.

Summation of the Social, Economic and Environmental Impacts of the CDMP, if Applicable

This section briefly addresses the social, economic, and environmental benefits (to Miami-Dade County and the state) of successfully implementing climate change initiatives. The County plans to do its part to attempt to slow down climate change by amending the CMDP to modify existing objectives and policies and incorporate new policies where appropriate to reduce greenhouse gas emissions, in conjunction with many other ongoing County efforts also designed to mitigate climate change. Once the County has incorporated climate related initiatives into its plans, the County must follow through to achieve climate-related goals by adopted legislation, and adequate resource allocations. These steps toward implementation will require political will and creative solutions to overcome historic budget challenges. In anticipation of the difficult decisions ahead,

recommendations at the end of this report include efforts to build accountability into climate change amendments to the CDMP and all County strategic business plans. Ideally, the County is joined not only by its regional partners, but also each major greenhouse gas emitter on the planet, in efforts to drastically reduce the emission of greenhouses gases into the atmosphere.

Incidentally, implementation of many of the fundamental goals of long-range community and regional planning already captured in the County's CDMP, such as transit-oriented, pedestrian friendly development, would result in climate change mitigation (or reduction of greenhouse gas emissions). Insofar as new state and federal mandates require that local governments invest in redevelopment, and developers focus their investments on transit oriented development projects, the County's CDMP goals, objective, policies will be bolstered and implemented. As noted in the section above, long-range master plans have advocated for compact transit oriented communities for decades, albeit with arguable success in many parts of the United States.

In a nutshell, a Miami-Dade County designed, built, and managed to mitigate climate change would cater to the needs of those who cannot drive, who are elderly, young, or cannot afford an automobile, and those who do not want to endure congested roadways in single occupancy vehicles. Homes would be within walking or biking distance from parks, food stores, clinics, and schools. Employment hubs would include residential units, and small businesses would thrive as consumers are concentrated near needed services. Urban density would cause transit ridership and fares to increase to support and allow expansion and maintenance of premium transit networks. This compact growth would save the County money through consolidated provision of urban services such as water, sewer, police, fire, and schools. The County would successfully preserve those habitats outside of the County's urban service area boundary needed to support rare plant and animal species and needed to support a thriving tourism industry. [The urban service area boundary is depicted as the 2015 Urban Development Boundary (UDB) on the Adopted 2015 and 2025 Land Use Plan map of the CDMP.] Leading sectors of the County economy such as trade and health would have been nurtured. New incentives to develop 'green' sectors such as research and development for alternative energy would have been prioritized. The County would also incidentally have preserved open land areas outside the UDB used to produce local foods and manage coastal and inland wetlands.

Conversely, if global efforts to mitigate climate change are not fully successful, all aspects of life and business in South Florida are likely to endure long-term negative impacts. Sea level rise will change South Florida in ways that are difficult to fully anticipate. Costs to adapt to these anticipated climate-related challenges will be much higher if incremental investments are not made now to prepare for the future. It is not in the County's interests, fiscal, social, economic, environmental, or otherwise, to delay investment in planning and projects that will solve existing problems, such as drainage, that will worsen and become even more unmanageable, as climate change conditions intensify. As illustrated on the below Figure 1.2-3, Urban Infrastructure and Current Flood Risk, much of Miami-Dade County including portions of the urban service area is already subject to flooding.

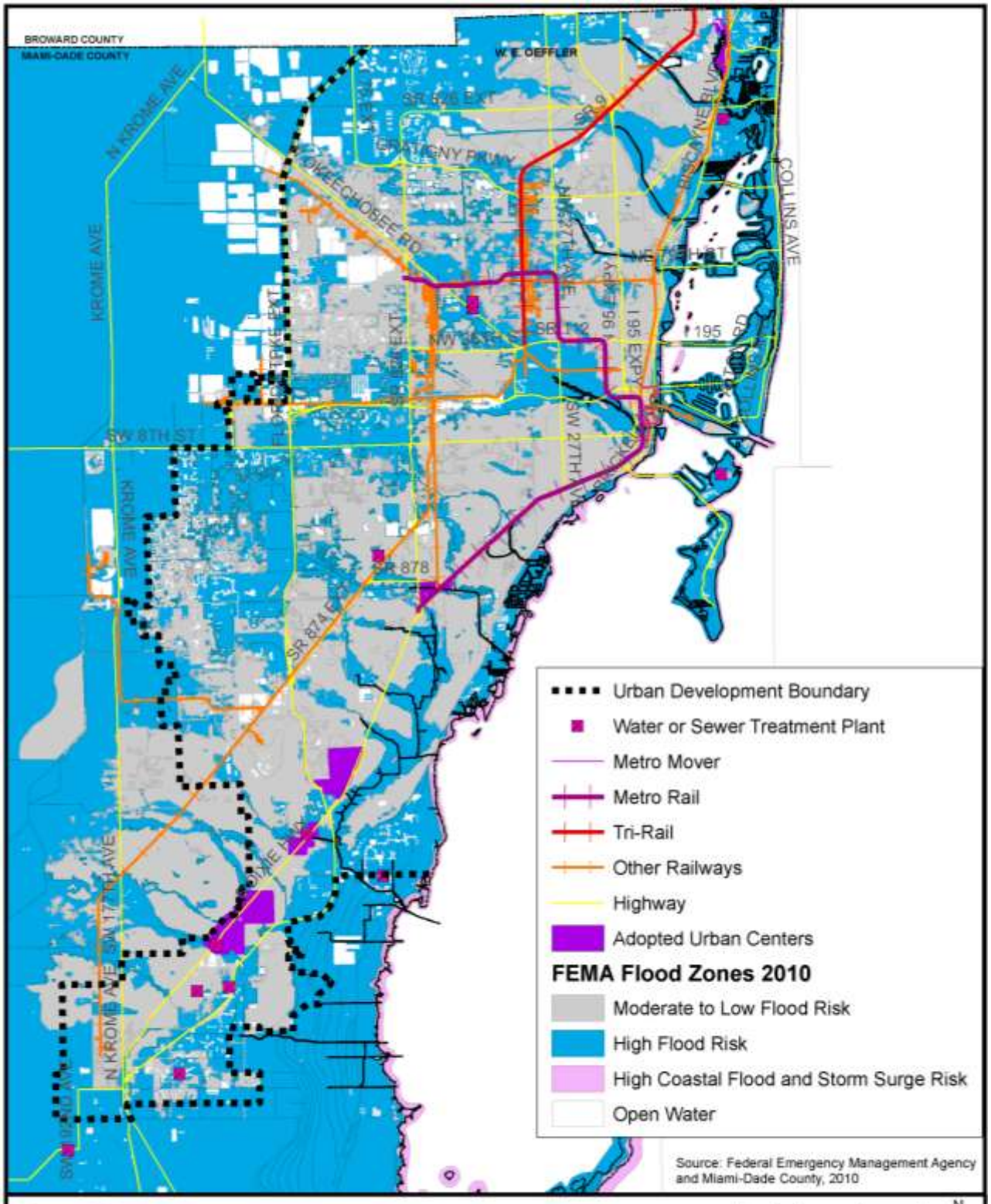


Figure 1.2-3

URBAN INFRASTRUCTURE AND CURRENT FLOOD RISK

CONCLUSION

The evidence presented by the IPCC and national experts demonstrates that global anthropogenic greenhouse gas emissions have been increasing since the industrial revolution and will continue to increase based on current trends. The evidence also demonstrates that climate change is occurring and that significant actions on a global scale are needed to mitigate climate change and its impacts. Similarly, greenhouse gas emissions within the U.S. have been increasing over time and are projected to continue to increase given population growth and economic activities.

Consensus reached by the IPCC and others indicates that land use change and the built environment significantly impact greenhouse gas emissions. Smart growth (compact development supported by mass transit) is identified to generate significantly less greenhouse gas emissions than sprawl development, and is identified a one measure that can mitigate the impacts of climate change. Therefore, smart growth is viewed as the more suitable way for the built environment to be developed and redeveloped to accommodate projected population growth.

Miami-Dade County, among other coastal areas, is particularly at risk to the impacts of climate change, including sea level rise and storm surge. The County has acknowledged its vulnerability and has sought to address its vulnerability through numerous initiatives over the past decade.

A myriad of initiatives have been or are currently being undertaken at the national, State, regional and County levels to address climate change and to ultimately reduce the nation's greenhouse gas emissions. With as many efforts as are currently ongoing, it is difficult to keep track of them all. However, Miami-Dade County is furthering its commitment to address climate change by assessing climate change as a major issue in its CDMP, among the other ongoing initiatives. This initial analysis of climate change in the CDMP will be built on, in the future, and be further informed by the outcomes of other ongoing initiatives including County, regional, state and national efforts, where appropriate. This effort will also be further refined as the science of climate change and its projected impacts are better understood and more specifically defined. At that time, consensus on the identification of specific areas that will be impacted by climate change would have been reached and illustrations depicting anticipated impacts, including sea level rise, would have been developed.

The CDMP currently embodies numerous goals, objectives, and policies that promote the densification and intensification of the County's built environment supported by mass transit. Recommendations are made in the following section to modify certain objectives and policies and to add new policies addressing development in the context of climate change. Further recommendations will be made in the future to amend the CDMP as efforts to address climate change progress.

RECOMMENDATIONS

1. Add a new policy under the Land Use Element Objective LU-3 to require the County to initiate, by a date certain, an analysis on climate change and its impacts on the built environment addressing development standards and regulations related to investments in infrastructure, development/redevelopment and public facilities in hazard prone areas. The analysis will evaluate, among others, property rights issues and municipal jurisdictional challenges and opportunities associated with the avoidance of areas prone to hazard due to sea level rise and other climate change impacts. The current land supply/demand methodology will also be evaluated to consider the risk associated with infrastructure investments in flood prone areas, and the CDMP long-term time horizon will be evaluated in relation to climate change impacts. Recommendations that result from this study would include, but not be limited to, changes to land use designations, development entitlements and zoning, and development standards.

   This analysis is consistent with the intent of Land Use Element Policy LU-9B and would implement Climate Change Advisory Task Force (CCATF) Recommendation C.2: *Propose strategies that incorporate climate change into all public investment processes and decisions, including those concerning infrastructure and buildings.*

This analysis would also implement CCATF Recommendation E.1 and D.4: *Create a plan to locate infrastructure and development outside coastal or flood hazard prone areas using projections of sea level rise to identify those areas. Describe a transitional zone between the hazard area and the built area to be protected and prohibit incompatible land uses that would convert open lands in the transitional zone. Establish a comprehensive planning and zoning policy, such as development setbacks and limits on density and infrastructure in coastal and transitional zones to consider vulnerability to sea level rise and saltwater intrusion.*

2. Add a new policy under the Land Use Element Objective LU-3 that requires the County to establish a Climate Change Analysis, subsequent to the deadline referenced in Recommendation 1, or similar mechanism, to be used to evaluate proposed new development and redevelopment to assess the suitability of proposed use(s), density and/or intensity of use(s), and the level of risk of exposure to climate change impacts, among others. The Climate Change Analysis is to be based on the recommendations of the analysis discussed in number 1 above. The review of proposed development would include a statement of anticipated impacts on climate change.

   The CCATF Recommendations C.2, C.7 and C.8, E.1 and F.10 coincide with this recommendation. The CCATF Recommendation C.2 emphasizes that climate change should be incorporated, "into all public investment processes and decisions, including those concerning infrastructure and buildings." Application of this type of climate change review or analysis may assist the County to achieve GreenPrint Draft Goal 2 ("Be an international model for climate change adaptation") that suggests the integration of climate change considerations into strategic and fiscal decision-making, and Goal 5: Responsible Land Use and Smart Transportation[2].

3. Add a new policy under the Land Use Element Objective LU-3 to create educational tools, such as a reader-friendly document and website that communicate existing and new climate change-related regulations and initiatives. The purpose of these educational tools would be to implement climate change policies through education and advocacy. Information would be presented clearly to explain projected climate change impacts at the personal level, and would link these risks with an explanation of how business today would have to shift to address these projected risks. The effects of everyday choices would also be discussed. The various elements of the CDMP would be explained including the various County departments that have developed the policies in the CDMP elements. The information collected would also explain how the public can help shape policies in the CDMP and in other County plans to ensure that Miami-Dade resources are protected as climate conditions change.

   This task would contribute to the implementation of CCATF Recommendation E.7 that suggests development of a county-wide educational outreach program on climate change.

4. Add a new policy under the Intergovernmental Coordination Element Objective ICE-5 requiring the County to continue coordination with the various regional climate change organizations to develop initiatives and goals to address climate change mitigation and adaptation. Integrate evolving County and regional climate change mitigation and adaptation goals and recommendations into the CDMP as appropriate.

   Guiding principles developed as a part of the County's sustainability planning process, GreenPrint, acknowledge that the County must coordinate with local municipalities, neighboring counties, and the private sector to achieve sustainability goals. The CCATF also emphasizes the importance of regional cooperation to address climate change conditions. Regional cooperation may include the following projects:

   - Develop maps that depict storm surge and sea level rise projections, with overlays of

[2] Miami-Dade County GreenPrint. GreenPrint Milestones Two and Three. Accessed on the internet, July 15, 2010, http://www.miamidade.gov/GreenPrint/milestones_two_three.asp#land_use.

infrastructure, population and building densities.

- Develop a regional growth and redevelopment plan to minimize losses to existing investment and consolidate new development on *transit-served high ground*. Amend the CDMP and other County documents to incorporate best management practices for climate change mitigation and adaptation and incorporate climate change planning maps as appropriate.
- In partnership with the Department of Emergency Management, assist the Local Mitigation Strategy (LMS) Working Group to incorporate climate change into ongoing hazard mitigation planning. The LMS system shall consider climate impacts when prioritizing hazard mitigation projects for potential funding.

5. Add a new policy under the Conservation, Aquifer Recharge and Drainage Element Objective CON-1 requiring all County departmental master plans and strategic business plans to be amended to include and prioritize climate change mitigation and adaptation strategies. All departmental recommendations related to climate change shall be monitored, and annual progress reports shall be published in a central location (such as a website) that encourages and facilitates public review and participation. This could be linked with the educational tools discussed under number 3 above.
   - Each department shall research the implications of extended planning horizons (i.e. 30, 50, 75-year plans) and consult with other agencies and regulators to include projected long-term climate change impacts into resource allocation recommendations.
   - The County shall determine the most efficient method to establish targets, track, and report progress toward implementation of climate change recommendations in all master planning documents.

To address the requirements of HB 697, it is recommended that the affected CDMP Elements be amended as follows, in addition to any new requirements resulting from the DCA's rule making process.

6. Modify the CDMP Land Use Element as follows:
   - Modify the Land Use Element Goal to include 'environmental' among the needs to be protected by land use and services distribution.
   - Modify Objective LU-1 and associated policies to address greenhouse gas emissions
   - Modify Objective LU-7 and associated policies to address greenhouse gas emissions, energy efficiency and conservation.
   - Add a new policy under Objective LU-7 (Policy LU-7J) requiring the County to formulate or adapt formula(s) or mechanism(s) to estimate greenhouse gas emissions, energy efficiency and conservation.
   - Modify LU-8E to add criteria to be used in evaluating CDMP amendments that includes an assessment of greenhouse gas emissions estimates and energy efficiency in land use patterns.
   - Add a new map under the Interpretation of The Land Use Plan Map: Policy of The Land Use Element section to depict energy conservation.
7. Modify the CDMP Housing Element as follows:
   - Modify Objective HO-7 to require energy efficiency and conservation and the use of renewable energy sources in housing design and development alternatives.
   - Modify Policy HO-7B to include energy efficiency and conservation and the use of renewable energy sources in the supported construction techniques, methods, and materials.
8. Modify the CDMP Transportation Element as follows:
   - Traffic Circulation Subelement EAR Chapter 2 recommended modification to Objective TC-1 to remove the statement that it is desirable that all roadways in the County

operate at level of service C or better. This desirable level of service is not being achieved and is not transit supportive.

- Add a policy in the Mass Transit Subelement that requires cooperation between the DP&Z, MDT, MPO, MDX and other pertinent agencies to further the coordination and implementation of land use and mass transit planning.

9. Modify additional CDMP objectives and policies to address greenhouse gas emissions reduction, energy efficiency and conservation where appropriate.

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1.3 DIRECTING GROWTH AND EMPLOYMENT

Introduction

Economic growth in Miami-Dade County has been robust over the past 25 years. This has resulted in an increase in Personal Income of over 3.4 percent annually. Today the County has over 1.3 million jobs and is by any standards a mature and diversified economy. While the rate of job growth has slowed as the economy has grown, all indications are that the economy shall continue to grow well into the future. There are several salient factors that will drive this growth from entrepreneurialism and high rates of small business formation to competitive advantages in the trade arena. The focus of this analysis is on how this growth will occur and where it will take place. It is not intended to be an overall economic development strategy; rather it is more narrowly defined. More specifically, it attempts to determine how to direct at least some of this growth to urban centers and major corridors and how concomitantly can new employment centers be created and existing centers enhanced.

Before addressing these questions, it is important to understand the current structure and conditions of the Miami-Dade economy. This will be accomplished through an examination of the current level of employment and the amount of firms by industrial sector. This will include a brief discussion of how specific industries tie into our major economic generators. An analysis of the location and type of employment will round out the current picture of the economy. In order to put the current state of the economy in perspective, an analysis of trends over the past twenty years will be provided. To present a somewhat broader picture, a more limited analysis will be done at the regional level. In order to understand why the local economy will continue to grow factors such as dynamic comparative advantage, entrepreneurship, availability of commercial and industrial land, and transportation facilities will be explored. Finally, employment projections by sector will provide insight into where the economy will be in twenty years.

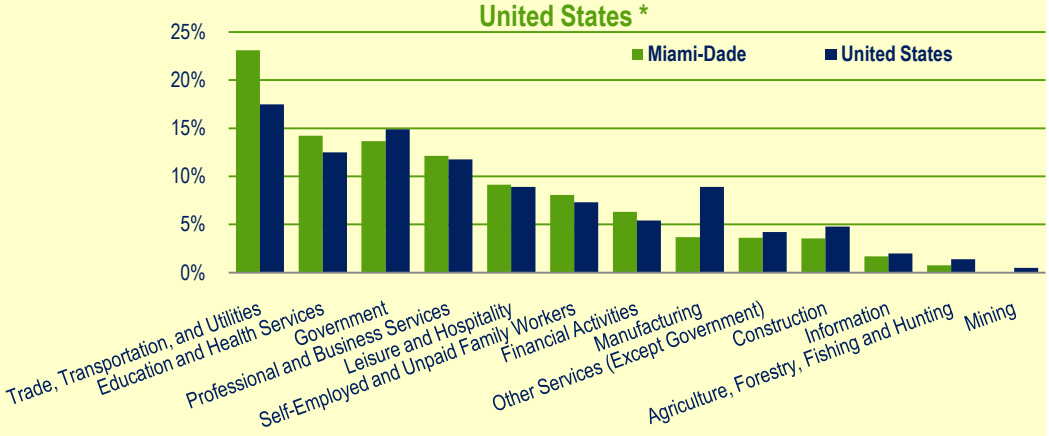
All of this analysis is preparatory to answering the questions concerning directing growth to urban centers, major corridors, the possibility of creating and enhancing employment centers and finally an analysis of how the Miami-Dade economy can diversify.

Current State of the Economy

Miami-Dade County has an over $100 billion economy as measured by its gross domestic product, propelled by a workforce of 1.15 million people. For the past two and a half years economic activity in the region has slowed down in concert with the rest of the nation causing the unemployment rate to reach double digit territory, reaching 12.3 percent in May 2010. With this in mind, in this section, an analysis of the structure of the Miami-Dade economy by industrial makeup based on employment and business establishments follows.

The economy is led by a diversified group of four sectors, primarily service related, that provide over 50 percent of employment in the County. Each of the following sectors account for more than 10 percent of Miami-Dade employment: Professional and Business Services, Government, Education and Health Services, and Retail Trade. The Wholesale Trade and Transportation sectors, that clearly are linked to our major external driver, namely, international trade. These two sectors provide 11.6 percent of the County's employment base. Finally, the Leisure and Hospitality sector that significantly is tied to the Miami-Dade tourism industry provides 100,425 jobs or 9.1 percent of total employment. The Self-Employed sector generates 7.9 percent of overall employment.

Figure 1.3-1 Share of Total Employment by Industry Miami-Dade and United States *



Source: Agency for Workforce Innovation and BLS, Employment Projections Program. Miami-Dade County, Department of Planning and Zoning, Research Section, 2010.
*Data for Miami Dade County is of 2009, and for the United States 2008.

Figure 1.3-1 shows a comparison of employment by industry for Miami-Dade and the nation. Certain broad patterns of differences in the structure of the two economies are apparent. The Trade, Transportation, and Utilities sector provided 23.1 of employment in Miami-Dade, whereas the corresponding figure at 17.5 percent is considerably lower for the nation. Other large sectors that are over-represented in the Miami-Dade economy are the Education and Health Services, Professional and Business Services, Financial Activities, and Self-Employed sectors. Sectors in which Miami-Dade is under-represented in employment terms include: Government, Manufacturing and Construction. It is important to note that the Leisure and Hospitality sector, which provides 9.1 percent of Miami-Dade employment, essentially has no greater employment impact on the economy than the sector does at the national level.

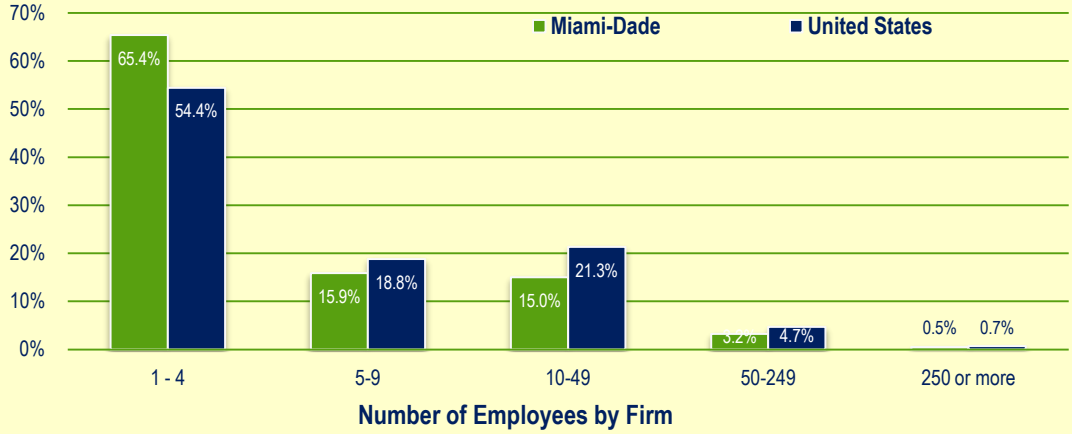
When comparing the Miami-Dade to the U.S. economy, in terms of employment by sector, Wholesale Trade and Manufacturing are the two industrial sectors that are most divergent. The former accounts for 7.9 percent of employment in Miami-Dade, whereas the corresponding figure for the U.S. is considerably smaller at 5 percent. On the other hand, the Manufacturing industry provides 11.4 percent of employment nationally, and 5.2 percent in Miami-Dade. This figure is less than half the national rate.

Another industry that has a lesser weight in the Miami-Dade economy is Construction. While the divergence from the national figure is not so dramatic, still this sector provides 6.1 percent of employment for the nation. The corresponding figure drops to 4.7 percent in Miami-Dade. The Real Estate, Transportation and Warehousing, and Accommodation and Food Services, sectors weigh more heavily in the Miami-Dade economy than is the case nationally.

In addition to the level of employment by sector it is important to examine the size of businesses as this has implications regarding competitive structure and entrepreneurialism.

Relative to the nation, Miami-Dade business establishments are small in size as measured by employees per firm. In Miami-Dade firms average 11.5 employees, whereas for the U.S. this number jumps to 15.8. In Miami-Dade, 65.4 percent of establishments had between 1 and 4 employees, whereas the corresponding figure for the nation was 54.4 percent. For business establishments with 50 or more employees, Miami-Dade fared more poorly than the nation. For the U.S. as a whole 5.4 percent of establishments had 50 or more employees, in Miami-Dade the corresponding figure was 3.7 percent.

Figure 1.3-2 Miami-Dade vs. United States by Share of Firms by Number of Employees, 2006



Source: U.S Census Bureau, County Business Patterns 2006. Prepared by Miami-Dade County, Department of Planning and Zoning, Reseach Section, 2010.

The top five industrial sectors in the Miami-Dade economy, in order of employment level are: Retail Trade, Health Care and Social Assistance, Accommodation and Food Services, Administrative and Support, and Wholesale Trade. Combined they provided 466,812 or 53.7 percent of private sector employment in 2006. In terms of industries with businesses that have 500 or more employees, Health Care and Social Assistance, and Administrative and Support stand out with 38 establishments in this category. This represented a third of the businesses with 500 or more employees.

However, when looked at from the perspective of the number of establishments within each sector, a different picture emerges. From this standpoint, Professional and Technical Services is the largest sector with 15 percent of all business establishments. Not surprisingly, the Professional and Technical Services sector was second in overall payroll; it had a relatively high average yearly salary level of $53,967. The Accommodation and Food Services sector at $15,790 provided the lowest annual average wage. Retail Trade had a somewhat higher average annual wage of $24,735. The highest salary level at $80,157 was found in the Management sector. Interestingly, both of these sectors provided higher annual wages than at the national level. In fact, average annual wages were 13.3 percent higher in Miami-Dade than in the U.S. in the Accommodation and Food Services sector.

Location of Employment

The level of employment in Miami-Dade County is over 1.3 million as per the State of Florida, Agency for Workforce Innovation data for 2005. The geographic configuration of jobs and its density in Miami-Dade County lies within an expanding east-west funnel that begins in Miami Beach and moves westward through the Port of Miami and downtown Miami through the Medical Center area and captures the business area of Coral Gables then moves through Miami International Airport and significantly broadens in the Doral/Medley area. The concentration of employment in this central area is readily seen in Figure 1.3-3. The economic generation of employment is anchored by the Port of Miami and Miami International Airport. The Port provided 21,357 direct jobs, while the figure for the Airport was even higher at 67,085. Most of the employment that is related to our international trade arena lies within this area. Even more importantly much of the higher wage employment related to legal and financial services, as well as those that are trade related, are located in this broad area. Most of the other areas in the County with concentrated employment are ones that have major institutional uses, namely, hospitals and universities. In addition, the aviation facility in Opa–Locka and the immediate vicinity serves as an employment area for over 30,000 workers.

It is also useful to look at the distribution by Minor Statistical Area as shown in Table 1.3-1 whose geography is shown in Figure 1.3-3. The area described above, is best depicted by MSAs 1.3, 3.2, 4.5, 4.6, 4.7 and 5.2 has a total level of employment of 643,169. This amounts to over 48 percent the countywide total. The greatest concentration of employment by far lies in the Downtown Miami and the Brickell areas. This area is contained in MSAs 4.7 and 5.2 that together provide 218,983 jobs. Although, it is difficult to see the density of employment on the map in Downtown Miami and the Brickell area, they are indeed major employment centers. Downtown Miami provides employment for 63,849 persons, while the corresponding figure for Brickell is 30,052.

Table 1.3-1 Employment in Miami-Dade by Type and by MSA

	Industrial Employment		Commercial Employment		Employment in Services		Total Employment		
MSA	**2000**	**2005**	**2000**	**2005**	**2000**	**2005**	**2000**	**2005**	**percent Change 2000-'05**
1.1	24	104	1,455	616	3,211	5,937	4,690	6,657	41.94percent
1.2	65	253	1,042	761	3,119	5,363	4,226	6,377	50.90percent
1.3	1,017	1,613	12,210	7,788	42,484	71,037	55,711	80,438	44.38percent
2.1	4,434	6,141	29,528	21,695	29,932	51,351	63,894	79,187	23.93percent
2.2	1,243	1,387	5,871	3,929	5,547	8,755	12,661	14,071	11.14percent
2.3	304	534	4,120	2,309	10,264	10,677	14,688	13,520	-7.95percent
2.4	12,274	14,383	16,092	12,973	19,751	30,683	48,117	58,039	20.62percent
3.1	10,689	11,730	17,008	14,606	25,847	42,006	53,544	68,342	27.64percent
3.2	33,329	30,948	52,005	43,571	87,077	116,500	172,411	191,019	10.79percent
4.1	2,021	3,029	7,360	4,557	19,740	25,144	29,121	32,730	12.39percent
4.2	8,068	8,402	11,036	6,832	17,990	22,532	37,094	37,766	1.81percent
4.3	9,634	9,816	18,467	13,514	21,361	30,472	49,462	53,802	8.77percent
4.4	432	712	1,572	1,022	4,268	6,068	6,272	7,802	24.39percent
4.5	2,527	2,415	7,355	1,694	37,949	47,494	47,831	51,603	7.89percent
4.6	2,882	4,390	8,329	5,298	48,222	52,824	59,433	62,512	5.18percent
4.7	4,739	5,020	12,388	6,829	86,771	97,246	103,898	109,095	5.00percent
5.1	1,786	2,040	9,165	6,810	25,370	29,764	36,321	38,614	6.31percent
5.2	1,019	1,407	4,780	2,837	48,110	53,620	53,909	57,864	7.34percent
5.3	3,120	4,185	19,900	11,516	75,942	94,187	98,962	109,888	11.04percent
5.4	2,454	4,253	11,930	7,930	23,760	33,580	38,144	45,763	19.97percent
5.5	2,006	1,800	17,700	10,466	32,299	41,678	52,005	53,944	3.73percent
5.6	862	1,311	6,928	3,791	14,849	16,330	22,639	21,432	-5.33percent
5.7	368	579	6,154	3,169	5,223	6,420	11,745	10,168	-13.43percent
5.8	166	347	856	486	5,827	4,629	6,849	5,462	-20.25percent
6.1	1,205	998	8,439	5,340	10,257	16,105	19,901	22,443	12.77percent
6.2	5,556	7,345	7,816	6,312	14,923	22,419	28,295	36,076	27.50percent
7.1	638	565	5,557	2,889	5,889	8,129	12,084	11,583	-4.15percent
7.2	4,074	3,318	2,551	3,793	8,414	9,563	15,039	16,674	10.87percent
7.3	1,475	1,088	1,894	1,490	5,097	7,878	8,466	10,456	23.51percent
7.4	790	651	2,527	1,723	4,469	7,810	7,786	10,184	30.80percent
7.5	2,180	1,151	1,361	1,284	2,593	4,449	6,134	6,884	12.23percent
7.6	1,753	1,372	374	705	547	902	2,674	2,979	11.41percent
Total	**123,134**	**133,287**	**313,770**	**218,535**	**747,102**	**981,552**	**1,184,006**	**1,333,374**	**12.62percent**

Source: Research Section, Department of Planning and Zoning, Miami-Dade County

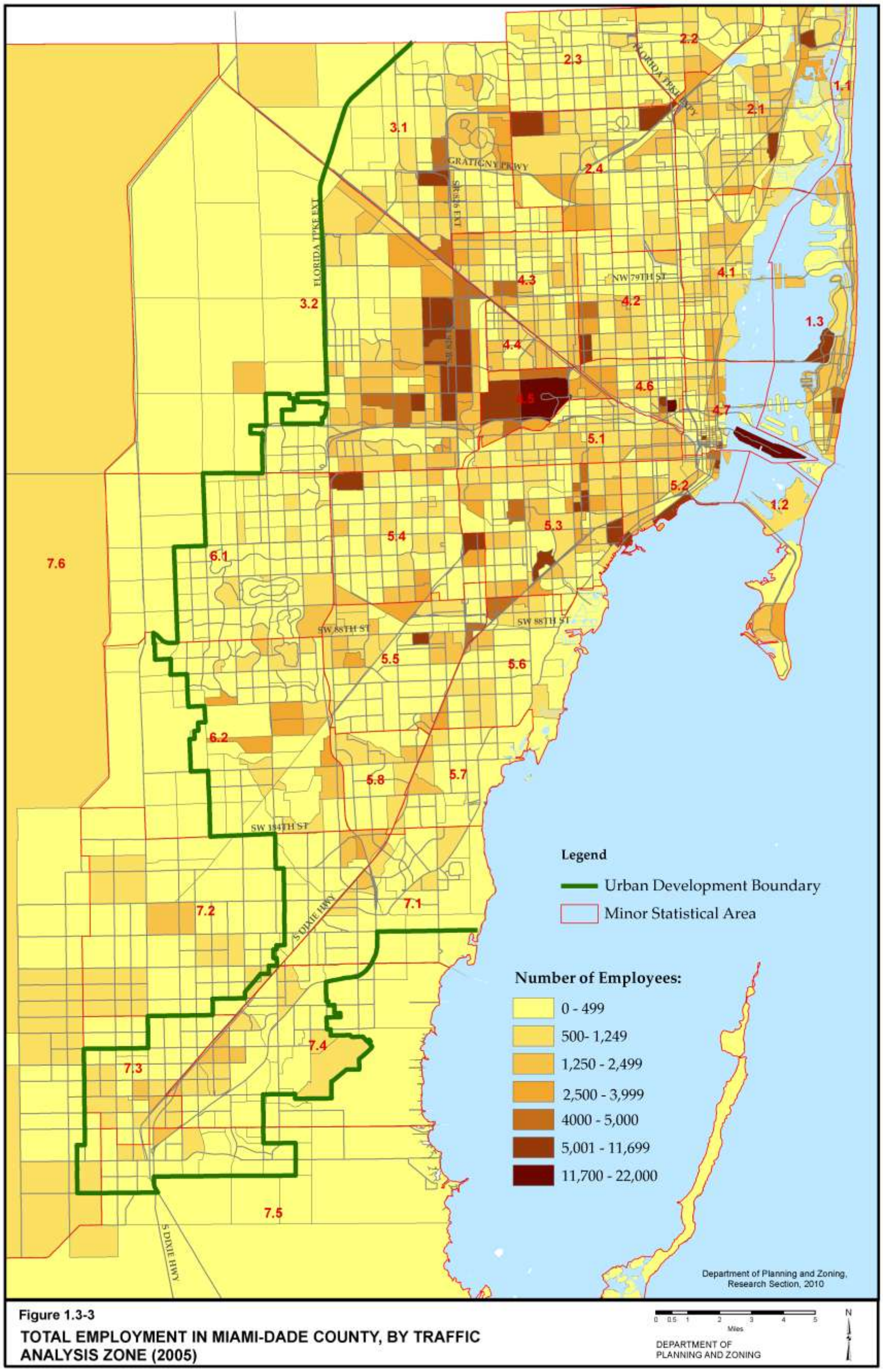


Figure 1.3-3

TOTAL EMPLOYMENT IN MIAMI-DADE COUNTY, BY TRAFFIC ANALYSIS ZONE (2005)

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Trends in Industry Structure

This section provides an analysis of the growth trends in the industry structure of the Miami-Dade economy. The analysis will cover the period from 1989 to 2006 for Miami-Dade at the aggregate industrial level, and measure these changes at the more specific sector level from 1998 to 2006. It should be noted that the more limited time period for the sectoral analysis is due to a change in the industrial classification system.

Over the eight-year span from 1998 to 2006, the Miami-Dade County economy experienced some significant structural changes. These changes are the results of shifts in the industrial makeup of the County's economy as it has been transitioning from a mixed service and industrial economy in the 1980's to an economy dominated by services in the later part of the last decade.

Table 1.3-2
Establishments, Employees, and Annual Payroll
Miami-Dade County
1989 and 2006

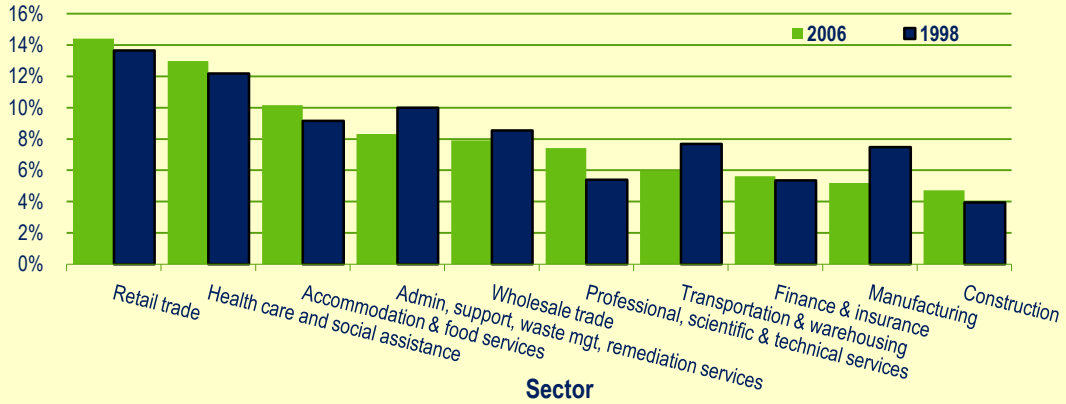
	1989	2006	Percent Change
Establishments	59,736	75,599	26.6%
Employment	748,169	868,560	16.1%
Average Size Establishment	12.5	11.5	-8.0%
Annual Payroll (in thousands)	$25,350,854*	$33,788,690	33.3%

Source: U.S. Department of Commerce, U.S. Bureau of the Census, County Business Patterns, 1989 and 2006. Miami-Dade County, Department of Planning and Zoning, Research Section.
* In 2006 real terms.

Table 1.3-2 shows the aggregate changes in employment, number of establishments and payroll for the period 1989 and 2006. Over this period the economy has steadily grown in terms of these factors. As can be seen, the growth of establishments was higher than that of employment in percentage terms. This resulted in a decrease in the average size of establishment from 12.5 in 1989 to 11.5 in 2006. In part, this was due to the loss of some larger business entities. Further, it points to the increasing competitive structure of the Miami-Dade economy. On the employment side, the economy grew by 120,391 workers or 16.1 percent. At the same time, total annual payroll increased dramatically from $25.4 billion to $33.8 billion or by 33 percent in real or inflation adjusted terms over the same period.

Shifting focus to the trends at the sectoral level over the 1998 to 2006 period important aspects of the growth in the County's economy are revealed. It will be seen that the differential growth rates of industries in terms of the three basic factors mentioned above have an important influence on the performance of the Miami-Dade's economy as a whole.

Figure 1.3-4 Sectoral Share of Total Employment in Miami-Dade County, 1998 and 2006



Source: U.S Census Bureau - County Business Patterns 1998-2006. Prepared by Miami-Dade County, Department of Planning and Zoning Research Section 2010.

In Figure 1.3-4 that shows the growth of employment by sector, it can be seen that significant gains in percentage terms occurred in the retail trade, accommodation and food services, professional, scientific and technical services, and health care and social assistance. The first two sectors tend to provide higher wage employment, while the two other sectors generally provide lower wages. On the other side, sectors that lost employment in relative terms included administrative, support and waste management, manufacturing, wholesale trade, and transportation and warehousing. The downward trend in manufacturing has been going on for many years and reflects the national trend. The latter two sectors are important components of the international trade arena, and although they declined in relative terms, they grew in absolute terms.

More specifically, the above figure depicts the changes in relative share for all establishments between 1998 and 2006. In 2006, the Professional, Scientific, and Technical Services sector surpassed the number of establishments recorded in 1998. The Wholesale Trade and Retail Trade sectors and had the largest number of establishments in the County, accounting for almost 15.0 percent of all establishments. The Real Estate and Rental and Leasing sector also grew rapidly over the period under review. On the down side, the Manufacturing and Wholesale Trade sectors saw their shares decrease by 22.4 percent and 4.5 percent over the period, respectively.

Although Professional, Scientific, and Technical Services now has more establishments than Retail Trade, the later is still highest in terms of employment, accounting for over 14.4 percent of total employment. Healthcare and Social assistance follows with 13.0 percent of total employment, while the share of employment in the Manufacturing Sector has fallen from 7.5 percent in 1998 to 5.2 percent in 2006. The share of employment for Professional, Scientific, and Technical Services, although still relatively low, has grown by the highest percentage (2 basis points) moving from 5.4 percent in 1998 to 7.4 percent in 2006.

In summary, it can be said that the structural changes and the continued shift to trade and services in the Miami-Dade economy over the 1998-2006 period did generally have a positive effect on average pay levels. It should be noted, however, that this improvement over the period was, at best, modest. Moreover, in 2006, the Miami-Dade overall average wage of $38,902 was 2.7 percent below the U.S. average of $39,965 even though it grew faster than the national rate; 36.2 percent versus 30.6 percent from 1998 to 2006. Among the 25 largest U.S. Metropolitan areas, Miami-Dade ranked 22th in terms of wages. Continued efforts aimed at expanding higher paying industries are certainly warranted.

Employment Trends by Location

During the five year period ending in 2005, employment grew by a healthy 149,368 or 12.6 percent in Miami-Dade County. Interestingly, but not surprisingly the areas of highest employment concentration experienced a lower rate of growth than that for the County as a whole. For example, in MSA 3.2, that includes Doral, employment grew by 10.8 percent, while MSA 4.7 that includes Downtown Miami, the corresponding rate was 6.3 percent. The other MSAs that were employment centers in 2000, defined as those areas with at least 25,000 employees, experienced high rates of growth. In particular, MSA 1.3 that includes Miami Beach grew by 44.4 percent, MSA 3.1 that includes Miami Lakes grew by 27.6 percent, MSA 6.2 that is generally referred to as West Kendall grew by 27.5 percent, MSA 2.1 that includes Aventura grew by 24.0 percent, and finally MSA 2.4 that includes the Opa-Locka Airport grew by 20.6 percent. Clearly, over the past five years there has been an increasing trend towards more geographical dispersal of employment.

Analysis at Regional Level

Miami-Dade County is the largest component within the broader Miami-Fort Lauderdale-Pompano Beach Metropolitan Statistical Area (MSA), a concept that identifies broad population concentrations and economic areas within the United States.

U.S. Census Bureau, Journey to Work data provides evidence of the economic interconnectedness of the region. In 2000, 13.9 percent of employees who worked in Miami-Dade County resided elsewhere. The vast majority of these wage earners

that numbered 115,044 resided in Broward County. Just over 60,000 workers live in Miami-Dade and work in Broward.

The Miami-Fort Lauderdale-Pompano Beach MSA consists of Miami-Dade, Broward and Palm Beach Counties. This MSA was home to 5.5 million people in 2008 which makes it the most populous Metropolitan Area in the state of Florida and the seventh largest MSA in the country.

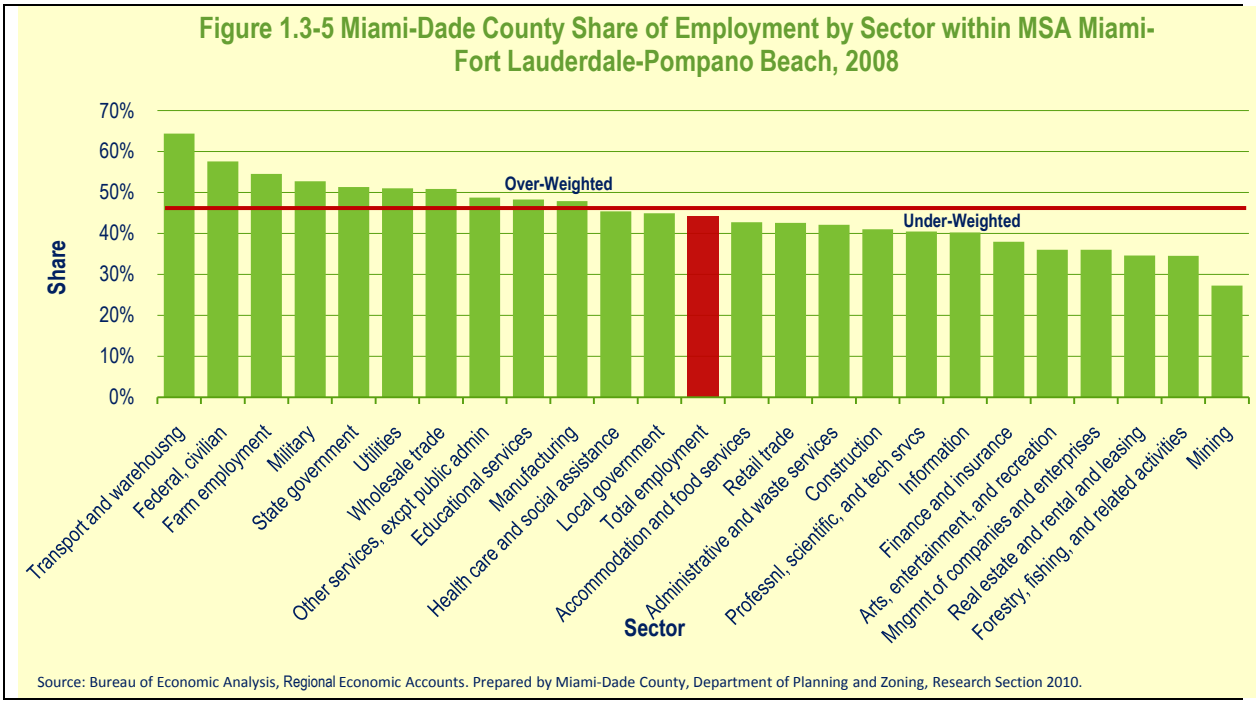
In terms of economic output the Miami-Fort Lauderdale-Pompano Beach MSA ranks eleventh in the nation with a GDP of $261 billion in 2008. If we rank the area's GDP against that of individual countries, the area would rank 34th behind Venezuela and ahead of Colombia. The Miami-Fort Lauderdale-Pompano Beach MSA accounts for 30 percent of the state's population, 31 percent of the jobs and 33 percent of Personal Income.

The Miami-Fort Lauderdale-Pompano Beach MSA economy is Trade and Service oriented. The highest concentration of employment, unlike Miami-Dade alone, is in Retail Trade (344,758 jobs) followed by Government and government enterprises (338,814 jobs) and Health care and Social Assistance (334,919 jobs). Sectors that are not Trade or Service oriented have considerably less employment, in descending order: Construction (198,042 jobs), Manufacturing (103,926 jobs), Farm Employment (13,072 jobs), Forestry, fishing and related activities (7,642) and Mining (3,576) jobs.

Within the area, Miami-Dade County accounts for 45 percent of the residents and 44 percent of jobs with a higher number of jobs than the other two counties in most industries. The numbers of jobs are higher in Miami-Dade than in Pam Beach in all industries with the exception of Real Estate and Rental and Leasing. Similarly, Miami-Dade has more jobs in all sectors than Broward with the exception of Forestry, Fishing and Related Activities, Mining and Management of Companies and Enterprises.

In relative terms, Miami-Dade contributes the most to the MSA in the Transportation and Warehousing sector with 64 percent of the total employment and contributes the least to the Mining sector of the MSA with just 27 percent of the MSA's employment. Other sectors where the contribution of Miami-Dade to the regional economy are the greatest include Federal, Civilian, Government and government enterprises (58 percent), Farm (55 percent), Military (53 percent), State Government (51 percent), Utilities (51 percent) and Wholesale trade (51 percent).

After Mining the sectors where Miami-Dade is underrepresented in the broad MSA are Forestry, fishing, and related activities (35 percent), Real Estate and rental and leasing (35 percent), Management of companies and enterprises (36 percent) and Arts, entertainment, and recreation (36 percent). (See Figure 1.3-5).



Factors that Drive Economic Growth

Location and Transportation

Location and transportation networks are two fundamental factors in the ability of an area to sustain high levels of economic growth. In the case of Miami-Dade County, these factors help drive the external generators of economic activity, namely international trade and tourism. Both of these sectors, which are external to local or endogenous forces, are very important inasmuch as they create additional income and jobs for the Miami-Dade economy. The discussion that follows discusses the volume of activity at the Port of Miami and Miami International Airport that are the economic generators of our external sectors. As these assets are so critical to the health of the Miami-Dade economy, their continued growth is essential. Further, the growing regional aspect of this sector is explored.

Airport

Miami International Airport (MIA) has continuously ranked very high amongst U.S. airports in terms of international passengers. In fact in 2008, it was third among all U.S. airports.

Table 1.3-3
Passenger Count at Airports

Airport	2006			2008		
International passengers	*Millions*	*(percent Change from prior year)*	***Rank among U.S. airports***			
Miami Int'l (MIA)	14.7	(+3.4percent)	#3	16.1	(+3.9percent)	#3
Ft. Lauderdale/Hollywood Int'l	2.4	(+6.6percent)	#16	3.0	(+6.5percent)	#15
Total Passengers	*Millions*	*(percent Change from prior year)*	***Rank among U.S. airports***			
Miami Int'l (MIA)	32.5	(+4.9percent)	#15	34.1	(+1.0percent)	#15
Ft. Lauderdale/Hollywood Int'l	21.4	(-4.6percent)	#23	22.6	(-0.3percent)	#22

Source: Miami-Dade Aviation Department.

Fort Lauderdale – Hollywood International Airport (FLL) is the fastest growing major airport in the country. Between 2006 and 2008 the airport has seen an impressive increase in number of international passengers of over 20 percent. Nonetheless, its total international passenger count in 2008 was less than one-fifth of MIA. FLL serves as a focus city and important hub catering to some important carriers, both domestically and internationally. FLL's easy access to major interstate roads and close proximity (less than two miles) to cruise line terminals at Port Everglades has also make it popular among tourists bound for the Caribbean. Since the late 1990s, FLL has emerged as an intercontinental gateway as well, especially for charter carriers. FLL placed 15th for international passengers and 22nd for total passengers among U.S. airports.

MIA has one of the highest volumes of cargo in the United States, and is the main connecting point for cargo between Latin America and the world. Several all-cargo airlines operate large cargo facilities at the airport. Most major passenger airlines base their major Latin American operations at MIA and also use the airport to carry hold cargo on passenger flights. The total cargo-tons handled through MIA increased from 1,811,184, in 2000, to 1,992,029 in 2008, a 10 percent increase.

MIA was first in international freight and third in total freight in the nation for 2008. MIA ranked first in the United States by percentage of international flights and second by volume of international passengers, behind only New York's JFK Airport.

Seaport

South Florida ports remain very important in the state and nation's waterborne trade. In 2008, the total Twenty-foot Equivalency Unit (TEUs) handled at Port of Miami, FL, Port Everglades, FL and Port of Palm Beach combined accounted for 93 percent of Florida's waterborne container trade. 2007 figures show Port Everglades ranked thirty-third among U.S. ports by overall cargo tonnage (domestic and int'l) and Port of Miami – fifty-sixth. In fact, the total container trade in Port of Miami dropped from 683,504 TEUs in 2000, to 669,493 TEUs in 2008, down by 2 percent. During the same period the container trade grew by 55 percent in Port Everglades, FL reaching 680,841 total TEUs in 2000, and by 20 percent in Port of Palm Beach reaching 156,066 total TEUs. This downward trend in cargo tonnage that began in 2005 may, in part, be due to landside annual traffic delays in the surrounding urban area. The Port of Miami was eleventh in this factor among U.S. ports. The tunnel project that would give trucks much faster access to the Port will help alleviate this condition. The growth of Port Everglades is facilitated by channel depths, facility upgrades and lower port costs. To a large degree, international trade is now regional in scope.

South Florida ports also remain very busy in terms of capacity use. In 2007, Port of Miami, and Port Everglades, ranked 10th and 11th among U.S. Ports by container capacity with 84 percent and 50 percent use of their capacity, respectively. This was even more evident with the cruise capacity. During the period from 2004 and 2009, the average cruise passengers' capacity in Port of Miami was 111 percent of the normal capacity and 90 percent of the maximum capacity. Port Ft. Lauderdale followed with 105 percent of its normal capacity and 85 percent of maximum capacity. It is important to ensure that these Miami-Dade assets continue to grow.

Entrepreneurship

It is generally accepted that entrepreneurial activity is a crucial element that drives innovation and growth in the economy. Entrepreneurs are a varied group as they come from all walks of life, cultural heritage and skill levels. They are not necessarily highly-educated college graduates or experienced business professionals. But they generally have one characteristic in common, that is dedication to success. This is important for the potential for entrepreneurship in Miami-Dade for two reasons. First, Miami-Dade's population is more diverse than highly educated. Secondly, the County's large number of foreign born residents, and the continuing flow of immigrants should be highly motivated to succeed regardless of their English language skills.

While it is true that immigrants arrive in Miami for varied reasons, many come to pursue the American dream by venturing into new activities and by taking advantage of the economic freedom previously unavailable to them. These people become candi-

dates for taking on an entrepreneurial role in the Miami-Dade economy.

Examining entrepreneurship from a national perspective sheds light on what occurs in Miami-Dade. In 2009, 0.34 percent of the adult population (or 340 out of 100,000 adults) created a new business each month, representing approximately 558,000 new businesses per month. The 2009 entrepreneurial activity rate represents an increase over the 2008 rate of 0.32 percent and represents the highest level over the past decade and a half. The immigrant rate of entrepreneurial activity declined slightly from 0.53 percent in 2008 to 0.51 percent in 2009, but remained substantially higher than the native-born rate of 0.30 percent. The Latino entrepreneurial activity rate decreased from 0.48 percent in 2008 to 0.46 percent in 2009, and the Asian entrepreneurial activity rate decreased from 0.35 percent in 2008 to 0.31 percent in 2009. The non-Latino white business-creation rate increased from 2008 to 2009 (0.31 percent to 0.33 percent). Based on the same 2009 Kaufmann Index of Entrepreneurial Activity,[1] for the fifteen largest metropolitan areas in the United States, Miami ranked second with 610 entrepreneurs per 100,000 adults.

One good measure of entrepreneurial business formation and growth is found in the U.S. Census Bureau data on non-employers. Between 2003 and 2007, the entrepreneurship in Miami was more active than nationwide average in almost all economic sectors. The most attractive sectors for small business entities included educational services, retail, real estate and administrative and support services. Information was the only sector in which small businesses locally showed less inclination to operate in than its counterparts nationwide.

Education and Technical Training

Technical progress and economic growth are, in part, based on the education, professional training and technical skills of the workforce. Miami-Dade residents actually have a slightly higher percentage with an Associate's Degree or above than is found nationwide. So, on the basis of higher educational attainment level alone, the County is not deficient relative to the nation.

One of the key paths towards enabling residents to attain the technical skills that are necessary for both current and future jobs is encouraging the progression of workforce development initiatives. These initiatives vary considerably between regions in Florida. This is due, in large measure, to the fact that workforce characteristics and type of business development vary greatly. The type of workforce development programs has significant implications regarding the type of industries that a region can sustain, and concomitantly the location decisions of firms.

Workforce development programs in Miami-Dade County are not geared to high tech industry or specialized training but target the general needs of the local workforce with priority for low-income and at-risk population, and hard-to-serve groups. The programs provide basic job training to youth and adults, work readiness and crime prevention services, refugee employment and training and support services. The Miami-Dade workforce development programs primarily target incumbent industries, such as Business services, Health Services, Construction, Tourism/Hospitality, and Educational Services. This is in line with the existing industry structure of the local economy.

Looking at Central Florida, the workforce development initiatives in place are striving to equip the employees and students with high tech skills through a variety of innovative programs. Targeted sectors include agritechnology, Aviation and Aerospace, Digital Media/Interactive Entertainment, Information Technology, Life Sciences/Medical Technologies, Optics and Photonics, and Sustainable Energy.

In contrast, the Miami-Dade County workforce development policies in place are not oriented, at this point, towards the building the skill type and level necessary to attract and develop high tech industry sectors. This is an arena that may grow as the development of medical research facilities in the Medical Center area are completed.

Availability of Buildable Sites

[1] Ewing Marion Kauffman Foundation, 2010.

One key ingredient necessary for the growth of any economy is a sufficient supply of land for varied business purposes. In that regard Miami-Dade is fortunate to have a supply of buildable sites that will allow for expansion of our economy for over twenty years. In that sense, Miami-Dade is in a far better position for business growth than Broward County that has a limited supply of land for business development.

In terms of commercial land, that may be used for retail, office and other commercial uses, there are over 2,940 acres of buildable land in 2010. This translates into a projected depletion year of 2034. It is necessary to realize that these figures are based on current future land use and zoning that is always subject to modification. Further, it should be understood that the capacity of buildable sites for many commercial uses is not necessarily equivalent to the amount of available land as intensity for many uses is a function of land costs. This is particularly true for office development in certain zoning districts where height restrictions are quite liberal, such as the broader Downtown Miami area. Increasingly, the same holds for retail as vertical big box retail development has become more common locally and in other dense urban areas throughout the country.

Industrial land, including very large tracts of buildable land in the general Doral/Medley/Hialeah area (MSAs 3.1 and 3.2), is fortunately in very abundant supply. This will serve future needs, in particular for warehouse use resulting from the expansion of international trade. Currently there are 3,623 acres of vacant industrial land. In fact, there is a sufficient supply through 2039.

In sum, the availability of buildable sites will not be a limiting factor in business development in Miami-Dade County in the foreseeable future.

Projected Employment Growth

The level of employment in Miami-Dade County for 2008 was 1,446,319. In that year, Services were by far the largest sector and represented almost 46 percent of total employment. This was followed by Government, Retail Trade, Construction, Transportation and Warehousing, and Wholesale Trade. Government accounted for 11 percent and Retail Trade just over 10 percent. The others were just under 6 percent.

Looking forward what is important is where we will likely be in 2030. Over the 2008 to 2030 period, there is a projected increase in employment of almost 420,700 or 29 percent. This employment growth rate is not evenly spread among major industry groups. The broad Services sector currently provides 661,927 jobs. It is projected to reach 1,007,808 by 2030. As a percentage of the total in 2008 it was 45.8 and is expected to grow rapidly and reach 54 percent in 2030. Most other sectors are expected to grow in absolute terms, but some will decrease in percentage terms. Three sectors, Faming, Forestry, Fishing and Mining, and Manufacturing are expected to continue their downward path as they have over the last several decades.

Diversification Potential

Although by any standards Miami-Dade has a diversified economy, it is important to ascertain realistic possibilities for potential further diversification. More specifically, this section attempts to classify all major industries in terms of their relative strength and competitive position, as well as to identify the top industries that could be used as targets for future economic development and the overall improvement of the local economy.

During the past thirty years, this area has experienced a significant economic diversification. Although Finance, Trade, and Tourism remain important sectors, Health and Educational services are today a larger component of the economy than 30 years ago and as such the economy is less vulnerable to fluctuations in international economic activities. Compared as to national job growth, Miami-Dade has exceeded national growth rates in most industries.

The results of several studies, done by the Department of Planning and Zoning, Research Section, identify a number of industries which can realistically enhance the diversity of the local economy. The tools to analyze the relative strength and diversity of the local economic base over time are based on two techniques, namely, location quotient analysis and shift-share analysis. Through the use of these

techniques, the results of an analysis of employment growth from 1998 to 2006 is presented.

Briefly, a location quotient (LQ) measures the degree of specialization in any given economy relative to another economy, Miami-Dade's economy relative to the U.S. economy, for example.

The second analytic technique used is known as shift-share analysis. The technique provides information about changes in local industry composition and about the competitive position of local industries vis a vis other locations.

The results of applying these two techniques can be used to measure the relative strength of the local economy and to identify the export-oriented sectors of its economic base, as well as to determine the competitive position of local industries. To this end, based on these techniques, we have identified the industries that should be targeted for future growth and diversification.

The industrial subsectors appearing in Table 1.3-4 represent the outcome of a ranking process. Specifically, the process consists of the following three criteria: first, whether or not the industrial subsector is a local specialization based on the location quotient analysis and, second, whether or not the industrial subsector is experiencing employment growth locally and/or, third, the industrial subsector is gaining a competitive share in the market based on shift-share analysis.

This list presents those industrial sectors/subsectors that represent the County's top ranked industries in terms of high employment growth and industries that have exhibited positive competitive and total employment changes. These high growth industries could be the strong-links to create a more diversified economy.

As shown in Table 1.3-4, there are a total of 29 industrial subsectors with high employment concentration reflected in the value of location quotient. As can be seen, the top ranked list of industries include only 17 out of the 29 subsectors (marked in bold) that meet all three of the aforementioned criteria, namely, location quotient greater than 1.0, and industries that have exhibited positive competitive and total employment changes as determined by the shift-share analysis. Among these subsectors, the top ranked are: Water Transportation, Performing Arts, Spectator Sports, and Related Industries, Broadcasting (except internet), Nondurable Goods Merchant Wholesalers, and Accommodation.

The second group of industries in the table includes four subsectors (underlined) which, in addition to the high location quotient, meet at least one of the other two criteria mentioned above by showing employment increases in either of the total employment or competitive share measures. These are Building Material and Garden Equipment and Supplies, Health and Personal Care Stores, Support Activities for Transportation, and Ambulatory Health Care Services.

The remaining eight industries in the list table, though they possess a significant presence within the county, all eight did not see employment growth during the 1998 to 2006 period and did not gain a competitive share compared to the nation. The top ranked subsectors in this group are: Air Transportation, Apparel Manufacturing, Durable Goods Merchant Wholesalers, and Couriers and Messengers.

Table 1.3-5 shows a set of industrial sectors/subsectors that appear to merit special attention because of their potential to grow. This group of industries, which had location quotients lower than 1.0, includes nine subsectors that had exhibited positive employment growth at the national level for the period 1998 to 2006 but failed to advance locally over the same period. Again, the industries are presented in a similar fashion to those in Table 1.3-4. Among the top ranked industries in the list are: Repair and Maintenance and Motion Picture and Sound Recording Industries.

Apart from the industries mentioned above, there exist a variety of other industries that might be important to the potential for diversification. For example, industries, such as in Professional, Scientific, and Technical Services and Educational Services, not only offer opportunities for growth in the subsectors that comprise them, but also contain the possibility of contributing a wealth of knowledge and new innovative ideas that can be an important factor in the creation of newly formed or re-formed indus-

tries. After all, technological innovation is the basis from where most of the so called "emerging" industries have been created.

While these industrial subsectors should be the main focal point of economic development efforts, this should not discourage new developments in other industrial subsectors that would help diversify the County's economy.

In fact, emerging industries could thrive on Miami-Dade's large and growing economic base, its geographic location and the level of trade, tourism, and its superior air, land, and waterborne transportation facilities. In addition, migration to the region from Latin America provides a multi-ethnic cultural base. Perhaps the most important advantage is the later, it large and growing Hispanic base.

Miami's high concentration of Latin Americans provide the main ingredient to attract top talent in matters related to Latin America and Spanish language related industries. The potential market is very large with 47 million Hispanics in the U.S. and 569 million in Latin America. It would appear that the Hispanic talent pool in Miami-Dade has the potential to produce and provide services to this growing Hispanic market. This could include, but is not limited to Media, Entertainment, Advertisement, and Communications industries.

Table 1.3-4
Industries with Growth Potential
Miami-Dade County, 2006

NAICS Code	Sector/Subsector
	Manufacturing
339	Miscellaneous mfg
	Wholesale Trade
424	Nondurable goods merchant wholesalers
441	Motor vehicle & parts dealers
442	Furniture & home furnishings stores
443	Electronics & appliance stores
445	Food & beverage stores
448	Clothing & clothing accessories stores
454	Non-store retailers
	Transportation and Warehousing
483	Water transportation
488	Support activities for transportation
	Information
515	Broadcasting (except Internet)
	Finance and Insurance
522	Credit intermediation & related activities
	Real Estate
531	Real estate
	Services
541	Professional, scientific, & technical services
611	Educational services
621	Ambulatory health care services
	Arts, Entertainment and Education
711	Performing arts, spectator sports, & related industries
712	Museums, historical sites, & similar institutions
721	Accommodation
812	Personal & laundry services

Source: Miami-Dade County, Department of Planning and Zoning, Research Section.

Table 1.3-5
Industries Gaining National Employment and Losing
Miami-Dade County Employment
1998-2006

NAICS Code	Sector/Subsector
	Retail Trade
451	Sporting goods, hobby, book, & music stores
452	General merchandise stores
453	Miscellaneous store retailers
	Transportation and Warehousing
484	Truck transportation
487	Scenic & sightseeing transportation
	Information
512	Motion picture & sound recording industries
518	Internet serv. Providers, web search portals, & data proc.
	Finance and Insurance
524	Insurance carriers and related activities
	Services
811	Repair & maintenance

Source: Miami-Dade County, Department of Planning and Zoning, Research Section.

Possibilities for Employment Centers and Densification

The issue of how to foster the growth of employment proximate to existing and future urban centers, business densification along major corridors and the creation of employment centers must be understood within the context of several factors. They include, what is the expected job growth over the planning horizon, where employment centers currently exist, the types of jobs in these area and how these employment centers are expected to grow. In previous sections there has been discussion of the drivers of the local economy, our unique economic assets, our competitive advantages, and the prospects for employment growth. Clearly the major economic drivers are Miami International Airport and the Port of Miami. These important assets are export oriented, that is brings dollars from outside the area into our local economy. Therefore, these export oriented sectors are vital to Miami-Dade's economic health. Nevertheless, in the discussion of diversification that identified potential growth industries, many of the subsectors did not need to locate in the central east-west employment corridor.

Further, the highest rates of employment growth did not occur in this area. They are distributed throughout the County and can be seen in Table 1.3-1. In the south end of the County, MSA 7.3 and 7.4 both grew by over 20 percent. In MSA 6.2, that includes part of Kendall and the Kendall-Tamiami Airport employment also grew by over 20 percent. Most of the other areas of higher growth were along the coast, except for MSA 2.3 and 2.4 that includes Opa Locka Airport and Miami Gardens that again grew by over 20 percent.

Business location decisions are primarily based on either proximity to a local-internal market that is served, such as retail along commercial corridors or shopping centers, or clustered in larger employment centers that, may serve concentrated an external markets such as tourism or trade or a concentration of services in clusters such as the government and health sectors.

Location decisions are in general, not based on financial incentives, but rather on more basic considerations, in particular, the characteristics of the market that the business intends to serve. The existence of sufficient buildable sites, in the form of land that is vacant or redevelopment sites of varying sizes is key. Land use and zoning appropriate to the type of intended commercial development is essential. Further, the absence of obstacles such as lack of infrastructure, a poor transportation network or high levels of crime, is a necessary condition for businesses to locate or develop on a particular site.

The final part of the discussion will focus on how employment can become more geographically diversified. Urban centers are located along transit or transportation corridors and consequently have good access. Three types of employment centers will be considered: urban centers, commercial corridors and the enhancement of existing employment centers.

Essentially, there are two important distinctions regarding urban centers. The first is whether or not a zoning ordinance for the urban center has been adopted and second is the type of urban center, community or regional. All of the urban centers with an adopted zoning ordinance, except for Cutler Ridge and Ojus are community urban centers. Some, such as the one in Ojus and Cutler Ridge are market ready from either a residential or commercial perspective. Others, along the South Dixie Corridor such as Goulds and Naranja have not reached this stage. In the later case, demand on the commercial side is not yet in place. The urban centers, and surrounding area, along the South Dixie Corridor below Cutler Ridge currently do not have sufficient population and/or income to support significant expansion of local service provision and retail development. However, given the projected population growth in the South Dixie Corridor it is expected that demand for retail and services will correspondingly increase.

In other parts of the County, particularly in the North Central area, the early stages of becoming an adopted urban center are underway. Although these areas have greater population density than the urban centers on the South Dixie Corridor, population is expected to grow at a much slower pace. Thus one of the drivers for commercial and service sector demand is weak.

Cutler Ridge is a metropolitan urban center anchored by the Southland Mall. Collectively the mall and surrounding area, including the industrial section of Perrine represent the largest employment area in the South Dixie corridor with 11,425 employees. Given the addition of the Performing Arts Center and the build-out potential in the mall, it is expected that this employment center will expand.

An important component of the strategy to develop urban centers beyond an adopted zoning ordinance is to reduce obstacles to business development. One key area is that of infrastructure. Most of the existing and planned urban centers have some deficiency regarding infrastructure in place. This varies from the need to extend water and sewer lines to business establishments to areas with much greater barriers to development, such as those areas that are still on septic tank. Without addressing these factors limiting commercial growth, the development process will be slower. Therefore directing available infrastructure dollars to urban centers should be an essential part of a strategy for commercial development. An even more fundamental obstacle to the commercial development of urban centers is the socioeconomic characteristics of the area. Poverty and public safety concerns are inimical to the growth of urban centers as a place of employment. Thus a second component of a successful commercial development strategy for some urban centers is to develop and fund a neighborhood revitalization strategy.

Finally, and this goes way beyond strategies to foster development in urban centers are the issues related to the Urban Development Boundary (UDB) and unneeded land use densification. Urban centers will develop more rapidly and fully if there are greater restrictions placed on the expansion of the UDB and land use densification.

Commercial corridors, in general, should experience employment growth more readily than the urban centers. That said, some of the commercial corridors have infrastructure deficiencies, such as parts of Bird Road and NW 7th Avenue, and others are located in areas in need of socioeconomic revitalization.

The third area of focus is the existing employment centers that are geographically disbursed throughout the County. In particular, two of these moderately sized centers are located proximate to airports and have deepened as employment centers in terms of number of employees in the 2000 to 2005 period. Over this period, the employment in the Kendall-Tamiami Executive Airport area, located in the southern portion of Kendall, grew by 38 percent, reaching almost 13,000 in 2005. In this case, the main function that the County can perform is maintain available land in the surrounding area for commercial purposes by keeping the existing land use and zoning designations in place.

Given the proximity of the Cutler Ridge metropolitan urban center to the Kendall-Tamiami Airport, approximately five miles, the entire area could be considered as one employment center for the south end of the County. This area includes Metro-Zoo and the planned expansion, including a theme park, as well as some of the industrial on the west side of the Florida Turnpike. In total, there were over 32,000 jobs in this larger employment center.

Finally, a brief word should be said regarding the Homestead Air Reserve Base. In 1990, it served as an active military base, it and the immediate vicinity provided employment to 9,700 workers. It was the major employment center in South Dade. Once it was no longer an active military airbase, employment plummeted. In 2005, the number stood at just over 2,100. The issue of how the base can be regenerated to provide employment in South Dade has not been resolved. However, given its size it has the physical possibility of re-emerging as an employment center. While the County does not have the power to independently re-create the area as major airbase, perhaps with cooperation of the federal government, this remains the best option. Short of this, it is unlikely that it return to its role as an important employment area in South Dade.

Summation of the Social, Economic, and Environmental Impacts on the Comprehensive Development Master Plan (CDMP), if applicable

The promotion of geographic distribution of employment centers in the CDMP can have a varied environmental, social and economic effect on the County. The more job centers and employment that

are closer to where people live decreases the use of automobiles. Depending solely on automobiles for getting to destinations contributes to greenhouse gas emissions, overall air pollution and other costs associated with road expansion and construction.

The increase to social impact of employment measures to where people vehicles may include "road rage" and the lack of time that people have for participation in community events and organizations during the workweek. The sense of community could solve enlightened.

Finally, by decreasing distance to work and encouraging greater use of transit, the geographical distribution of job centers decreases actual costs for employees at these locations. Further, the decentralization of employment centers and the promotions of jobs in the urban centers will bring jobs closer to residents who rely on transit. Consequently by increasing the probability of employment it will have the potential effect of reducing poverty and urban decay.

Identification of CDMP Elements Impacted and Assessment of Effect on Specific Objectives

This major issue impacts the following elements of the CDMP:

- Aviation
- Capital Improvements
- Economic

Within each element, certain objectives are more affected than others.

Aviation Subelement

Objective 8 refers to maximizing economic growth. Therefore, maintaining land for commercial and industrial uses in the vicinity of the airports enhances the achievement of this objective.

Capital Improvements

Objective 3 and the accompanying Schedule of Investments would be impacted by the prioritization of infrastructure expenditures for urban centers. Other areas of need would then have a lower priority.

Economic

Objective 3 would be affected by the identification of specific targeted industries.

Objective 4 would require a prioritization of infrastructure needs.

Objective 8 is consistent with the emphasis on entrepreneurship.

Objective 11 should be rephrased to include removal of obstacles to business development.

Recommendations

The discussion of how to geographically distribute employment and create and expand employment centers was framed within the context of the broader issues of the existing conditions and trends of the Miami-Dade economy, the factors that drive its growth and industry diversification potential. Several important findings are: entrepreneurship is a key factor in driving economic growth; Media, Entertainment, Advertisement, and Communications industries appear to be candidates for industry diversification; a major obstacle to economic development of urban centers is lack of infrastructure; and two important moderately sized employment centers are located proximate to airports in the north and southern ends of the County.

Proposed Revisions

1. Reference to the priority of infrastructure needs in urban centers needs to be specified in the Capital Improvement under Objective 3 and in the Economic Element under Objective 4.
2. Maintenance of existing commercially designated land needs to be incorporated into the Aviation Subelement in Objective 8.
3. Industries that are good candidates for economic diversification should be specified in Objective 3 of the Economic Element.
4. The need for industry specific incubator programs and entrepreneurship centers should be included in Objective 8 of the Economic Element.
5. A new objective that deals with economic revitalization of neighborhoods, with priority to urban centers, should be included in the Economic Element.
6. Objective 9 should be reworded to place greater emphasis on workforce development necessary for job retention and creation.

1.4 TRANSPORTATION/MOBILITY

Introduction

On October 19, 2009, Miami-Dade County conducted the 2010 Evaluation and Appraisal Report (EAR) scoping meeting, via videoconference with the Florida Department of Community Affairs (DCA), members of state, regional and county agencies, local municipalities, and the public to identify major County Issues. The issues identified, as agreed upon during the meeting, constitute the County's major issues which were going to be evaluated during the 2010 Evaluation and Appraisal Report. On February 2, 2010, the director of the Department of Planning and Zoning (DP&Z) issued a Letter of Understanding identifying the major issues to be evaluated in the 2010 EAR. As indicated in the letter, the Transportation/Mobility Issue will address: the transportation component of the House Bill 697, discuss how the County can more effectively achieve pedestrian friendly and walkable communities, promote park connectivity on a countywide basis, explore concepts such as mobility zones to help supplement existing transportation facilities and services, and evaluate potential incentives for transit oriented development. The Florida DCA, in a letter dated March 10, 2010, agreed to the scope of issues identified in the Letter of Understanding. One of the major issues identified relates to transportation, specifically to transportation mobility.

For the purpose of addressing this major issue, County staff reviewed existing state legislation addressing transportation mobility, land use and transportation best practices known to improve mobility, and the "Complete Street" concept; evaluated the Comprehensive Development Master Plan's (CDMP) goals, objectives and policies, specifically the Land Use Element, Transportation Element and Traffic Circulation and Mass Transit Subelements, to assess the degree to which the CDMP already addresses transportation mobility and incorporates elements of the Complete Street concept; identified strengths and shortcomings of the plan; and make recommendations to strengthen the plan to fully address new transportation mobility requirements, the "Complete Street" concept, energy efficiency, and greenhouse gas emission reduction.

Mobility-Related Growth Management Legislation

Chapter 163, Part II, Florida Statutes (F.S.), is Florida's Growth Policy Act. This act governs the preparation, adoption and implementation of local government comprehensive plans. In recent years, the Florida Legislation has significantly amended the Growth Policy Act to improve infrastructure planning and funding, include new requirements for energy-efficient land use patterns and greenhouse gas reduction strategies, and revised existing provisions and created new ones for community renewal.

In 2005, the Legislation amended Chapter 163, Part II, F.S., to require local governments to include in their comprehensive the following:

- Adopt strategies to support and fund mobility within designated transportation concurrency exception area (TCEA), including alternative modes of transportation. The strategies must address urban design, appropriate land use mixes, intensity and density, and network connectivity plans needed to promote urban infill, redevelopment, or downtown revitalization.
- TCEA existing prior to July 1, 2005, shall meet, at a minimum, these new provisions by July 1, 2006, or at the time of the Evaluation and Appraisal report, whichever occurs last. It should be pointed out that this requirement was later repealed.
- Adopt the level-of-service (LOS) standard established by the Florida Department of Transportation (FDOT) on the Strategic Intermodal System (SIS), the Florida Intrastate Highway System (FIHS), and facilities funded through the Transportation Regional Incentive Program (TRIP). This requirement was later modified to exclude TCEAs.
- Consider compatibility with the adopted roadway LOS standards in adjacent jurisdictions. For more details regarding this issue see Chapter 3, Section 3.6 of this report.

- Encouraged coordination with adjacent counties and municipalities for the use of common methodologies for measuring impacts on transportation. This issue is discussed and addressed in Section 3.6 of this report.

As indicated above, some of these provisions were later modified or repealed in 2009.

In 2008, the Florida Legislation passed House Bill (HB) 697 adding new requirements relative to reduction of greenhouse gas (GHG) emissions and energy-efficient land uses. This bill requires local governments to include in their future land use elements energy-efficient land use patterns, the discouragement of urban sprawl, and greenhouse gas emission reduction strategies (s. 163.3177(6)(a), F.S. It also requires the incorporation in the traffic circulation element transportation strategies to address reduction in greenhouse gas emissions from the transportation sector (s. 163.3177(6)(b), F.S.). Miami-Dade County already has in its Land Use Element, Transportation Element and Traffic Circulation and Mass Transit Subelements of the CDMP policies and strategies addressing energy-efficient land use patterns and greenhouse gas emission reduction strategies. Also, HB 7135, passed by the Florida Legislature in 2008, imposes on metropolitan planning organizations (MPOs) similar requirements relative GHG reductions in long range transportation planning. Currently, the Florida Department of Community Affairs (DCA) is working on revisions to Rule 9J-5, F.A.C. to provide guidance to local governments on achieving GHG emission reductions and energy-efficient land use patterns.

In June 2009, the Legislation passed Senate Bill (SB) 360, the "Community Renewal Act", amending Chapter 163, Part II, F. S., which provides for the following:

- Designate under s. 163.3164 (34), F.S., counties and municipalities meeting certain population density criteria as Dense Urban Land Areas (DULAs).
- Determine a range of transportation alternatives essential to satisfy mobility needs; reduce congestions; and achieve healthy, vibrant urban centers (s. 163.3180 (5)(a), F.S.).
- Exempt adopted urban service areas, designated under s. 163.3164, F.S., and located within a DULA-designated county or municipality, from transportation concurrency requirements with the intent of reinforcing compact urban growth (s. 163.3180 (5)(b)1b, F.S.).
- Repeal the requirement adopted in 2005 that local governments adopt and maintain state level of service standards for the SIS facilities located in transportation concurrency exception areas (TCEAs), as well as the Development of Regional Impact (DRI) process in DULA-designated counties and municipalities (s. 163.3180(10), F.S.).
- Exempt a qualified job creation development located outside of a TCEA from transportation concurrency, including SIS facilities but only after consultation with FDOT (s. 163.3180(10), F.S.).
- Require local government that designates a TCEA pursuant to s. 163.3180(5)(b)1, 2 and 3, within two years after the designated area becomes exempt to adopt into its comprehensive plan land use and transportation strategies to support and fund mobility within the exception areas, including alternative modes of transportation.

In addition, the Legislature determined that the existing transportation concurrency system has not adequately addressed the transportation needs of the state in an effective, predictable, and equitable manner, and is not producing a sustainable transportation system. Moreover, the Legislature further found that the current concurrency system is complex, inequitable, lacks uniformity among jurisdictions, is too focused on roadways to the detriment of desired land use patterns and transportation alternatives, and frequently prevents the attainment of important growth management goals. Therefore, the Legislature determined that the state shall evaluate and consider the implementation of a mobility fee to replace the existing transportation concurrency system. The mobility fee should be designed to provide for mobility needs, ensure that development provides mitigation for its impacts on the transportation system proportionally to the impacts, fairly

distributes the fee among the governmental entities responsible for maintaining the impacted roadways, and promotes compact, mixed-use and energy-efficient development. The state DCA and DOT were requested to prepare a mobility fee study and submit to the President of the Senate and the Speaker of the House of Representatives, not later than December 1, 2009, a final joint report on mobility fee methodology study, complete with recommended legislation and a plan to implement the mobility fee as a replacement for the existing transportation concurrency management system. The DCA and FDOT completed the mobility fee study and reported back to the Legislature on December 1, 2009. During the 2010 Legislation session, the Florida Legislature had some initial discussions in committees about mobility fee, but decided to hold off the discussions until next year (2011).

As indicated above, Senate Bill 360 designates TCEAS in local governments qualifying as Dense Urban Land Areas (DULAs). The effective date of SB 360's TCEA provisions was July 8, 2009. Pursuant to SB 360, the Legislature's Office of Economic and Demographic Research would determine which local governments meet the total population and density criteria for designation as DULAs and submit the list to the Department of Community Affairs on July 1, 2009. The list was updated in 2010. Miami-Dade County is one of the eight counties on the list. In each of the counties on the list, the non-rural area of a county which has adopted into the county charter a rural area designation or areas identified in the comprehensive plan as urban service areas or urban growth boundaries on or before July 1, 2009, are TCEAs under SB 360, with two exceptions (ss. 163.3180(5)(b)5. and 6.). The two exceptions are Miami-Dade County in its entirety and designated concurrency districts in Broward County.

SB 360 also removes state-mandated transportation concurrency requirements in targeted areas designated as TCEAs. Local governments are not longer required to comply with state-mandated transportation requirements in TCEAs, but these requirements still apply in other areas. However, local governments may chose to continue to apply their existing, previously state-mandated transportation concurrency requirements, or eliminate those requirements in the TCEAs. If a local government wishes to eliminate the state-mandated transportation concurrency requirements in TCEAs, it must amend its local comprehensive plan and land development regulations to delete such requirements or adopt alternative requirements.

<u>New State-mandated Mobility Planning Requirements for TCEAs</u>.

SB 360 imposes new local planning requirements for TCEAs designated pursuant to the bill. Within two years after a TCEA becomes effective, the local government must amend its local comprehensive plan to include land use and transportation strategies to support and fund mobility within the exception areas, including alternative modes of transportation. Even though this new planning requirement does not apply to Miami-Dade County pursuant to DCA's Interpretation of TCEA-Related Provisions of SB 360, SB 360 provides for local governments in DULAs the following options regarding TCEAs:

- Retain and continue to apply the transportation concurrency provisions in existing local comprehensive plans and land development regulations; or
- Amend the existing local comprehensive plan and local development regulations to delete or modify transportation concurrency requirements for TCEAs or adopt alternative to transportation concurrency.

In addition, these local governments must amend their local comprehensive plans to include new mobility planning requirements for TCEAs within two years. After a TCEA becomes effective, the DCA no longer has authority to review plan amendments in the TCEA for compliance with state-mandated transportation concurrency requirements, including achieve and maintain standards. However, DCA will continue to review plan amendments in TCEAs for compliance with all other state-mandated requirements in Chapter 163, Part II, F.S., and Chapter 9J-5, F.A.C.

Mobility Plans

What is Mobility? The ability of people to make trips to satisfy their needs or desires by walking, driving, riding a bicycle, riding public transit, or any combination of modes of transportation (Center for Urban Transportation Research/University of South Florida).

The Center for Urban Transportation Research (CUTR) of the University of South Florida prepared for the Florida Department of Transportation a *Guide for Review and Assessment of Local Mobility Plan Report* (March 2010) for the implementation of mobility planning requirements in Florida's Transportation and growth management legislation, including the Community Renewal Act (SB 360), HB 697 and HB 7135. The final report set forth a proposed practice to guide the review of mobility plans related to these requirements. The proposed guide applies a series of elements and criteria that represent professionally-accepted best practices for mobility planning and transportation corridor management which are identified in the literature as practices that support the use of alternative modes of transportation, advance corridor management objectives, reduce vehicle miles of travel (VMT), and enhance the multimodal environment. These elements combine land use and transportation criteria that represent best planning practices in the following broad categories: Supporting Plans and Guidelines, Multimodal Environment, Network Improvement, Operations and Safety, and Implementation. The report, which is a user guide designed for the review and assessment of local mobility plans contains important guidance on selected criteria for the review and assessment of mobility plans.

The best mobility plans are those with the greatest potential to advance the following general mobility objectives:

1) Improve operations and safety of the highway system;
2) Increase opportunities for walking, bicycling and transit use; and
3) Promote a built environment conducive to walking, bicycling and transit use.

The combined application of these strategies will help to reduce dependence on single occupant vehicle travel, energy use and greenhouse gas emissions attributable to transportation.

Mobility plans should incorporate multimodal choices including roadways, transit, bikeways, pedestrian walkways, congestion management strategies, and other appropriate facilities and services; and identify areas where development is desired to reduce auto dependence.

Complete Street Concept

Streets are key public spaces that make up much of the land in towns and cities, but frequently built for cars with few features like sidewalks, bicycle lanes and shared use paths to make roadways and streets safe and pleasant to walk, bike or drive. Conventional street design promotes traffic congestion, pollution and pedestrian injuries, and discourages physical activity. Regular physical activity is critical to preventing obesity and its related illnesses (i.e. diabetes and heart disease). Many schools have eliminated or reduced physical education and the number of children walking or biking to school has dropped drastically (Public Health Law and Policy, 2010).

Research shows that the way streets, sidewalks and transportation network are designed affects the amount of physical activity that children and adults get. Complete streets, on the other hand, promote: lower obesity rates, physical activity for children and adults, and activity travel.

What are complete streets? The National Policy and Legal Analysis Network to Prevent Childhood Obesity (NPLAN) defines "Complete Street" as facilities that "…allow people to get around safely on foot, bicycle, or public transportation, provides safe and convenient travel for everyone, including children, older adults and people with disabilities, help people to stay active and healthy, and reduce traffic and pollution" (NPLAN, 2010).

The NPLAN recommends local governments to revise the comprehensive plans to include a

complete street policy package, or selectively adopt specific objectives and policies.

Activity Corridors

An activity corridor is a linear zone of development flanking a transportation corridor where multimodal transportation facilities, mixed land uses, and people are the focus of the corridor. A strong relationship between the transportation corridor and the surrounding land uses exists. The width of the corridor varies depending on the local context of the area and a maximum of 10 to 12 minutes walking distance. A variety of social and employment opportunities are integrated with high density residential. Public investment needs to be targeted in order to create the necessary circumstances to attract and promote private-sector investment.

Assessment of the Comprehensive Development Master Plan for Consistency with Florida's New Mobility Planning Legislation and Complete Street Concept

A review of the existing Comprehensive Development Master Plan will help highlight strengths and potential shortcomings of the plan with regard to mobility planning. Based on the results of this review, the County will consider the new requirements of the Growth Management Act; the elements of the Complete Street concept; and identify appropriate changes needed to enhance the goals, objectives and policies of the plan to ensure the plan addresses all elements of transportation mobility. This self review evaluates the plan's existing transportation and land use policies and strategies relative to the transportation/mobility issue. Reasonable discretion was taken in assessing the exiting comprehensive plan as appropriate mobility plan strategies vary according to the context and reality of the county. As an urbanized area, Miami-Dade County has more extensive multimodal needs involving a diversity of modes of transportation and strategies. Less dense areas may focus only on highway access management, local street connectivity, gaps in the sidewalk and bicycle networks, ridesharing programs, etc. The evaluation considered additional opportunities to advance coordination between land use and transportation planning objectives and to address as many elements and criteria as possible in the mobility planning process.

a. Florida Growth Management Legislation

Elements and Criteria Used to Review CDMP

As indicated above, the template developed by the University of South Florida Center for Urban Transportation Research (CUTR) for the Florida Department of Transportation was used for the review of the County's comprehensive plan. However, the template was modified to perform the assessment of the County's Adopted Comprehensive Development Master Plan as criteria deemed not relevant for the review were not included in the evaluation matrix.

The following categories developed by CUTR were used to assess the degree of transportation mobility planning already addressed in the County's comprehensive plan: Supporting Plans and Guidelines, Multimodal Environment, Network Improvement, Operations and Safety, and Implementation. Each of these categories has a set of elements and criteria (see Table 1.4-1). A brief description of each category and its elements is provided below.

- Supporting Plan and Guidelines. This element relates to the coordination and consistency of the local transportation plans with state, regional and adjacent local government plans, the efficiency of local and regional transportation system, and the effectiveness of growth management efforts influenced by the degree of coordination in state, regional and local government planning.
- Multimodal Environment. This element relates to the organization and location of land uses, the mix of uses, density/intensity of development, and multimodal policies. Land uses can be organized on a connected roadway network to create an environment that supports alternative modes of transportation such as walking, bicycling and transit use; reduces vehicle miles of travel; and internalizes vehicle trips.

- Multimodal Policy. This criterion refers to development policies that place great emphasis on improving the multimodal environment in urban cores, activity centers and along designated corridors by improving the pedestrian and bicycle environment and promoting a diverse, compatible mix of land uses to support transit service.
- Network Improvement**.** This element involves a range of strategies for improving the balance, connectivity and capacity of the multimodal transportation network. Balance refers to the availability of a local, collector and arterial roadway network; transit services; and bicycle/pedestrian network.
- Operations and Safety. This element refers to strategies organized in relation to transportation demand management (TDM), roadway access management, transit and bicycle/pedestrian strategies. Transportation demand management strategies are designed to maximize use of the transportation system, which include public transit, carpooling and vanpooling, compressed work weeks, telecommuting, limited parking, provision of bike and locker facilities by employers, and intelligent transportation system (ITS). Access Management strategies is the systematic control of the location, spacing, design, operation of driveways, median openings, interchanges, and street connections to a roadway; and the appropriate spacing of traffic signals.
- Implementation. This element addresses whether the basic funding and implementation strategies are in place to carry out the improvements needed to foster mobility. The plan must include strategies to forge partnership, effectively coordinate with transportation modal providers, and provide incentives to achieved desired results. The plan must include a policy for adoption of regulations and design criteria into appropriate land development regulation by a specific date.

Table 1.4-1 below shows the results of this evaluation. The evaluation indicates that the County's CDMP has many objectives and policies already in place to plan for, promote and develop a transportation mobility system. However, the evaluation also identifies some elements of a mobility plan that need to be incorporated or enhanced in the CDMP. The following mobility planning elements need to be added or strengthened in the comprehensive plan:

- Organization and Location. Focus non-residential development into activity centers rather than in strips along major roadways to create destinations that can be more efficiently served by transit; and locate shopping, services and employment centers in close proximity to each other and surrounding residential uses to facilitate walking, bicycling, transit use, and reduces auto trip lengths. Locating residential development at urban fringe and goods and services onto strips along arterials require residents to make longer and more auto trips.
- Multimodal Policy. One of the criteria of this element is the provision of transportation impact procedures to assess development impacts on all modes of transportation and minimize vehicular, transit, bicycle and pedestrian conflicts. The County currently assesses impacts of development on roadways and transit. The County should consider the inclusion in its comprehensive plan procedures to assess impacts on all modes of transportation and not only on roadways and transit.
- Network Improvement. Promote direct, efficient connections between employment centers and residential areas.
- Transit Operations/Safety. Provide for transit signal priority and/or queue jumpers; exclusive transit lanes; and for major residential, retail, office, or mixed use development to provide appropriate transit-supportive facilities and service.
- Pedestrian/Bicycle Operations/Safety. Include measures to increase pedestrian safety at intersections and mid-block crossings, and measures to include bicycle safety.
- Funding. Funding is the most crucial implementation element. One mechanism undergoing extensive evaluation in Florida is a mobility fee. However, the County should continue to search for funding sources that are sensitive to development location and vehicle miles of travel (VMT) generated by the

development that could be spent on all transportation modes, system operations and transportation demand management improvements. Identify additional funding sources for operations and capital improvements program. In addition, the County must focus the funding priority on transit service and non-motorized transportation options.

Table 1.4-1: Mobility Assessment of the CDMP				
Category	Elements	Criteria	CDMP Objectives and Policies	Comments
Supporting Plans and Guidelines	State, Regional, Local	Supports the Florida Transportation Plan, the Strategic Intermodal System Plan, and other applicable state plans and guidelines.	Pol. TE-3A & TC-1H	
		Consistent with adopted regional mobility plan or vision, MPO Long Range Transportation Plan (LRTP) Transportation Improvement Program (TIP) and adopted Transit Development Plan (TDP).	Pol. TE-3A & MT-2A	
		Coordinates with transportation and mobility plans of adjacent local governments and transportation planning agencies.	Pol. TE-3A; Obj. TC-7, Pol. MT-6A thru MT-6E; Obj. MT-6, Pol. TC-7A thru TC-7D	
		Consistent with local government comprehensive plan objectives and policies as well as specialized plans.	Pol. TE-1C	This is accomplished through implementation of s. 163.3184, F.S.
	Organization & Location	Designates central core(s) and urban activity centers of varying sizes and compositions.	Obj. LU-1, Pol. LU-1A & LU-1B	
		Defines transit-compatible land uses are defined and requires to locate on existing or planned transit corridors with direct access to transit. This should include but is not limited to transit-oriented developments (TOD).	Obj. LU-7; Pol. LU-7A, LU-7B & LU-7I; Pol. TE-3B; Obj. MT-2; Pol. MT-2A thru MT-2C	
		Requires industrial and other freight-related uses located in proximity to and have direct access to major transportation corridors, and intermodal stations, or other freight transfer locations.		Add a new policy or amend the text of the Industrial and Office section of the Interpretation of Land Use Plan Map in the Land Use Element to provide for industrial and other freight-related uses located in proximity to and have direct access to major transportation corridors, and intermodal stations, or other freight transfer locations.
	Mix	Provides for complementary mix of retail, services, residential, cultural and employment uses within urban cores, activity centers and transit corridors.	Obj. LU-1; Pol. LU-1A & LU-1B; Obj. LU-7, Pol. LU-7A, LU-7F & LU-7G; Pol. LU-9U; Pol. MT-2B & MT-5D	The Business and Office and Office/Residential land use categories; and the Traditional Neighborhood Developments (TNDs), Mixed Use Development, and Urban Centers sections of the Interpretation of the Land Use Plan Map allow for a mix of compatible uses. (pp. I-41 thru I-49, CDMP Land Use Element).
		Provides for vertical mix of uses within urban cores and major activity centers to encourage active uses at the street level.	TND and Urban Centers (pp. I-46-I thru I-49, LUE)	
		Provides for compatible uses such as restaurants, supermarkets, education, retail and service uses at a neighborhood level within or in close proximity to residential areas.	Guidelines for Urban Form (pp. I-26 LUE)	
	Density / Intensity	Establishes minimum density/intensity requirements for urban core and major activity center areas.	Pol. LU-7F; Urban Centers (pp. I-46 thru I-49 LUE)	
		Establishes appropriate densities and intensities within walking distance of transit shops.	Pol. LU-7F, TE-3B	
		Establishes urban design criteria for urban cores and major activity centers to preserve or improve livability while increasing densities to support multimodal objectives.	Pol. LU-7C; Obj. LU-9, Pol. LU-9G, LU-9H & LU-9J; Pol. TC-4B, TC-5A & TC-5B	Also achieved through the development of Charrette Area Plans and adoption of implementing zoning ordinances.
	Multimodal Policy	Establishes priority for enhancing bicycle and pedestrian mobility within existing and proposed activity centers, urban core areas and transit corridors.	Obj. TE 2, Pol. TE-2A & TE-2D	Add a new policy or modify existing policies to include activity corridors and urban centers.
		Includes parking management strategies for urban cores, activity centers and transit corridors to reduce surface area parking and promote walkability.	Pol. TC-1I & TC-1J	Provisions for shared parking are included in the zoning ordinances for charrette area plans and adopted community urban centers.
		Provides for, and requires new development to contribute to, pedestrian-friendly amenities on the public streetscape.	Pol. LU-1A & LU-1B	
		Provides for, and requires new development to contribute to amenities at existing and proposed transit stations, including covered shelters, trash receptacles, benches, landing pads, lighting, and bicycle parking.	Pol. MT-8A	
		Provides for transportation impact assessment procedures to assess development impacts on all modes of transportation and minimize vehicular transit, bicycle, and pedestrian conflicts.		Modify the Concurrency Management Program of the Capital Improvement Element to provide for the implementing ordinance and/or administrative order to address impact assessment for bicycle and pedestrian modes.

Table 1.4-1: Mobility Assessment of the CDMP

Category	Elements	Criteria	CDMP Objectives and Policies	Comments
Network Improvement	Major Roadway Network	Transportation corridors planned for improvement are designated for preservation and management as provided in s. 337.273 F.S.	Obj. TC-2, Pol. TC-2C & TC-6G; Pol. MT-7B.	
		Includes transportation corridor management policies to preserve right-of-way needed for transportation facilities and provide for dedication of land or conveyance of easements to local governments for transportation improvements as provided in s.337.273 (6) F.S.	Pol. TC-2C, TC-6G; Pol. MT-7B	
		Provides construction of parallel relievers or service roads along major highway corridors or within interstate interchange quadrants.	Pol. TC-3A	
		Provides for construction of new interstate highway crossings to connect existing local roadways.		Add a new policy in the Traffic Circulation Subelement to provide for connection of Section and Half Section Line roadways interrupted by limited access facilities.
		Includes grade separated intersection improvement(s).	Pol. TC-3B	
		Provides for construction of additional travel lanes and/or turn lanes to address existing or anticipated traffic volume.		
		Includes new arterial or major collector roadways to enhance network connectivity in order to relieve traffic congestion.	Pol. TC-2D	
	Local Street Network	Includes network-enhancing local and minor collector street projects.	Pol. TC-2D	
		Promotes direct connections between activity centers and surrounding residential areas.		Add new policy to the Traffic Circulation Subelement to provide for
		Includes policies and strategies to enhance street network connectivity.	Pol. TC-1K, TC-2B, TC-2C & TC-2D	
	Bicycle/Pedestrian Network	Requires bicycle lanes and sidewalks on all new or reconstructed major collector and arterial routes where appropriate.	Pol. TE-2C & TE-2D	
		Includes planned improvements to address bicycle and pedestrian network connectivity.	Pol. TE-2D	
		Addresses the continuation of, or establishes new, multi-use trail(s).	Pol. TE-2G	
		Requires new development to maintain continuous pedestrian networks, including connections to transit stops, adjacent lots, and between building entrances and the internal and external sidewalk network.	Pol. TE-2D & TE-2G	
		Requires new development to maintain continuous bicycle networks, including connections to transit stops and adjacent properties, and to provide bicycles parking at all non-residential uses, and multi-family uses.	Pol. TE-2D & TE-2G	
	Transit Network	Addresses statewide and regional transit.	Obj. MT-6, Pol. MT-6A thru MT-6E	
		Addresses express transit service.	Pol. TC-6E; Pol. MT-7C	
		Addresses existing and planned local transit within plan boundaries, including route locations, headways and infrastructure.	Obj. MT-2, Pol. MT-2A & MT-2C; Pol. MT-7C; and Pol. TC-6E	
Operations and Safety	Demand Management	Establishes viable mobility options for congested roadway corridors.	Pol. MT-7C	
		Provides operational strategies including intelligent transportation systems (ITS).	Pol. TC-1E	Modify policy in the Traffic Circulation Subelement to include ITS.
		Includes institutional strategies (e.g. TDM programs).	Pol. TC-1F	
		Establishes commuter financial incentives.	Pol. TC-7F	Modify policy to establish commuter financial incentives
		Provides infrastructure designed to encourage alternatives to single occupant vehicle travel.	Obj. TE-2, Pol. TE-2A thru TE-2G	
		Establishes pricing strategies.		Add a new objective or policies establishing pricing strategies.
	Access Management	Policies or strategies to provide alternative access to development on arterial roadways.	Pol. TC-3A	
		Policies and strategies to promote closure of existing excessive or unsafe driveway connections or narrowing of overly-wide connections.		Add a new policy to address excessive and unsafe driveway connections
		Policies and strategies to replace continuous two-way left turn lanes with medians on multi-lane arterials.		Add new policy to require, when feasible, existing continuous two-way left turn with medians on multilane roadway facilities
		Requires conformance of new signals with signal coordination plans and signal spacing standards.	Pol. TC-3A	
		Includes measures to close unsafe, overly-wide, and/or excessive median openings.	Pol. TC-3A	

Table 1.4-1: Mobility Assessment of the CDMP

Category	Elements	Criteria	CDMP Objectives and Policies	Comments
Operations and Safety (Con't)	Transit Operations/Safety	Provides for transit signal priority and/or queue jumpers.		Add policy and/or strategies to provide for transit signal priority and/or queue jumpers, when feasible.
		Provides for exclusive transit lanes.		Add policy for the provision of exclusive transit lanes
		Provides for availability of transit service outside of peak travel hours.		
		Requires major residential, office, retail, or mixed-use developments to provide appropriate transit-supportive facilities and services (i.e., such as on-site-bus shelter, park and ride, bus or shuttle service).		Revise existing policies or add a new one in the Land Use element and Mass Transit Subelement to require large development to provide transit supportive facilities and services.
	Ped/Bicycle Operations/Safety	Includes measures to increase pedestrian safety at intersections and mid-block crossings.		Include strategies in the Transportation Element or Traffic Circulation Subelement to ensure pedestrian safety at intersections and mid-block.
		Includes measures to increase bicycle safety.		Include strategies in the Transportation Element, Traffic Circulation and Mass Transit Subelements to increase bicycle safety.
		Includes measures to provide safe routes to schools.	Pol. TE-2D	
Implementation	Coordination	Includes policies strategies to forge partnerships and effectively coordinate with state, regional, and other local agencies to plan for mobility and project development.	Pol. TE-3A	
		Includes policies and strategies to coordinate with FDOT in access management and permitting.	Pol. TE-3A	
	Incentives	Include policy to provide incentives to achieve the desired results.		
	Updates	Provides policy for adoption of all necessary implementing regulations and design standards by a specified date.	Policies requiring implementation have specified dates	
		Establishes a schedule for reviewing and updating the plan, including performance measures.	Sec. 163.3191, F.S.; Pol. LU-2E	
	Funding	Capital improvement program addresses all modes of transportation.	Capital Improvement Element & CDMP Capital Improvements Schedule	
		Capital identifies committed and anticipated funding sources for the capital improvements program and reasonably anticipated funding for future years.	CIE Capital Improvements Schedule, TIP and LRTP	

Source: Mobility Plan Assessment Template, Guide for Review and Assessment of Local Mobility Plans (March 2010), Center for Urban Transportation Research, University of South Florida.

b. Complete Streets

It is the purpose of Miami-Dade County to plan for and develop a comprehensive, multimodal transportation system which provides for the circulation of motorized and non-motorized traffic, and integrates a transportation network for pedestrians, bicyclists, public transportation and drivers.

Objective TE-2 and corresponding policies of the Transportation Element call for the county to enhance its transportation plans, program and development regulations, as necessary, to accommodate the safe and convenient movement of pedestrians, non-motorized vehicles, automobiles and other motorized vehicles. Policy TE-2C, specifically, calls for the construction of new roads and reconstruction of existing roads to be designed and constructed to protect and promote pedestrian comfort, safety and attractiveness. Policy TE-2D requires the County to complete the "Safe Route to School" program and provide continuous sidewalks along the following: a) existing rapid transit stations and transit centers, b) existing parks and recreation open spaces, c) both sides of all County collectors and arterials roadways within ¼ mile of all existing transit stations and centers, and d) at least one side of County collectors and arterials within ¼ and ½ mile of all existing transit stations and centers. All new development and redevelopment shall be served by sidewalks. And Policy TE-2E requires the accommodation of bicycle travel and pedestrian needs in plans for future arterial and collector road construction, widening or reconstruction projects where designated by Bicycle Facilities Plan, wherever feasible.

Traffic Circulation Subelement Policy TC-2A requires the County to review roadway design standards and right-of-way reservations and propose changes as may be necessary to better accommodate projected vehicular and non-vehicular movement.

Land Use Element Policy LU-7B calls for all new development and redevelopment around transit stations to include, as appropriate, continuous sidewalks to transit stations, small blocks closely intersecting streets, buildings oriented to the street or pedestrian paths, parking lots to the rear or sides of buildings, shade trees, awnings, and other weather protection for pedestrians.

In general, the CDMP contains the objectives and policies necessary to plan for and develop a system of complete streets. However, it is imperative that these objectives and policies be implemented in order to create streets that include facilities and amenities for motorists, pedestrians, bicyclists, and transit users.

The *Miami-Dade County Typical Roadway Section and Zoned Right-of-Way Updated Study (2007)*, prepared by Kimley-Horn and Associates, Inc., is an important component of the County's vision of providing a comprehensive multimodal transport-tation network. The network must be sensitive to the needs of the users of all modes of transportation, while also meeting the transportation demand of the County. The Study utilizes context zones to identify areas with distinct characteristics based on land use and location within the County. The current functional classification system defines roadways as either Rural or Urban and also as Arterials, Collectors and Local Roads. The Study follows the New Urbanism nomenclature of context zones which include: Rural, Suburban, Urban, Urban Center, and Urban Core. The Study recommends that the County develop a street typology based on the land use context. The underlying philosophy is that the same roadway when passing through different areas and land uses should take a different characteristic based on the adjacent land uses and characteristics of the area. In other words, a roadway passing through various land use zones varies in character based on the quality of the zone.

CONCLUSIONS

a. **Review of Florida Growth Management Legislation**.

- Senate Bill 360, passed and adopted by the Florida in 2009, imposes new local planning requirements for transportation concurrency exception areas (TCEAs) designated pursuant to the bill. Within two years (2011) after a TCEA becomes

effective, local governments must amend its comprehensive plan to include land and transportation strategies to support and fund mobility within the exception area, including alternative modes of transportation.

- SB 360 designates as Transportation Concurrency Exception Areas (TCEAs) counties and municipalities qualifying as Dense Urban Land Areas (DULAs). Miami-Dade County is one of the eight counties in Florida qualifying as a DULA. However, since the County has already designated in its Comprehensive Development Master Plan (CDMP) an urban growth boundary (2015 Urban Development Boundary), it is exempt from this provision of SB 360. However, under SB 360, DULA-designated counties and municipalities have the following options regarding transportation concurrency in TCEAs:
  1. Retain and continue to apply the transportation concurrency provisions in existing local comprehensive plans and land development regulations; or
  2. Amend the existing local comprehensive plan and land development regulations to delete or modify transportation concurrency requirements for a TECEA, or adopt alternatives to transportation concurrency.
- If Miami-Dade County chooses to amend its comprehensive plan to delete or modify transportation concurrency requirements, it must include new mobility planning requirements for the TCEA within two years after amending its plan.
- HB 697 requires local governments to include in the future land use element energy-efficient land use patterns, the discouragement of urban sprawl, energy conservation strategies, and greenhouse gas emissions reduction strategies; and to incorporate in the traffic circulation element strategies addressing reduction in greenhouse gas emissions from the transportation sector.
- HB 7135, passed by the Florida Legislature in 2008, imposes on metropolitan planning organizations (MPOs) similar requirements relative GHG reductions in long range transportation planning.

b. Assessment of the Goals, Objectives and Policies of the CDMP Related to Major Issue

An evaluation of the goals, objectives and policies of the Land Use Element, Transportation Element, and Traffic Circulation and Mass Transit Subelements of the CDMP indicates that the plan has most of the elements and strategies that support transportation mobility. However, the County needs to revise some of its current objectives and policies and/or add new ones to strengthen transportation mobility in the plan. The policies and strategies must address the following:

- Locate non-residential development in activity centers rather than in strips along major roadways to create destinations that can be more efficiently served by transit.
- Include more transit operations/safety strategies such as transit signal priority, queue jumpers, exclusive transit lanes, and transit supportive facilities and services.
- Stress the need for safe roadway crossing.
- Provide for transportation impact procedures which assess development impacts on all modes of transportation, not just roadway capacity impacts.
- Make multimodal improvements a priority.
- Designate and prioritize multimodal transportation corridors (Activity Corridors), provide for funding mechanisms and project funding priority.
- Make transit and non-motorized modes of transportation the priority improvement in the designated Urban Infill Area (UIA), transportation concurrency exemption areas (TCEAs), Urban Centers, and Activity Corridors.

c. Assessment of the Goals, Objectives and Policies of the CDMP Related to Complete Streets

The evaluation of the CDMP for Complete Streets indicates that the Transportation Element, Traffic Circulation and Mass Transit Subelements have objectives and policies addressing the "complete Street" concept. Moreover, it is the goal of the CDMP to develop a comprehensive, multimodal transportation system that integrates a transportation network for pedestrians, bicyclists, public transportation and drivers. However, capital planning, funding and construction of multimodal transportation corridors and complete street will take many years.

Identification of CDMP Elements Impacted by the Issue and Assessment of Objectives Impacted in Elements

A number of Objectives and adopted text in various elements and subelements of the CDMP relate directly to the issue of Transportation/Mobility. The objectives impacted include: Land Use Objectives LU-1, LU-2 and LU-7; Transportation Objectives TE-1 and TE-2; Traffic Circulation Objectives TC-2, TC-3, TC-4, TC-6 and TC-7; Mass Transit Objectives MT-2, MT-3, MT-6 and MT-8; Aviation Objective AV-5, Port of Miami Objectives PM-9 and PM-10; Housing Objective HO-6, Recreation and Open Space Objective ROS-3; Intergovernmental Coordination Objectives ICE-1 and ICE-2; and Economic Objective ECO-4. However, the objectives most significantly impacted by the findings of this issue review are: Objectives LU-1 and LU-2 in the Land Use Element, Objectives TE-1 and TE-2 of the Transportation Element, Objective TC-3 and TC-4 of the Traffic Circulation Subelement, and Objectives MT-2 and MT-3 of the Mass Transit Subelement.

Adopted text also provides policy guidance. Adopted text may need to be amended to include a new section related to Activity Corridors. This new subsection is needed to provide for permitted uses, mix of uses, residential component, maximum densities and intensities, and design standards.

Summation of the Social, Economic and Environmental Impacts on the CDMP, if Applicable

The promotion of multimodal transportation corridors to improve mobility and mixed-use development along these corridors can have a wide range of environmental, social and economic effects on the County. Segregated land uses, low residential densities and transportation corridors that encourage dependency on the automobile are characteristics of suburban sprawl. Depending solely on the automobile for getting to destinations contribute to greenhouse gas emissions and increases the risk of car crashes due to increase in auto use and miles traveled. The environmental impacts include increase in air pollution from more trips by vehicles and loss of open and agriculture land due to sprawl.

Social impacts include frustration of commuters stuck in traffic, loss of time that people can spend with family and friends and lack of participation in community events due to the time people spend driving. Because people spend so much time commuting between work and home, they may not have the time or energy to participate in community events and organizations, and therefore the sense of community may also be impacted by lack or reduced participation. Business is also impacted by employees who lose work time due to long commutes and being stuck in traffic.

In conclusion, a multimodal transportation system increases mobility and travel choice, conserves energy resources, preserves air quality, and foster economic growth.

RECOMMENDATIONS

1. The County's Comprehensive Development Master Plan should be modified to specifically address mobility planning that promotes transit, pedestrian and bicycle friendly development; supports and encourages transit use; promotes mix of uses and enhances transportation strategies to help reduce vehicle miles traveled and, therefore, reduce Greenhouse Gas emissions; and increases the level of cross-

jurisdiction coordination in providing transportation facilities and services.

2. Designate Multimodal Transportation Corridors as "Activity Corridors" on the Land Use Plan Map, Land Use Element and Transportation Element such as NW/SW 27, 42, 87, 107 and 137 Avenues, and NW 103, 36/41 Streets, W. Flagler Street, Tamiami Trail (SW 8 St.), Coral Way (SW 24 St.), Bird Road Drive (SW 40/42 St.), Kendall Drive (SW 88 Street), Coral Reef Drive (SW 152 St.), and South Dixie Highway (US 1).
3. Provide for uses allowed, density and intensity of development and urban design guidelines in the CDMP for the Activity Corridors.
4. Develop a street classification based on the land use context of the adjacent land uses and modal priority and develop street design elements for each street typology.
5. Establish project priorities for funding for services and facilities within the Urban Infill Area, transportation concurrency exception areas, urban centers, and activity corridors.
6. Research the legal possibility of Miami-Dade Expressway Authority spending or sharing part of its revenues on transit-related projects.
7. Allow Roadway Impact fees to be expended on transit related roadway improvements, pedestrian and bicycle facilities, transportation system management, and trans-portation demand management.
8. Add new text and/or policies in the CDMP on "Complete Streets" in order to integrate into the different elements of the plan strategies to accomplish the concept of complete streets and encourage planning.
9. As required by Rule 9J-5, local governments must conduct an analysis of existing land use and transportation conditions that reduce mobility so that this information can be used in developing appropriate mobility strategies.