

**THE IMPORTANCE OF MAINTAINING THE MIAMI - DADE COUNTY
URBAN DEVELOPMENT BOUNDARY**

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I. Introduction and Executive Summary

The purpose of this White Paper is to review the current status and trends of development pressure at the Urban Development Boundary (UDB) for policy makers and the public, and to argue that Miami-Dade County should continue to protect against incursions against the UDB. We discuss the legal status of the UDB, its recent history, and its positive impact on the County's economy, communities, and natural resources. This paper will provide policy makers and the public with factual information to support County efforts to protect the UDB.

The Miami-Dade County Comprehensive Development Master Plan (CDMP) endorses land conservation as essential to improving the quality of life for its residents. This in turn requires the protection of wellfields and recharge areas, working farms, and environmental lands vital to the health of the Everglades and Biscayne National Parks. Appropriately planned growth is essential to these goals, as recognized in the mission of Miami-Dade County's Department of Planning and Zoning (DP&Z): to promote a high quality of life for current and future residents of Miami-Dade County through the exercise of sound planning and by administering and enforcing the Comprehensive Development Master Plan.¹

The Urban Development Boundary is the mechanism used by the County to separate the urban and sub-urban parts of the County from the rural and natural resource protection areas (Figure 1). Currently, much pressure exists to expand the UDB - with promises to provide economic or other benefits to residents; however, secondary costs are not calculated into the equation. These costs include additional infrastructure, traffic congestion, overcrowded schools, unacceptable hurricane evacuation times, and reduced water supply and flood protection. Additionally, funds allocated to extending services reduce available funds for mass transit and affordable housing in the existing urban core.

This *is* an issue of economic prosperity. Miami Dade County residents have paid and will continue to pay high costs to family life, quality of life, public safety, and will continue to lose irreplaceable natural resources, unless sound planning is given the priority clearly reflected in the intent of the UDB.

II. Miami-Dade County Comprehensive Plan: The Land Use Element and the UDB

Florida law requires local governments to prepare, adopt and implement comprehensive plans that are consistent with state statutes. Miami-Dade County's Comprehensive Development Master Plan (CDMP) was adopted in 1989.²

Section 2-114 (a) of the Code of Miami-Dade County states that:

“The [CDMP] is hereby declared the official long-range and comprehensive guide to orderly growth and development of Miami-Dade County, Florida, and is to direct and achieve coordinated and harmonious development and land use in a manner which will permit the planning for adequate community

facilities and protect the ecological balance of the environment....” (emphasis added).

It is the intent of the Board of County Commissioners that the Land Use Element [of the CDMP] be afforded a high priority.”³ This element identifies the locations where various land uses will be permitted, and encourages high-intensity urban centers for efficient public service deliveries and conservation of valuable natural resources.⁴ The Goal of the Land Use Element is to:

Provide the best possible distribution of land use and services to meet the physical, social, cultural and economic needs of the present and future populations in a timely and efficient manner that will maintain or improve the quality of the natural and man-made environment and amenities, and preserve Miami-Dade County’s unique agricultural lands. (emphasis added).

The Land Use Plan Map (LUP) is the central feature of the Land Use Element. The UDB - the central feature of the LUP - directs urban and suburban development and infrastructure within the UDB, and discourages it elsewhere:

“The Urban Development Boundary (UBD) should contain developable land having capacity to sustain projected countywide residential demand for a period of 10 years after the 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)”. Land Use Element Objective 8, Policy 8G.

“Priority in the provision of services and facilities in Miami-Dade County shall be given first to serve the area within the Urban Development Boundary (UDB) of the Land Use Plan (LUP) map. Second priority shall support the staged development of the Urban Expansion Area (UEA). Urban services and facilities which support or encourage urban development in Agriculture and Open Land area shall be avoided.” (emphasis added). Land Use Element Objective 2, Policy 2B.

The main objectives of the UDB are preservation of open space and agricultural land; encouragement of urban revitalization, infill, and compact development through reduced lot sizes and infrastructure costs within the boundary; clearly defining and separating urban and rural uses; ensuring the orderly transition of land from rural to urban uses; and the promotion of a sense of unified community. These objectives encourage well-planned growth inside the UDB to limit growth pressures outside of the boundary line.⁵ To meet these objectives, County policy mandates any application for a CDMP amendment must satisfy a deficiency in the Plan map to accommodate project population or economic growth in the County.”⁶

The CDMP identifies four issues as most relevant to requests to amend the UDB: (1) supply and demand of land to accommodate projected residential and economic growth, (2) environmental suitability of land for urban development, (3) availability of, or ability to extend, public services and facilities to serve prospective development areas, and (4) compatibility of proximate land uses.⁷ The CDMP also identifies specific areas into which the UDB should not be expanded, based on environmental and resource sensitivities, including Everglades Buffer Areas, Future Wetlands delineated in the Conservation and Land Use Element, and lands designated Agriculture on the LUP.⁸ The CDMP also identifies the “Urban Expansion Areas” (UEAs), where the UDB should be expanded, if and when any such expansions are required.⁹

The importance of the UDB in Miami-Dade County is highlighted by the unique County jurisdiction regarding all lands outside of the boundary, including those within municipalities. County law includes a very rare requirement that cities abide by the growth management components of the LUP map, such as the UDB and UEA, if they annex lands outside of the UDB:

“...the following fundamental growth management components of the CDMP that are necessary to carry on a central metropolitan government in Dade County shall serve as minimum standards for zoning, service, and regulation to be implemented through all municipal comprehensive plans and land development regulations:

1. The Urban Development Boundary (UDB), Urban Expansion Area (UEA) Boundaries, and the CDMP provisions which prescribe allowable land uses and public services and facilities outside the UDB ...” (emphasis added)¹⁰

Sec. 2-116.1.2. of the Code of Miami-Dade County requires that:

- (a) The location of the Urban Development Boundary (UDB) and permitted land uses outside the UDB shall be governed by the Miami-Dade County comprehensive Development Master Plan (CDMP) notwithstanding the fact that the UDB may lie within a municipality.
- (b) Any amendments to the UDB line or land uses permitted by the CDMP shall be filed and processed in accordance with procedures for applications located within the unincorporated area.
- (c) All municipal land use decisions outside the UDB line shall be consistent with the CDMP.¹¹

Locations of the UDB and the UEA

The current location of the UDB is shown on Figure 1. The future land use designations outside the UDB include Agriculture, Open Land, Environmental Protection, Environmentally Protected Parks, Parks and Recreation, Institutional and Public Facility, Transportation Terminals, and Business and Office. Allowable land uses outside the UDB include agriculture, mining, recreational facilities, single family dwellings on a minimum of

five (5) acres, housing for farm workers, and limited commercial and industrial development associated with rural residents.¹²

The vast majority of lands outside the UDB have either an environmental or cultural designation that recognizes a unique contribution to the quality of life for Miami-Dade residents. Lands designated Agricultural are the best agricultural land remaining in the County, including the Redland Agricultural Area, where uses and facilities that encourage urban development are not allowed.¹³ The Open Land designation maintains land for uses other than urban development, such as agricultural, mining, recreation, and enhancement of environmental character.¹⁴ These lands include the Northwest and West Wellfield Protection Areas, the Tamiami-Bird Canal Basin, and the East Everglades Residential Areas. The Environmental Protection designation applies to environmentally significant lands that if degraded, would adversely affect the supply of potable fresh water or environmental systems of County, regional, State, or national importance.¹⁵ These include the Everglades and Biscayne National Parks, C-111 Wetlands, and the Southeast and Coastal Wetlands that compose the Model Lands Basin.

The UDB as it currently lies, in addition to saving taxpayers substantial sums that would be required to extend public facilities and services to more far-lying reaches of the County, protects major local and regional resources. In the northwest part of the County, the UDB protects Everglades lands and the County's primary public wellfield and drinking water source. In the southwest, the line protects the unique, productive farmlands of the Redland Agricultural Area and the only rural lifestyle available in the County. To the southeast, the line protects the Biscayne Bay watershed, and to the south protects sensitive east Everglades wetlands. In a County with very unique, sensitive and vanishing ecosystems and farmlands, the UDB is necessary to protect the most important remaining lands.

As County staff concluded, in the recent CDMP Evaluation and Appraisal Report:

“Unlike many urbanized areas in North America, which are surrounded by abundant forests and farmlands, Miami-Dade County's urbanized area is confined on its east by Biscayne Bay and the Atlantic Ocean and on the west by the Everglades. The limited intervening land in western and southern Dade is environmentally valuable to all Miami-Dade Countians supporting the economy and quality of life in many ways. (emphasis added).¹⁶

Amendments to the UDB

Since 1994, Miami-Dade County has strictly maintained the UDB. Since the boundary was created in the early 1980s, “commissioners have been reluctant to alter it . . . There's been a longstanding commitment by the county not to move the urban development boundary west . . . The farther west you go in Miami-Dade County, the more environmentally sensitive areas you're going to affect. Extending services west becomes increasingly expensive.”¹⁷ During the April 2001-02 CDMP amendment cycle, 571.45 acres of open land was added to the UDB and rezoned from Open Land to Restricted Industrial and Office for the Beacon Lakes Development of Regional Impact (DRI) and Shoppyland projects.¹⁸

The County Study of the UDB

On April 27, 2004, the Miami-Dade Board of County Commissioners directed the County Manager to conduct a comprehensive study (1) to analyze the effects of unprecedented growth on the Urban Development Boundary (UDB) in high growth areas such as South and Southwest Miami-Dade County to assist the County Commission in determining whether, when and where the UDB should be realigned; (2) to identify and assess the impact of infill development on the process of gentrification and displacement of current residents with limited means; and (3) to propose CDMP policy amendments including but not limited to, an inclusionary housing program, other housing policies, and changes to existing land use designations, where appropriate.”¹⁹

Commissioner Moss, the sponsor of the Study, has stated, “[w]e’ve had an unprecedented amount of growth in South Dade . . . I want to see if growth trends are in line with what we've projected in the past. We may be pricing people out of the housing market.”²⁰ The study will examine how redevelopment and infill policies of the CDMP will affect low-income residents who may be priced-out of the new communities. Recommendations will address amending land use designation and the UDB to accommodate population projections, and an assessment of potential facilities and infrastructure.

The original charge of Commissioner Moss was that the planning and zoning department presents its findings and recommendations to the commission within a year. However, recent developments indicate that county commissioners want a study completed much more quickly and, it appears, in competition with a multi-million dollar, multi-year South Dade Watershed Study Committee.

The authors of this White Paper strongly urge County planners and policy – makers to consider the facts and issues discussed herein as work progresses on this internal study, as it seems clear that it is in the County’s long- term best economic, social and environmental interests to maintain the current line and accommodate new growth as currently envisioned by the CDMP.

III. Current Development Pressures on the UDB

Low interest rates, rising housing prices, and fear of statewide ballot initiatives - such as Florida Hometown Democracy - being approved, are some of the factors contributing to the pressure on the UDB. In addition, development interests are reacting to the potential that planning initiatives such as the South Miami-Dade Watershed Study and Plan will include recommendations that may affect the land use designation and zoning of lands within the Study Area. “We’ve seen an uptick in applications,” said one regional planner recently. “It could be because of the initiative, or maybe people are thinking “Let's get our applications in before the water study is done.”²¹ For 2004, three applications have been filed to build outside the UDB.²² Two of these proposals are addressed below. The third proposal has not been formally presented.

Florida City Development of Regional Impact (DRI)

Atlantic Civil, Inc. has submitted a Development of Regional Impact (DRI) pre-application to the South Florida Regional Planning Council (SFRPC), for 1,465 acres in southern Miami-Dade County between Card Sound Road and US1. The proposed DRI is outside the urban development boundary (UDB), as well as the urban expansion area (UEA). The development of this area, known as the “Model Lands Basin”, the last large privately-owned tract of freshwater wetlands Miami-Dade County, is in direct conflict with the Everglades restoration and Miami-Dade County’s CDMP.

The proposal, entitled Florida City DRI, proposes 6,000 residential units (an estimated 18,000 residents), 300,000 square feet of retail space, 90,000 square feet of office space, two schools, and a movie theatre.²³ The property’s land use designation, as shown on Miami-Dade County’s Comprehensive Development Master Plan (CDMP) Land Use Map (LUP) are primarily agricultural, environmental protection and open land.²⁴ This development in an environmentally sensitive area is inconsistent with, and would require major changes to, the CDMP.

This proposed development also threatens the restoration of the Everglades, by undermining two (2) Comprehensive Everglades Restoration Plan (CERP) projects - the Biscayne Bay Coastal Wetlands and the C-111 Spreader Canal. The property has been actively pursued for acquisition by both the South Florida Water Management District (SFWMD) (Save Our Rivers) and Miami-Dade County (Environmentally Endangered Lands Program).²⁵

Additionally, the land is a federally designated 100-year floodplain and Miami-Dade County’s designated hurricane evacuation zone B. Therefore all residents would be required to evacuate when even a minor hurricane approached.²⁶ Due to the project’s proximity to U.S. 1 and Card Sound Road, a hurricane evacuation plan for this area will likely make it more difficult for residents of the Florida Keys and South Dade to evacuate. Of special concern are recent reports that “phased” evacuation of the Keys may allow for an explosion of new building permits in the Keys, further aggravating the situation.

The City of Florida City proposes to annex the parcel and surrounding areas, for a total of 4,292 acres, all within the state-designated Model Lands Basin. Atlantic Civil, Inc. owns approximately 74% of the total annexation areas and is fully supportive of the annexation.²⁷ Although the City’s stated intent is to retain the same land use and zoning categories, it also notes that an increase in jobs] the City’s tax base would be facilitated by the Atlantic Civil, Inc.’s proposal, which would nearly triple Florida City’s population.²⁸

County staff has strongly recommended denial of the annexation proposal. The County’s Planning Advisory Board, which makes recommendations to the Board of County Commissioners, recommended denial of the annexation request. Based on the following facts and issues:

- The area is strategically significant in ongoing regional restoration of Biscayne Bay and the Everglades, contains extensive wetlands and wildlife habitat (including for endangered species), and floods frequently.
- It is not clear how annexation would benefit Florida City or the annexation area, and a much more limited annexation area, excluding undeveloped areas, would be more realistic.²⁹

Our organizations agree with these observations and strongly urge the denial of this proposal and any similar proposals.

The Horton Homes “Providence” Development

D.R. Horton Homes has submitted a Development of Regional Impact (DRI) pre-application to the South Florida Regional Planning Council (SFRPC) for 960 acres of land, with additional area possibly added, adjacent and west of Krome Avenue.³⁰ As of the date of this study, the Horton Homes application is in the final stage of completion with state agencies.

The entire property is outside of the UDB, with 480 acres outside of the Urban Expansion Area (UEA). The proposal is for 10,440 homes, 650,000 square feet of retail, 150,000 square feet of office, two schools and two 35-acre parks. This could provide homes for as many as 35,000 people; a proposed community roughly equal to the population of Coral Gables on a parcel roughly the size of South Beach.

The property is zoned agriculture (AU) and Interim District (GU).³¹ The property is adjacent to agricultural land to the west, with a development allowance of one house per five acres, and Low Medium Residential to the east.³² The application will require zoning changes and CDMP amendments, including movement of the UDB.

The development of this parcel would directly conflict with Everglades restoration and the CDMP. The land is west of the L-31N Seepage Management CERP Project, and south of the Bird Drive Recharge Area and the Dade-Broward Levee, which includes the Pennsuco Wetlands restoration. These lands are necessary to increase the freshwater flows to Everglades National Park and Florida Bay. Everglades projects are to raise water levels in these western areas to achieve the restoration goals. Urban developments would seriously undermine the project. Additionally, the northern half of the project is part of the 2,914 acres of vacant lands within Miami-Dade County’s UEA. This area is being considered for acquisition by a governmental agency for environmental protection.³³

Active Market Activity

In addition to specific current proposals to move the UDB, there is considerable market activity outside of the UDB, indicating a potential for even more such applications in the near future.

A commercial developer, Ed Easton, and a group of real estate investors recently purchased 658 acres located outside the UDB, near 157 acres he currently owns to build a development modeled after Weston in Broward County.³⁴

Also, the City of Hialeah recently annexed nearly four square miles of undeveloped land, 2,560 acres, outside of the UDB, and announced plans for an upscale suburban enclave, consisting of at least several thousand homes.³⁵

In general, recent land ownership patterns outside of the UDB suggest that investment speculation, not farming, is leading to a higher number of transactions and speculative land-value purchase prices. The market seems to believe that land outside the UDB will be opened up to development soon.

These recent events clearly indicate significant political pressure to encourage the Miami-Dade County Board of County Commissioners to expand the UDB.

Obstacles to Implementing Miami-Dade County's Land Use Policies

Although the UDB has mostly been successful in stopping the encroachment of development into environmentally sensitive lands, county growth management policies have failed to moderate the kinds of development at the edge of the UDB. Pod, or zero lot line development, largely describes the growth pattern along the UDB, leading to the proliferation of low-density sprawl. This type of development connects to suburban sprawl, which creates stressed traffic and road infrastructure and overpopulated schools.

In response, the county has formulated additional policies, including those that favor intensification of development along already-established transportation routes and an ordinance for traditional neighborhood development. Unfortunately, none of these measures are requirements. For example, the rapid increase in housing construction in south Dade has been permitted, without minimizing the impact to the taxpayers or the rural community structure.

Studies to determine the impact of suburban sprawl on local economies have met with considerable opposition from real estate development interests and property right advocates. Although current studies are yet to be completed, such as the South Miami-Dade Watershed Study, County and municipal governments continue to grant development permits. Powerful lobbyists and attorneys representing developers can cause difficulties in upholding taxpayer investments in creating a sustainable Miami-Dade County.

IV. It is in the County's Best Interests to Maintain the Current UDB

A. The UDB Does Not Need to be Expanded to Meet Population Demand

Florida law requires all local governments to periodically assess and update their comprehensive plans Section 163.3191(2), Fla. Stat., requires governments prepare Evaluation and Appraisal Reports (EAR), to assess the effectiveness of the comprehensive

plan and make recommendations for plan amendments. The Board of County Commissioners (BCC) adopted the 2003 EAR on October 28, 2003. Several analyses and recommendations in that document apply to the UDB. Among other things, the EAR concluded the existence of adequate land within the UDB to accommodate population growth:

“The area within the UDB provides enough countywide capacity of residential land to accommodate projected development until 2020, which gives the County an overall capacity of 17 years . . . On a Countywide basis, **there is no need to expand the UDB.** (emphasis added)³⁶

The Department is recommending that the planning horizons for the CDMP be updated to year 2015 for the near term and the UDB and to the year 2025 for the long term and UEA boundary.”³⁷

“**An expansion of the UDB is not warranted to meet the needs for commercial and industrial lands.** In terms of land needed for commercial and industrial development, the updated projections indicate that sufficient vacant land exists on a Countywide basis to accommodate commercial growth through the year 2015 and industrial growth through the year 2020. (emphasis added).³⁸

B. Projected Population Growth Is Not to Be Accommodated at All Expense

Arguments for UDB expansion often cite the need to accommodate projected population growth. As shown above however, there is no need to expand the UDB for the foreseeable future. However, even if there were, Florida’s growth management laws do not require comprehensive plans to fully accommodate projected population estimates regardless of the impacts.

Section 163.3177(6)(a), Fla. Stat. states that a comprehensive plan’s Future Land Use Element must be “based upon” a list of factors related to natural character, community issues, infrastructure availability, population and growth projections, and other factors. According to Rule 9J-5, Florida Administrative Code, comprehensive plans are also to allocate land uses based on the identification of natural resources and other areas with development constraints, the suitability of land for various uses, and the availability of facilities, services, and infrastructure.³⁹ In addition, Chapter 163 and Rule 9J-5 include provisions discouraging sprawl, encouraging redevelopment, and requiring internal consistency with the comprehensive plan as a whole.

In compliance with the rules stated above, Monroe County’s comprehensive plan imposes annual growth caps that are well below population projections. Originally, those growth caps were the result of hurricane evacuation constraints, but in recent years, the growth rate was reduced in response to ecosystem protection concerns. Florida’s Governor and Cabinet, who have the final say on implementing the growth management act, issued a ruling that comprehensive plans are not required to accommodate all of population projected by planners

regardless of the impacts to other planning issues, and must be based on a full analysis of all growth limitations.⁴⁰

A letter from the Department of Community Affairs (DCA) regarding Palm Beach County's population forecasts strengthens the *Monroe County* precedent. Interpreting the law, DCA stated:

"Local governments are not required to convert agricultural lands based solely on population trends without consideration for other planning objectives and needs. "[L]ocal governments are not compelled to authorize unlimited or unchecked urbanization simply to accommodate past growth trends resulting from rapid urbanization."⁴¹

The Florida Supreme Court has upheld local government authority to decline requested plan amendments to allow an increase in density.⁴² Such decisions are legislative in character, and will only be overturned if not "fairly debatable," a legal standard that is highly deferential to local governments.⁴³ A local government's decision not to change its plan will be upheld when any valid planning rationale supports the decision.

C. Traffic Implications of Development Pressures on the UDB

The expansion of the UDB would exacerbate an already overburdened road system. There is no relief in sight in relieving traffic congestion in the County and expansion into the UDB would create added traffic stresses to already untenable traffic gridlock.

Public resentment and anger at the rapid increase in traffic congestion was recently measured in a public opinion poll and shows overwhelming lack of confidence in existing governmental measures to manage growth and traffic, at a severe cost to the economy and to families and the environment.⁴⁴

This driver perception is confirmed by recent information published by the Cantenese Center for Urban and Environmental Solutions, which show that a steady increase in time delays and congestion per driver in Dade County as well as Broward and Palm Beach counties, throughout the 1990s. See Figure 4. This increase correlated with significant increases in development and occurred after the implementation of Florida's growth laws that were intended to keep roads and other infrastructure apace with development. The reality is that this intent is not being met, and existing Miami-Dade County residents are wasting more time stuck in traffic, with the resulting stress, lack of economic productivity and loss of time with family and friends that results. Clearly, when new areas are opened up for development, traffic inevitably gets worse, and not better.

D. Economics/Fiscal Impacts

In Miami-Dade County, the conversion of agricultural and natural land to urban development is bad economics for the taxpayers. In June 2003, a county - sponsored economic analysis of its agriculture and rural land areas found that new growth in these areas

generates average annual net *deficits* to County government.⁴⁵ Considering service and facility demands placed on the County and School Board as a result of development in these areas, the study found that allowing suburban densities (as opposed to the existing rural densities of one unit per five acres) would *increase* the deficit and burden to County taxpayers by \$33 million. This fiscal evaluation recommended “[p]reserving land resources for agricultural pursuits, and a continuation of conventional rural estate development under the existing agricultural zoning at 1 dwelling per 5 acres.”⁴⁶

Similarly, a 1999 study conducted for the Florida Department of Community Affairs (DCA) analyzed development costs for all of the counties in southeast Florida, and found that *Eastward Ho!* development scenarios, encouraging compact growth around urban cores instead of westward sprawl, would save taxpayers billions of dollars in roadway, water, sewer and other public services costs, as well as housing costs.⁴⁷

A cost-benefit analysis for the current South Miami-Dade Watershed Study, discussed below, further identifies the real economic and related costs and benefits of various development and land uses within the Study Area. The study will employ a full-cost accounting analysis that considers economic benefits of development with the real costs to taxpayers and local governments, including infrastructure such as roads, schools, fire and police stations.

The existing data consistently demonstrates that – far from generating a net economic gain for taxpayers, development outside of the UDB costs the county far more revenue than it generates. Old assumptions about job and tax base increases making all development good economics have consistently been shown to be untrue. As it considers any broad or specific changes to the UDB or its related policies, we urge the County to carefully consider the public costs.

E. The Public’s Drinking Water: The Northwest Wellfield

Most of the County’s drinking water comes from the Northwest Wellfield, located west of the Turnpike Extension in northwest Miami-Dade County, where the open lands allow consistent recharge of the underlying aquifer which stores this critical water source.

The Northwest Wellfield Protection Area is located west of the Southwest 107 Avenue, between Okeechobee Road and NW 12 Street.⁴⁸ The majority of the Protection Area, all land west of the Florida Turnpike, lies outside of the UDB, and is designed to protect the integrity of the primary drinking water source for millions of County residents and visitors.

The UDB is the only mechanism currently preventing high-density commercial and residential development and infrastructure within the Wellfield area. In August 2000, the Northwest Wellfield Watershed (NWWF) Protection Plan advised against opening this recharge area to urban development. Indeed, the CDMP states that the Northwest Wellfield Protection Area shall not be considered when considering land areas to add to the UDB.⁴⁹

The NWWF Protection Plan states that:

“When the Protection Zone was implemented in the 1970’s, Industrial zoning was repealed on approximately 1,200 acres because this area was deemed poorly suited for urban development by the East Everglades Moratorium Study adopted in 1974 and the CDMP adopted in 1975. It is the CDMP Urban Development Boundary (UDB), aligned along the Turnpike, which currently prevents high-density commercial and residential zoning within the wellfield area and limits development of infrastructure such as sewerage and water distribution facilities. The NWWF Protection Plan advised against opening this recharge area to urban development. For this and other reasons, the CDMP provides that the area west of the Turnpike, south of Okeechobee Road and north of NW 12 Street shall not be urbanized. The [CDMP] provides broad policy protection of the resource, while the development regulations provide additional protective conditions.”⁵⁰

The wellfield study strongly recommends the expansion of the Wellfield Protection Zone due to new information of an increased pollution threat:

“In 2003, Miami Dade County contracted with the USGS to validate aquifer performance and porosity, which directly relates to the circumference of the wellfield protection zone. Protection boundaries developed for the Northwest Wellfield were based primarily on groundwater hydrologic assumptions on the travel time of aquifer water to well pumps that are no longer valid, given the extent of rock mining occurring in the area and improved data on aquifer porosity.”⁵¹

The Study recommended a prohibition on urban development west of the Turnpike.⁵²

Given the critical need to protect residents’ drinking water, the county commission should not approve the expansion of the UDB unless it can confirm that the public drinking water supply will not be threatened as a result. Any expansion of the UDB into areas that should be the subject of increased wellfield protection policies would make it impossible for the County to ensure drinking water supply for its current and future populations without enormous costs to safety.

F. South Miami-Dade Watershed Study and Plan

Because of the imperative to address several major environmental and other planning issues in south Miami-Dade, the CDMP required the pending South Miami-Dade Watershed Study. In part to implement Land Use Element Objective 3, which mandates development practices that “ensure the protection of natural resources and systems”⁵³ Land Use Policy 3E, provides that an integrated land use and water management plan shall be prepared for southeastern Miami-Dade County, entitled South Dade Land Use and Water Management Plan (the “Plan”).

As stated in the CDMP, the Plan must fulfill the following specific objectives:

- a. To identify and protect lands, including their uses and functions, that are essential for preserving the environmental, economic, and community values of Biscayne National Park;
- b. To identify and establish mechanisms for protecting constitutional private property rights of owners of land identified in 3(a) above;
- c. To support a viable, balanced economy including agriculture, recreation, tourism, and urban development in the Plan area; and
- d. To assure compatible land uses and zoning decisions in the Study Area consistent with long term objectives for a sustainable South Miami-Dade. (CDMP, Objective 3, Policy 3E.3).

The Watershed Study and Plan is analyzing population growth in South Miami-Dade County, infrastructure, pollution, water resources, wildlife, natural areas and land ownership, including agriculture, industrial and urban land uses.⁵⁴ The existing conflicts and problems the study is to address include altered timing and volumes of freshwater flow, non-point source pollution from certain agricultural, industrial and urban land uses, and continued population growth and development that applies development pressure to the western and southern areas of the county.

The Study Area (Figure 2) encompasses a 400-square mile watershed that is recognized as a critical watershed in Florida due to its vital role in the health of Biscayne Bay.⁵⁵ The Study will formulate and analyze the impact of potential land uses and identify a “preferred” scenario that will balance the various competing interests in South Miami-Dade County and provide recommendations for achieving a sustainable economy and environment through the year 2050.

The preferred scenario is intended to create a land use, water use, and infrastructure plan for the entire watershed. This scenario will impact the vast acreage of undeveloped lands, the rural nature of Miami-Dade County, Biscayne and Everglades National Parks, Biscayne Bay, the Florida Keys National Marine Sanctuary, as well as urbanized south Miami-Dade County.

When completed, the Plan will propose new developments and associated CDMP amendments, including possible changes to the UDB. Until the Board of County Commissioners (BCC) approves the Plan, the Biscayne National Park Buffer Review Committee (“Review Committee”) will evaluate and make recommendations regarding all development requests within the Study Area and outside of the UDB. Section 2-115.11.1.b of the Code of Miami-Dade County mandates, “until the Plan is completed and adopted, the appropriate County Boards will apply heightened scrutiny to proposed changes in the UDB, land use designations and, zoning, including unusual uses.”⁵⁶ (emphasis added).

The CDMP requires adoption of interim measures to further the objectives of the Plan. As stated in Section 2-115.11 (2) (e) of the County Code:

“After January 2002 and until the Watershed Plan is implemented, the Review Committee shall apply the following interim measures to the Board of County Commissioners to further the purposes of the Plan and to assist in the heightened scrutiny required by this section. These measures are as follows:

Applicants for uses other than those permitted as of right in the applicable Comprehensive Development Master Plan designation and by the existing zoning should be required to demonstrate that the proposed use is a public necessity, or is in the public interest and that no suitable site for the use exists outside the Review Area.” (emphasis added).

Although the County Commission resolved to review the recommendations and potentially approve CDMP amendments, County regulations, or other policies required to ensure the economic and ecological health of this critical watershed, it now appears that the complete, independent assessment by the South Dade Watershed Study Review Committee is viewed as a threat to developers planning to build outside the UDB and building and construction lobbyists are working to diminish the influence of its work.

G. Everglades Restoration: The Comprehensive Everglades Restoration Plan (CERP)

Authorized by state law and the federal Water Resources Development Act (WRDA) of 2000, the Comprehensive Everglades Restoration Plan is directed “to restore, protect, and preserve the water resources of central and southern Florida, including the Everglades.”⁵⁷ Encompassing an 18,000-square-mile area, the CERP is intended to partially reverse the adverse effects of the Central & Southern Florida (C&SF) Project that installed 1,000 miles of canals, 720 miles of levees, and several hundred water control structures in 16 counties. The economic and ecological benefits to Miami-Dade County will come from restoration activities impacting the eastern Everglades (in western Miami-Dade County), the Model Lands and Biscayne Bay. Restoration will increase the amount of potable water available to meet current and future demand in the County, and will reduce flooding problems in many parts of the County. It is also a goal of CERP to “enhance ecologic values” and to (1) increase the total spatial extent of natural areas, (2) improve habitat and functional quality, and (3) improve native plant and animal species abundances and diversity.⁵⁸ These ecological values contribute great economic value to the County, in the form of water supply, flood protection and recreation – tourism based activity.

Benefits to the County include increased water supply to meet future growth, increased flood protection in the western and southern communities, and economic and environmental benefits of improved salinities and biotic communities in the Everglades, Florida Bay, Card Sound, Barnes Sound, and Biscayne Bay. Through the various restoration projects, water that is currently lost to tide during high rainfall periods (resulting in large-scale die-off of marine communities) can be provided to the Everglades and released to the estuaries in a more natural hydrological pattern. Economic benefits for Miami-Dade County include increased tourism to both Everglades and Biscayne National Parks, the commercial fishing industry, and associated tourism industries. Increased water supply will also prevent

the County from needing to pursue large-scale and expensive reclaimed water and desalinization programs to meet future demands.

The following individual restoration projects are located within Miami-Dade County:

- Bird Drive Recharge Area,
- Biscayne Bay Coastal Wetlands,
- C-111 North Spreader Canal,
- C-4 Structure
- Central Lake Belt Storage,
- L-31N Seepage Management Pilot,
- Lake Belt In-Ground Reservoir Technology Pilot,
- North Lake Belt Storage Area,
- Restoration of Pineland & Tropical Hardwood Hammocks in C-111 Basin
- Wastewater Reuse Technology Pilot,
- Water Conservation Area–3A/3B Flows to Central Lake Belt,
- West Miami-Dade Reuse, and
- Water Conservation Area 3 Decompartmentalization and Sheet Flow (DECOMP) Enhancement.

Other restoration projects in Miami-Dade County include the Modified Water Deliveries and C-111 Project.

The majority of these project study areas lay outside of the UDB, however most projects are contiguous with the boundary. Movement of this boundary will increase development pressure and foreclose options for purchasing needed restoration lands. Encouragement of compact infill development to accommodate population growth, and maintenance of the UDB, will decrease this pressure and ensure the benefits of restoration efforts, as well as fulfill the County’s other planning goals.

These conclusions are amplified by the recent CDMP Evaluation and Appraisal Report, which found that:

“The County can ...take action at this time to encourage compact development, which will reduce the pressure to expand the UDB and support efforts to restore the Everglades.”⁵⁹

“[A]ny consideration of expanding the UDB south of Tamiami Trail should be delayed until the Agriculture and Rural Area Study and the South Miami-Dade Watershed Plan are completed and their recommendations have been developed and considered by the Board of County Commissioners.”⁶⁰

“Several revisions are needed to insure that the adopted portions of the CDMP are compatible with the objectives of the Comprehensive Everglades Restoration Plan (CERP) and other environmental studies. Objective 3 and Policy 3C in the Land Use Element, which address development activities and

the protection of natural resources and systems, need to be updated to reflect CERP and other current environmental programs. Land Use Policy 8H, which identifies area not to be considered for UDB expansion, should be revised to include CERP areas.” (emphasis added).⁶¹

“A new policy under Objective 7 in Conservation, Aquifer Recharge, and Drainage Element should be added to encourage consistency between CERP objectives and requested wetland alteration projects.”⁶²

“A Public Lands Acquisition Map should be created that depicts the proposed acquisition area of CERP and other environmental programs.”⁶³

H. Flood Protection, Wastewater Runoff and the UDB

One of the least understood conflicts between suburban development and the environmental lands outside of the UDB is the conflict between drainage demands of private landowners and the elevated groundwater levels necessary for Everglades restoration. Historic groundwater levels throughout Miami-Dade County, excluding the Atlantic Coastal Ridge, were at surface levels for most of the year, and created the vast freshwater wetland landscape of the Everglades.⁶⁴ The closer the groundwater is to the surface, the longer water will pond at or above ground level. To promote human settlement, the groundwater levels were artificially reduced. This is one of the greatest contributors to the decline of the Everglades.

The objectives of the Comprehensive Everglades Restoration Plan include reduction of flood damages and increases in freshwater supply for agricultural, municipal, and industrial uses.⁶⁵ Meeting these objectives requires a significant extent of land be placed in public ownership.

Extending the UDB, and thus increasing development pressures, would undermine the goals of the CERP and other Everglades restoration efforts, while increasing drainage problems in Miami-Dade County. Further, by placing residents in areas outside the UDB, Miami-Dade County will have additional demand for water supply and flood protection, which conflicts with environmental restoration goals.

I. Miami-Dade County’s Environmentally Endangered Lands Program

In 1990, Miami-Dade County voters approved a two-year property tax, generating \$91 million, to fund the acquisition, protection, and maintenance of environmentally endangered lands. The resulting Environmentally Endangered Lands Program (EEL) has acquired 21,000 acres of land for preservation. Using matching funds from the State of Florida’s Preservation 2000 and Florida Forever programs, the EEL program has leveraged an additional \$29 million. As a willing seller program, EEL acquires lands through matching grants, joint acquisitions, and donations. In November of 2004, Miami-Dade residents voted to appropriate \$40 million to the EEL program through the General Obligation Bond.

Several properties outside the UDB are on the EEL acquisition list. (Figure 3). It is important to the success of the EEL program, a win-win program for individual landowners and the public alike - that targeted parcels not be lost to development or unrealistically high speculative land values before they can be acquired by the County.

J. Hurricane Evacuation & Safety

Miami-Dade County is Florida's most populous county,⁶⁶ and it is prone to hurricanes. A large percentage of the land within the County is low-lying floodplain, or an area that will flood to a depth of one foot or more during a 1 in 100 year storm.⁶⁷ The Study Areas of both the South Miami-Dade Watershed Study and Plan and the Biscayne Bay Coastal Wetlands CERP project are within the Hurricane Vulnerability Zone (HVZ) of Miami-Dade County.⁶⁸ Also of concern, Florida Keys residents, and visitors – including Miami-Dade County residents - County must evacuate through south Miami-Dade, using exclusively US-1 and the Florida Turnpike.

The Atlantic Civil, Inc. proposal for the Florida City Development of Regional Impact (DRI), addressed above, would be located completely within the HVZ. The estimated 18,000 additional residents would be required to evacuate based on hurricane track and projected storm surge, independent of the hurricane's category. The evacuation route would be the same as that used by the current residents of the Florida Keys, Florida City, and Homestead.

The Monroe County Commission and several municipalities in the Florida Keys have passed official resolutions strenuously objecting the Florida City DRI. The approved Monroe County resolution cited "the loading of additional evacuation traffic from this proposed development at this critical road junction may detrimentally place the safety of the persons living and visiting the Florida Keys at much greater risk by increasing hurricane evacuation times and the possibility of life-threatening traffic jams during evacuation."⁶⁹

V. CONCLUSION

Miami-Dade county offers the outstanding example of population pressure, quality of life concerns, and threatened natural resources. Today, the Florida legislature and Governor Jeb Bush are grappling with issues related to growth throughout the state. One of the solutions under consideration is the adoption of urban development boundaries, such as in Miami Dade County.

The UDB in Miami-Dade County serves an important purpose, beyond the matter of reacting to jumps in population that will always be driven by external factors outside the control of local government. It is not difficult to envision, at some point in time, that all property that qualifies for development permits in Miami Dade County will be built on. At that point in time, the only option for developers and for housing will be to redevelop. This trend is already in view, in existing service areas where the high cost of land purchase is not an impediment to attracting buyers.

There is a need for true accounting. The costs of land, roads, wastewater treatment,

reverse osmosis, job loss must be added to the somewhat intangible costs on quality of life, traffic congestion, and biodiversity.

Government engagement is always more prevalent when it comes to reactionary decisions, like permitting development, than actions which are proactive, like protecting quality of life. Accommodating immediate economic imperatives sacrifices long-term prosperity.

The recent public opinion survey by the Urban Environment League is instructive on this point: people understand the threats from unfunded and unmet commitments of government to infrastructure and the environment. Their daily quality of life suffers and their tax dollars subsidize their own suffering.

Local public officials should pay attention. The first priority is to fund existing and identified infrastructure needs. These include measures to build mass transit, create affordable housing, protect water supply, ensure Everglades restoration options are not foreclosed by unplanned urban development. It is only fair to allow on-going studies supported by all taxpayers to be fully funded, completed, and evaluated before any consideration of moving the UDB or extending municipal boundaries outside the UDB.

Looking at the issue from all angles – economic, quality of life, environmental – it is clearly in the best interests of the County and its citizens to maintain the urban development boundary for the foreseeable future.

FIGURES

Figure 1: 2001 Land Use Plan (LUP) Map detailing the current land use designation, the Urban Development (red line) and the Urban Expansion Area (dotted red line). The future land use designations outside the UDB on the LUP map include Agriculture, Open Land, Environmental Protection, Environmentally Protected Parks, Parks and Recreation, Institutional and Public Facility, Transportation Terminals, and Business and Office. (Figure should be directly below the description).

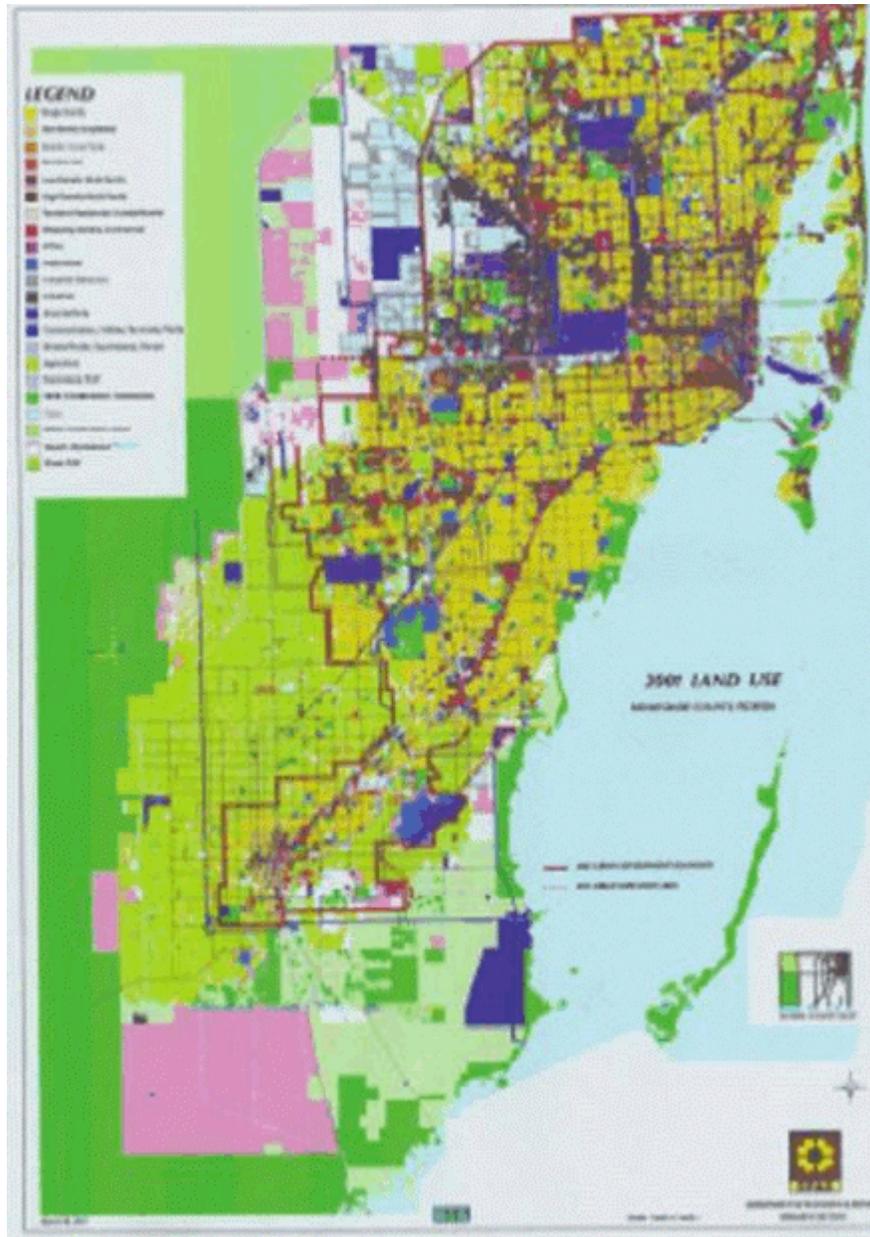


Figure 2: The Study Area of the South Miami-Dade Watershed Plan and Study. The Plan will analyze population growth in South Miami-Dade County, infrastructure, pollution, water resources, wildlife, natural areas and land ownership, including agriculture, industrial and urban land uses and make recommendations to the Miami-Dade Board of County Commissioners regarding land use amendments to the Comprehensive Development Master Plan.

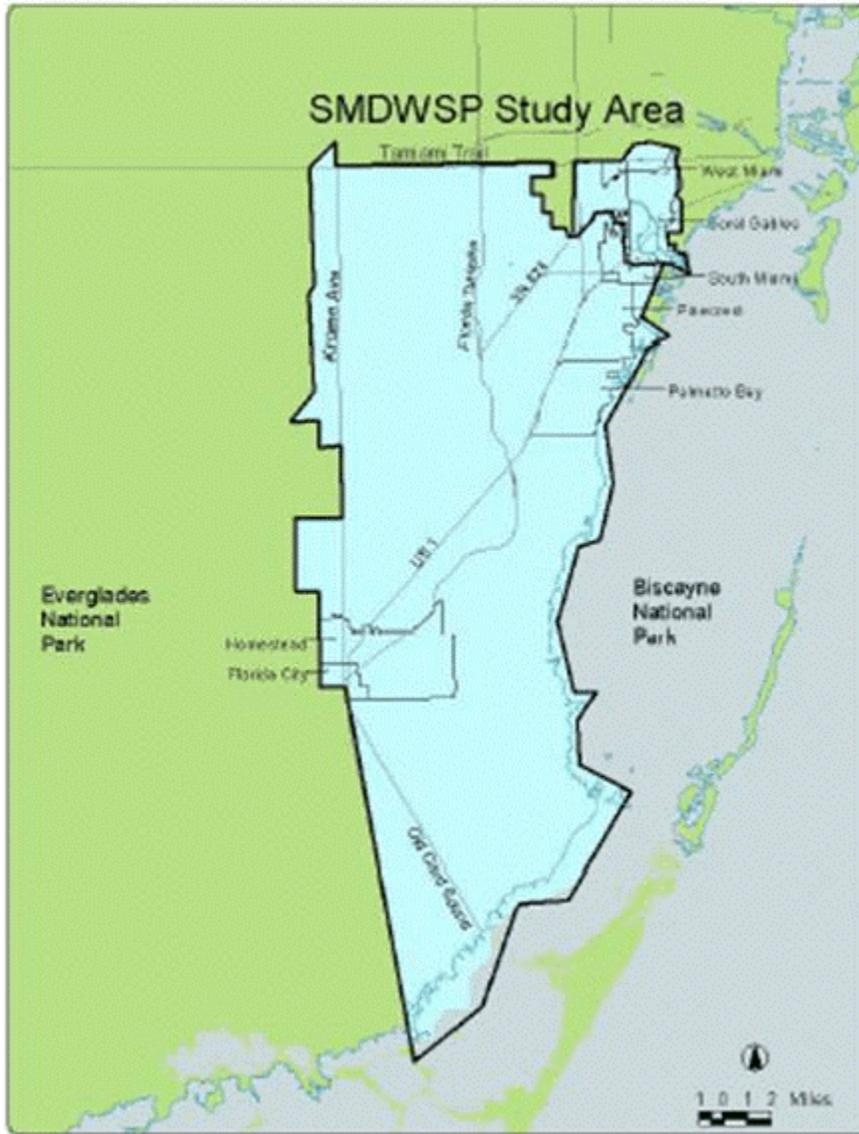


Figure 3: Miami-Dade County's Environmentally Endangered Lands Program

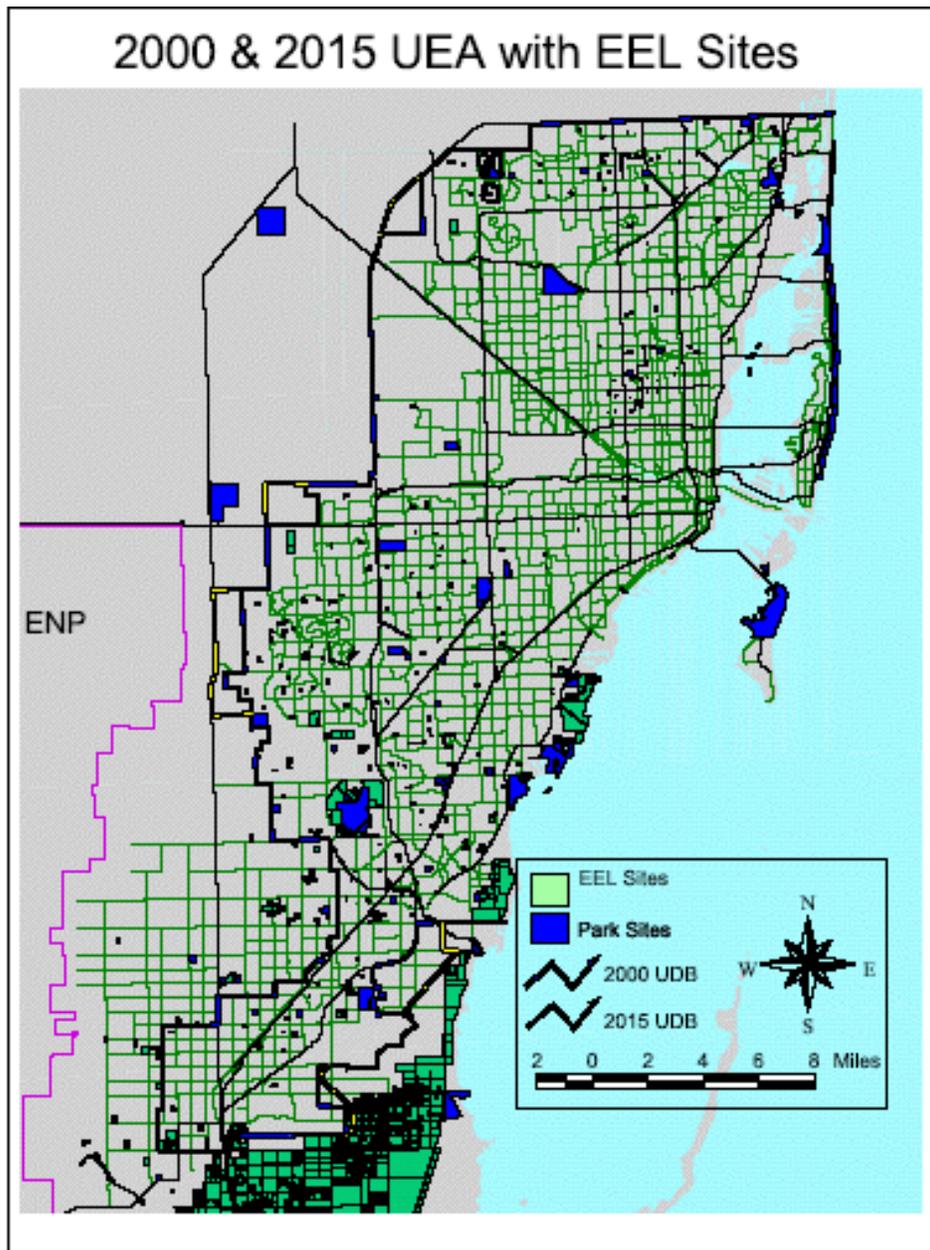
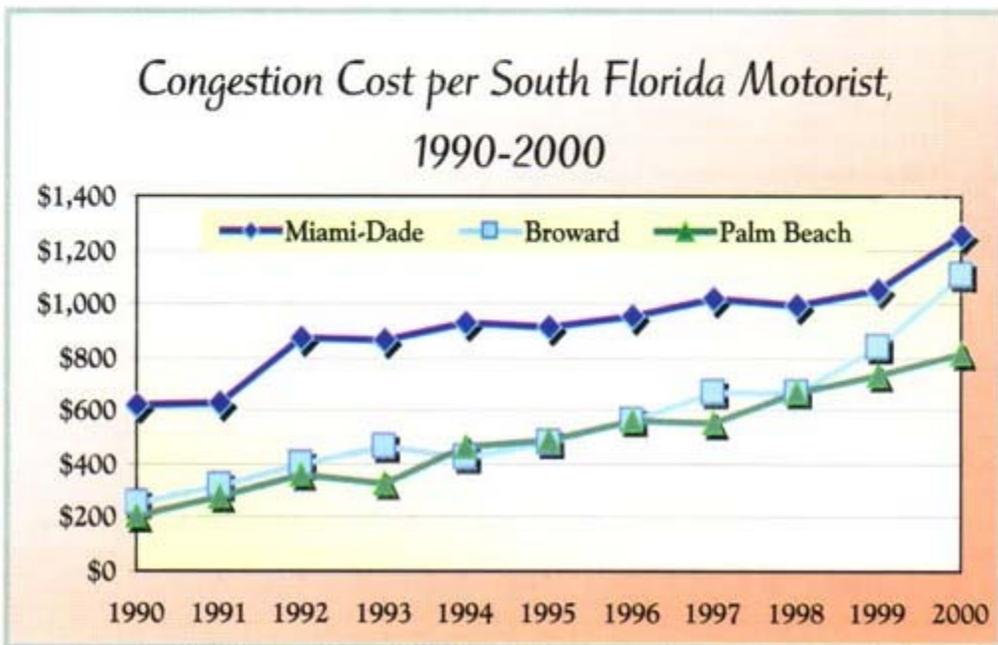
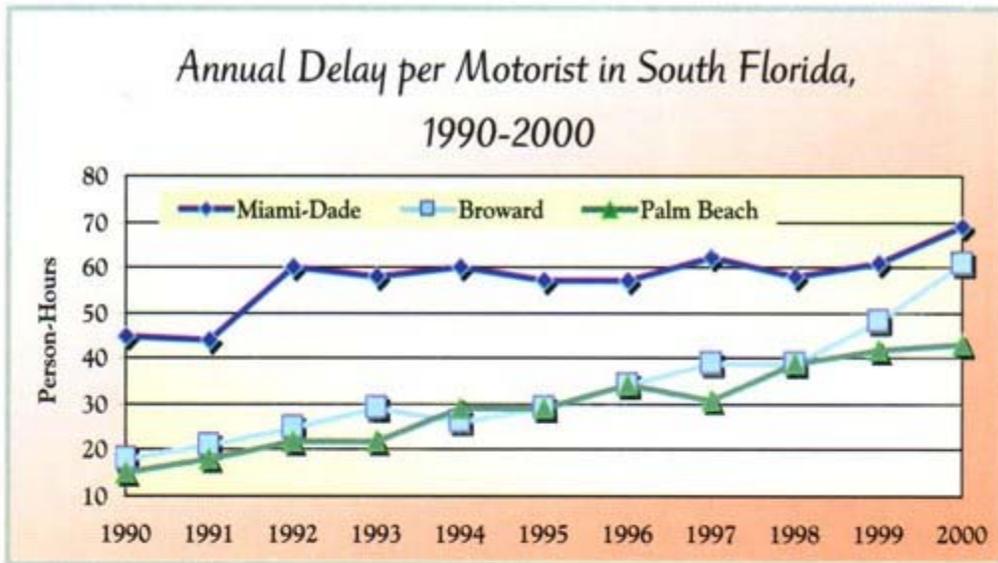


Figure 4: Catanese Center Traffic Statistics

From Regional Shift - Catanese Center For Urban And Environmental Solutions



Acknowledgments

Our organizations have collaborated to research, prepare and present this paper, which we submit, makes a strong case for maintaining the current UDB in Miami-Dade County. The principle authors and their contact information are as follows:

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ENDNOTES

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- ² See Ch. 163, Part II, Fla. Stat., and Rule 9J-5, Fla. Admin. Code. See also Statement of Legislative Intent, CDMP, codified by Section 2-114 (c), Miami-Dade County Code.
- ³ Sec. 2-114. (c) (6), Miami-Dade County Code.
- ⁴ Comprehensive Development Master Plan, Miami-Dade County, Florida, , pg. I-1.
- ⁵ Staley, Edgens and Mildner, “A Line in the Land: Urban Growth Boundaries, Smart Growth and Housing Affordability,” Reason Public Policy Institute (1999), at <http://www.rppi.org/urban/ps263.html>
- ⁶ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-16.
- ⁷ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-53.
- ⁸ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-65.
- ⁹ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-46.
- ¹⁰ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg.4.
- ¹¹ Ord. No. 95-177, S. 2, 10-5-95
- ¹² Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-11.
- ¹³ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-47.
- ¹⁴ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-48
- ¹⁵ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-52.
- ¹⁶ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-57.
- ¹⁷ Samantha Joseph, “County Gives OK for Review of Western Development Boundary,” Miami Today, April 29, 2004, at <http://www.miamitodaynews.com/news/040429/story3.shtml> (quoting Assistant County Attorney John McInnis).
- ¹⁸ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-77,78.
- ¹⁹ Approved agenda of the Miami-Dade County Board of County Commissioners, Agenda Item Number 7G2A, April 27, 2004.
- ²⁰ Rabin, Charles, *County Will Study Building Into Wetlands*, MIAMI HERALD, May 27, 2004, at B1.
- ²¹ Rabin, Charles, *Project Aims Beyond Urban limits; For the Third Time This Year, a Developer Wants to Build Outside Dade's Urban Development Boundary for a Community That Would be Adjacent to Krome Avenue*, MIAMI HERALD, April 13, 2004, at B1.
- ²² *Id.*
- ²³ Florida City DRI Pre-Application Conference Summary Materials, February 2004.
- ²⁴ City of Florida City Application for Annexation of Area “C1”, for submittal to Miami-Dade County, prepared by Iler Planning Group, September 9, 2003, pg. 2.
- ²⁵ The Memorandum on the Village of Florida City Annexation Application from the Miami-Dade County Office of Strategic Business Management to the Boundaries Commission, February 4, 2003.
- ²⁶ The Memorandum on Florida City Annexation – City Resolution No. 03-29 from the Department of Planning and Zoning to the Office of Strategic Business Management, April 12, 2004.
- ²⁷ City of Florida City Application for Annexation of Area “C1”, for submittal to Miami-Dade County, prepared by Iler Planning Group, September 9, 2003, pg. 2.
- ²⁸ City of Florida City Application for Annexation of Area “C1”, for submittal to Miami-Dade County, prepared by Iler Planning Group, September 9, 2003, pg. 3.
- ²⁹ The Memorandum on the City of Florida City Annexation Application from Pedro L. Velar, Assistant Director, Incorporation and Annexation Services to the Honorable Chairperson and Members, Planning Advisory Board, May 17, 2003. The staff memorandum explained that:
- “The entire area in question is strategically significant in ongoing regional restoration, contains extensive wetlands and wildlife habitat, and is prone to flooding. This Division is concerned about the compatibility of any development in this area with existing land use and zoning designations, environmental conditions, and restoration objectives. If no changes are proposed in land use designations (as stated in the

application) . . . it is not clear how annexation would benefit Florida City or the annexation area. A much more limited annexation area, excluding undeveloped areas, would be more realistic. (emphasis added). All (100%) of the proposed annexation area is located within the South Dade Wetlands Class IV Wetland Basin . . . Soils throughout are predominantly marls, which are poorly drained, low-lying soils that are associated with seasonally flooded freshwater wetlands.

The wetlands in this region provide habitat for numerous endangered species, including the Florida panther and the indigo snake along with numerous wading bird species such as the wood stork, roseate spoonbill, and white heron. They also are hydrologically connected to coastal waters of lower Biscayne Bay, Card Sound, Barnes Sound and Florida Bay, which are designated Outstanding Florida Waters and are part of two National Parks.

Over three quarters of the proposed annexation area has been designated for joint acquisition by the County's Environmentally Endangered Lands (EEL) Program and the SFWMD, in recognition of the significance of these wetlands to the continued health of the regional ecosystem. The Comprehensive Everglades Restoration Plan (CERP) proposes to restore more environmentally compatible freshwater flows to the Everglades and hydrologically connected coastal wetlands and estuaries, including Biscayne Bay and Florida Bay, while at the same time assuring adequate water supply and maintaining flood protection for urban and agriculture areas. Two CERP or CERP-related projects directly involve the South Dade Wetlands and Model Land basin: the C-111N Spreader Canal Project and the Biscayne Bay Coastal Wetlands Project. The entire proposed annexation area has been identified as necessary for full functioning of these important projects. The restoration and enhancement of these regions is vital to protecting and improving the quantity, quality and timing of freshwater delivery to these estuaries and maximize their value for fisheries and wildlife resources. Future residential or commercial development of this area could interfere with optimum design and full implementation of CERP projects and therefore prevent accomplishment of benefits to the existing urbanized area in this part of the County. It could also increase the potential impacts to adjoining environmentally sensitive from exotic invasive species, habitat fragmentation, or altered surface water flow patterns, and therefore increase the costs of management and restoration of remaining sensitive lands."

³⁰ Providence: A Planned New Town Development, Pre-application Summary Materials, April 2004, pg. 4.

³¹ Providence: A Planned New Town Development, Pre-application Summary Materials, April 2004, pg. 7.

³² Providence: A Planned New Town Development, Pre-application Summary Materials, April 2004, pg. 7.

³³ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-10.

³⁴ Musibay, Oscar Pedro, *658 Acres in Western Miami-Dade Up For Bid*, DAILY BUSINESS REVIEW, April 30, 2004.

³⁵ Vasquez, Michael, *Hialeah Gets County Approval to Expand*, MIAMI HERALD, October 22, 2003.

³⁶ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-68.

³⁷ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-68.

³⁸ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-56.

³⁹ Rule 9J-5.006(2)(a) and (b) and Rule 9J-5.013(1), F.A.C.

⁴⁰ Dept. of Community Affairs, et al. v. Monroe County, ER: 95:148 (Admin. Comm., Dec. 12, 1996) (Final Order and Order of Partial Remand).

⁴¹ DCA Letter to Lorenzo Aghemo, Palm Beach County Planning Director, (July 28, 2003).

⁴² Snyder v. Brevard County, 627 So.2d 469 (Fla. 1993).

⁴³ Martin County v. Yusem, 690 So. 2d 1288, 1295 (Fla. 1997) and Martin County v. Section 28 Partnership, 668 So. 2d 672, 675 (Fla. 4th DCA 1996).

⁴⁴ Lebowitz, Larry, *As Development Push Continues, Poll Confirms Worsening Traffic*, MIAMI HERALD, January 27, 2005, at <http://www.miam.com/mld/miamihearld/news/local/10743517.htm> .

⁴⁵ A Fiscal Evaluation of Three Scenarios for the Miami-Dade County Agriculture and Rural Area Study (Tischler & Associates, Inc., June 16, 2003).

⁴⁶ A Fiscal Evaluation of Three Scenarios for the Miami-Dade County Agriculture and Rural Area Study (Tischler & Associates, Inc., June 16, 2003).

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- ⁴⁷ Eastward Ho! Development Futures: Paths to More Efficient Growth in Southeast Florida (Center for Urban Policy Research, Rutgers University Feb. 1999).
- ⁴⁸ Comprehensive Development Master Plan, Miami-Dade County, Florida, as amended through April 2001, Figure 8: Future Wellfields and Wellfield Protection Areas, pg. I-68.
- ⁴⁹ Comprehensive Development Master Plan, Miami-Dade County, Florida, as amended through April 2001, pg. I-16.
- ⁵⁰ Northwest Wellfield Watershed Protection Plan, Miami-Dade County, Florida, August 16, 2000.
- ⁵¹ Northwest Wellfield Watershed Protection Plan, Miami-Dade County, Florida, August 16, 2000, at 45. A new peer review scientific study calls into doubt previous assumptions about boundary canals which have been claimed to act as seepage barriers. (Use of stable isotopes to quantify flows between Everglades and urban areas in Miami-Dade County Florida, Journal of Hydrology, Wilcox, Solo-Gabriele, Sternberg, 2003).
- ⁵² Northwest Wellfield Watershed Protection Plan, Miami-Dade County, Florida, August 16, 2000, at 49.
- ⁵³ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-6.
- ⁵⁴ Overview of the South Miami-Dade Watershed Study and Plan, December 2003, pg. 1.
- ⁵⁵ Overview of the South Miami-Dade Watershed Study and Plan, December 2003, pg. 2.
- ⁵⁶ Sec. 2-115.11. (1) (b), Miami-Dade County Code
- ⁵⁷ The Comprehensive Everglades Restoration Plan (CERP) (2002), *at* http://www.evergladesplan.org/about/rest_plan.cfm
- ⁵⁸ Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement, April 1999, pg. 5-21.
- ⁵⁹ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-69.
- ⁶⁰ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-69.
- ⁶¹ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-72.
- ⁶² Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-67.
- ⁶³ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-73.
- ⁶⁴ Steven S. Light & J Walter Dineen, "Water Control in the Everglades: A Historical Perspective," *in* Everglades: The Ecosystem and Its Restoration, 47 (Steven Davis & John Ogden ed., 1994), St. Lucie Press, Delray Beach, FL.
- ⁶⁵ Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement, April 1999, pg. 5-21.
- ⁶⁶ Adopted 2003 Evaluation and Appraisal Report for the Comprehensive Development Master Plan, Miami-Dade County, pg. 1-29.
- ⁶⁷ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-67.
- ⁶⁸ Comprehensive Development Master Plan, Miami-Dade County, Florida, pg. I-71.
- ⁶⁹ Resolution of the County of Monroe Board of County Commissioners regarding Atlantic Civil, Inc.'s Florida City DRI development proposal, approved April 21, 2004.