CHAPTER 2 ASSESSMENT OF COMPREHENSIVE DEVELOPMENT MASTER PLAN ELEMENTS

Introduction

Section 163.3191(2)(h), F.S. requires the EAR to provide a brief assessment of the successes and shortcomings related to each element of the local government's comprehensive plan since the 2003 EAR. Accordingly, this chapter of the EAR evaluates the progress that has been made toward achieving the adopted objectives of each element of the plan since 2003. Each objective in each element of the plan is listed, followed by the monitoring measure, or measures that were adopted as part of the element's monitoring program. In instances where there was no appropriate monitoring measure adopted or where the adopted measure could not be used to adequately measure achievement, a surrogate measure was used. In those cases, policy implementation was also used to determine the degree of objective achievement.

All objectives, monitoring measures and policies were reviewed for their continued relevance. Suggested revisions to certain objectives and/or policies are included in the Proposed Revisions section of this report. Although it may not be explicitly stated in each element assessment, all references in the CDMP to names of places, agencies, departments, documents, time horizons, etc. will be updated and corrected as part of any proposed EAR-based amendments to the CDMP.

2.1 LAND USE ELEMENT

The Land Use Element is where the growth policy for the County is articulated. This CDMP element identifies locations throughout Miami-Dade County where various land uses and intensities of use will be permitted to occur in the future. It establishes broad policy in keeping with the traditional role of the metropolitan area comprehensive plan as a framework for, or schematic plan of, area-wide future development. The overall growth policy is that the intensification of physical development and expansion of the urban area should be managed to occur: 1) at a rate of land development activity that is commensurate with projected population and economic growth; 2) in a contiguous pattern centered around high intensity activity centers well connected by a balanced transportation network; and 3) growth in areas and locations which optimize efficiency in public service delivery and conservation of natural resources.

The goal of this 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's unique agricultural lands." The Land Use Element embodies a number of objectives and policies that form the framework for ensuring the achievement of this goal. The *Adopted Components* of the Land Use Element include the Land Use Goal, Objectives, and Policies, the Land Use Plan map for 2015 and 2025 and related text titled "Interpretation of the Land Use Plan Map: Policy of the Land Use Element", maps of future historical and natural resources, and a monitoring program.

In order to prepare the periodic Evaluation and Appraisal Report (EAR), as required by Section 163.3191, Florida Statutes (F.S.), the minimum criteria Rule (Rule 9J-5, Florida Administrative Code) requires that local governments adopt procedures to monitor and evaluate their Comprehensive Development Master Plan and its implementation [Sections 9J-5.005(1)(C)(5), and 9J-5.005(7)]. Furthermore, successful implementation of Level of Service (LOS) standards and concurrency (the requirement that infrastructure and public services be available at the time of development), require the maintenance of monitoring and reporting programs. Each Objective in the Land Use Element contains adopted measures that are monitored for the achievement of the objectives. These adopted monitoring measures are variables referenced directly in the objectives or in one or more of the policies listed under the objectives, or which closely relate to and are valid measurable indicators of progress toward the objectives. The adopted monitoring measures

also indicate the public agencies involved in monitoring and reporting on the measures. Data/information for each of the adopted measures was obtained from local, state, and regional agencies, which was then analyzed and summarized.

Objective LU-1
The location and configuration of Miami-Dade County's urban growth through the year 2025 shall emphasize concentration and intensification of development around centers of activity, development of well designed communities containing a variety of uses, housing types and public services, renewal and rehabilitation of blighted areas, and contiguous urban expansion when warranted, rather than sprawl.

CDMP Monitoring Measures

A. Acreage of subdivisions not contiguous to other urban development and population density within the Urban Development Boundary (UDB) of the LUP map. These measurements shall be made by the Department of Planning and Zoning immediately preceding preparation of the EAR.

B. Residential dwelling units and non-residential square footage permitted, or for which certificates of occupancy (COs) have been issued (for new uses and rehabilitation) in unincorporated Commission District (CD) Areas. This information will be compiled annually by the Department of Planning and Zoning from the computerized permitting file. The cumulative totals will be reported in the subsequent EAR.

C. Numbers and dollar value of public facility improvements in the CD Areas. The Department of Planning and Zoning will acquire this information annually from the Miami-Dade County Office of Community and Economic Development (OCED) and shall report cumulative totals in the EAR.

D. Number of new or revised ordinances and programs established to promote improved design of neighborhoods, developments and buildings in unincorporated Miami-Dade County.

Objective Achievement Analysis. The following discussion analyzes the achievements of each adopted monitoring measure. As indicated below, the monitoring measures for Objective LU-1 show that this objective is being achieved.

Measure A
This measure addresses the success of the Urban Development Boundary (UDB) to contain growth by measuring changes in population density within the UDB and acreage of subdivisions not contiguous to other urban development. Current population density within the UDB was analyzed and compared with historical rates in order to provide some measure of effectiveness of the UDB in containing population growth to within the boundary line. The 2003 EAR reported that in year 2000, population density within the UDB was 8.4 persons per acre or 5,373 persons per square mile. Table 2.1-1 below shows that in 2009, population density within the UDB increased by 12.4 percent to 6,022 persons per square mile or approximately 9.4 persons per acre.

The purpose of measuring subdivisions not contiguous to other urban development is to determine if leapfrog development is occurring in Miami-Dade County. Unfortunately, information on the acreage of subdivisions not contiguous to other urban development is not available. The addition of land available for urban development to the land supply has been limited to non-residential uses since 2003. The 2015 UDB was extended by Application No. 5 in the April 2005 Amendment Cycle to add 1140.8 aces of industrial land in northwest Miami-Dade County and by Application No. 8 in the April 2007 Amendment Cycle to add 42 acres of commercial land in the West Kendall area. The County has been focusing on increasing residential densities inside by encouraging development around urban centers.

Table 2.1-1
Population Density per Square Mile
Within the UDB, Miami-Dade County, 2000-2009

Year	Population Projections	Population Change	Density*
2000	2,253,485	-	5,360
2001	2,289,222	35,737	5,445
2002	2,316,676	27,454	5,511
2003	2,344,033	27,357	5,576
2004	2,370,937	26,904	5,640
2005	2,403,472	32,365	5,717
2006	2,435,517	32,045	5,793
2007	2,467,583	32,066	5,870
2008	2,499,667	32,084	5,946
2009	2,531,769	32,101	6,022

Source: Miami-Dade Department of Planning and Zoning, 2010
Notes
*Persons per square mile (area within the UDB= 420.4 sq. mi.)
- As of 2009, the area within the UDB is estimated at 269,056 acres

Measure B

This measure addresses the success of revitalization efforts in distressed areas. The current monitoring measure for this objective requires that data containing residential dwelling units and non-residential square footage permitted, or for which certificates of occupancy (COs) have been issued (for new uses and rehabilitation) in Neighborhood Revitalization Strategy Areas (NRSAs) or Community Development Block Grant (CDBG)-Eligible Census Block Group Areas be analyzed. However, this data could not be obtained for the 2003-2009 period.

However, information from the Miami-Dade County's Building Better Communities General Obligation Bond Program (GOB) was obtained and analyzed in order to determine to some degree the County's efforts in revitalizing the eight NRSAs. The GOB Program is a $2.9 billion capital improvements program approved by Miami-Dade County voters in a referendum held November 2, 2004. The GOB Program funds projects to improve water and sewer systems, parks and recreational open space, public safety, health care, housing, culture and education, and other public facilities and infrastructure. According to the Business Plan, Adopted Budget, and Five-Year Financial Outlook (Vol. III) for FY 2006 through FY 2009, GOB funding was allocated for the acquisition, construction, or rehabilitation of affordable rental housing units in NRSAs. These projects included the construction of 375-450 units of affordable rental housing at various sites throughout the County including the Opa-locka, Goulds, Perrine, and Model City NRSAs (GOB Project No. 249); the demolition of existing dilapidated housing units and construction of approximately 96 new affordable housing units at Lincoln Gardens, also in Model City NRSA (GOB Project No. 247).

Measure C

This measure monitors funding allocated for public facility improvements (such as drainage, roadway capacity and other public facilities improvements) in distressed areas. Sources of funding for these public facilities improvements include the federal CDBG program, Road Impact Fees, and the Building Better Communities General Obligation Bond Program. Data was obtained from the *Adopted Budget and Multi-Year Capital Plan* for FY 2003 through FY 2005 and the *Business Plan, Adopted Budget, and Five-Year Financial Outlook (Vol. III)* for FYs 2006 through 2009 under *Funded Projects for Transportation, Recreation and Culture, and Neighborhood and Unincorporated Areas* sections. During the 2003-2009 reporting period, funds were expended for public infrastructure improvements in NRSAs including approximately $6,741,000 in Opa-locka; $3,246,000 in South Miami; $326,000 in Goulds; $11,198,000 in Model City; $1,124,000 in West Little River; $3,353,000 in Perrine; $2,236,000 in Leisure City; and $3,315,000 in Sweetwater, for a total of $31,539,000. No funding was identified for Melrose. However, the *Funded Transportation* section of the *Business Plan, Adopted Budget, and Five-Year Financial Outlook (Vol. III)* for FY 2009 lists $8,800,000 in funds were allocated for a road widening project, which overlaps the Model City and Melrose NRSAs, along NW 37 Avenue, from N River Drive to NW 79 Street (see Project No. 606190). In addition, Table 2.1-2 below shows a listing of funding expended for parks and recreational facilities in NRSAs.

Table 2.1-2
Parks and Recreation Open Space Improvements In Neighborhood Revitalization Strategy Areas

Project Name	Location	Funding Allocated
Southridge Park	19355 SW 114 Court / Perrine	$7,600,000
West Perrine Park	17121 SW 104 Avenue / Perrine	$5,000,000
Goulds Park	21840 SW 114 Avenue / Goulds	$1,243,000
Sharman Park	SW 219 Street and SW 123 Avenue / Goulds	$600,000
Olinda Park	2151 NW 51 Street / Model City	$250,000
Marva Bannerman Park	4830 NW 24 Avenue / Model City	$150,000
Jefferson Reaves Sr. Park	3100 NW 50 Street / Model City	$200,000
Leisure Lakes Park	29305 Illinois Road / Leisure City	$600,000
Royal Colonial Park	SW 149 Avenue and SW 280 Street / Leisure City	$1,400,000
Naranja Park	14150 SW 264 Street / Leisure City	$2,000,000
Green Space Park	South Miami (District 7)	$1,343,000

Source: Building Better Community Bond Program List of Projects; As Amended October 17, 2007

Measure D

This measure monitors new or revised ordinances and programs established to promote better design of neighborhoods, developments, and buildings in unincorporated Miami-Dade County. Miami-Dade County has adopted or approved zoning code changes and plans to improve the design of neighborhoods.

Urban Center Zoning Districts. Miami-Dade County has incorporated form-based codes in the urban center zoning districts. Form-based codes are land development regulations that foster predictable development results by using physical form (rather than separation of uses) as the organizing principle for the code. These codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks. Since 2003 the County has expanded or created seven new urban center zoning districts, which seek to implement the County's Comprehensive Development Master Plan concept of concentration and intensification of development around activity centers. These zoning districts concentrate development at intersections of major roads and around transit stations. These urban center zoning districts promote mixed-use developments such as locating retail, office, and residential uses in the same building or on the same block. Also, apartment buildings are built at higher densities, building structures are closer to the street, and parking lots are placed to the side or behind buildings. Urban center district zoning ordinances adopted during this period include:

- Naranja Community Urban Center (CUC) District (Ordinance Nos. 04-217, 05-145, 06-11, and 07-96);
- Goulds CUC District (Ordinance Nos. 05-144, 06-10, and 07-95);
- Princeton CUC District (Ordinance Nos. 05-146, 06-10, and 07-96);
- Ojus CUC District (Ordinance Nos. 06-86, and 07-94);
- Perrine CUC District (Ordinance Nos. 06-127, and 07-97);
- Cutler Ridge Metropolitan Urban Center (MUC) District (Ordinance No. 06-152); and
- Leisure City CUC District (Ordinance No. 07-169).

On July 17, 2005, the Board of County Commissioners adopted Ordinance No. 05-143 establishing the Standard Urban Center District Regulations, which are designed to streamline all urban center zoning ordinances by codifying common regulatory language and provisions. In January 24, 2006, the Board of County Commissioners adopted Ordinance No. 06-10 amending the Standard Urban Center District Regulations to provide for additional definitions and corrections needed to enhance pedestrian safety and compatibility of uses within urban center zoning districts.

Charrettes (Design Workshops). Miami-Dade County promoted improving the design of urban centers and neighborhoods by conducting 14 charrettes between 2003 and 2009. These charrettes were held to obtain input from local residents. The Department of Planning and Zoning (DP&Z) conducted during this period 11 charrettes, which resulted in area plans being approved by the Board of County Commissioners (BCC). These

charrettes include Model City/Brownsville, Princeton, Perrine, Leisure City/Naranja Lakes, Country Club/Palm Springs North, Schenley Park, East Kendall, Bird Road Corridor, and three in the proposed North Metrorail corridor for future stations at Ali Baba Avenue in Opa-Locka, and NW 183 and the NW 199 Streets. A charrette was held and a report was prepared for the proposed Metrorail Station at NW 119 Street but it was not sent to the BCC. In addition, two other Charrette area plan reports for Richmond Heights and Palmer Lake are currently pending adoption by the BCC.

Street Tree Master Plan. The BCC approved on March 6, 2007 Resolution No. 231-07 adopting the *Miami-Dade County Street Tree Master Plan: A Greenprint for Our Future, dated February 2007*. This Plan establishes policies and guidelines for managing urban tree resources along Miami-Dade County streets and highways, which will provide social, environmental, and economic, including, aesthetic benefits to County residents.

Park and Open Space Master Plan. The updated *Miami-Dade County Park and Open Space System Master Plan* (OSMP) was finalized in 2007 and approved by the BCC on February 19, 2008 (see Resolution No. 171-08). The OSMP provides a 50-year planning vision for Miami-Dade County and intends to serve as a catalyst for a more sustainable and livable County, through the creation of an interconnected system of communities, parks, public spaces, natural and cultural areas, greenways, water trails and streets. The plan also provides a set of guideline principles to ensure a beautiful, well-designed seamless system of parks and open space that encourages revitalization of neighborhoods and accessibility to recreational opportunities.

Miami-Dade County Aesthetics Master Plan. The BCC adopted in 2001 Ordinance No. 01-164 that created the Community Image Advisory Board (CIAB) and charged it with the task of improving and maintaining the County's visual image. The BCC passed on January 24, 2006 Resolution No. 108-06 directing CIAB to develop a County Aesthetics Master Plan to address landscaping and landscape maintenance of all public roadways and County facilities. On November 17, 2009, the BCC approved Resolution No. 1309-09 adopting the *Miami-Dade County Aesthetics Master Plan,* which provides guidelines for the design and appearance of the County transportation corridors, gateways, key public facilities by providing examples specific architectural, hardscape and landscape elements.

As the evaluation of monitoring measures for Objective LU-1 indicate, the County has been active in managing growth by emphasizing the concentration and intensification of development around activity centers, development of well designed communities, revitalization of distressed areas, and limiting sprawl. Therefore, Objective LU-1 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The objective and policies requiring changes are listed below. All other policies remain relevant and should be retained.

Objective LU-1
The year of 2025 in this objective needs to be updated to the new long-term planning horizon date of 2030.

Policy LU-1D
Policy should be revised to refer to planning of 'communities' without regard to land use. Communities should be planned to include residential, employment, public facilities, etc.

Policy LU-1E
This policy should be modified so a mixture of land uses can be promoted in neighborhoods but only those non-residential uses that are suitable for areas with dwellings. Some commercial and industrial uses are stationary sources of air pollutant emissions and would not be suitable for areas with residences.

Policy LU-1H
This policy should be modified to reflect Miami-Dade County's Recreation and Open Space System Master Plan, which was approved by the Board of County Commissioners (BCC) on February 19, 2008 (Resolution No. R-171-08).

Policy LU-1J
This policy should be modified by deleting the reference to the Empowerment Zone program, which ended on December 31, 2009.

Policy LU-1N
The "Metro-Miami Action Plan" agency title in the policy should be changed to "Miami-Dade Economic Advocacy Trust."

Policy LU-1O
This policy should be revised to indicate that its focus is the area outside the UDB.

Policy LU-1P
Modify policy by adding agritourism as a consideration for alternative land uses in the South Dade agricultural area.

Policy LU-1Q. Modify policy on siting of public and private schools by replacing the reference to Objective EDU-2 with a reference to Objective EDU-3. When the Miami-Dade County Board of County Commissioners (Board) adopted in 2008 Ordinance No. 08-74 that amended the Educational Element, a new Objective EDU-2 that addressed school concurrency was added and the previous Objective EDU-2 addressing the siting of public and private schools was renumbered as Objective EDU-3. Section 9J-5.005(5)(a) of the Florida Administrative Code (F.A.C.) requires internal consistency between the elements. This policy serves to provide internal consistency by linking the Land Use and Education Elements.

Policy LU-1S. Modify policy to clarify that the County Strategic Plan should be consistent with the CDMP and update the policy to reflect new Strategic Plan goals and strategies.

New Policies for Objective LU-1
Include a policy that discourages walled and/or gated subdivision subdivisions and encourages building design and orientation that enhances pedestrian accessibility and defensible space.

Objective LU-1 Monitoring Measure A
This measure addresses the success of the UDB to contain growth by measuring acreage of subdivisions not contiguous to other urban development and population density within the UDB of the LUP map. While information is available on population density within the UDB, no database exists for the acreage of subdivisions not contiguous to other urban development within the UDB. The measure needs to be revised to address development activities occurring in urban centers.

Objective LU-1 Monitoring Measure B
The Department of Housing and Community Development in recent years has been using federal and state funds to provide revitalization assistance on a Commission District basis. This measure, which addresses the success of revitalization efforts, needs to be modified so only the distressed portions of Commission Districts, such as Neighborhood Revitalization Strategy Areas or Community Development Block Grant (CDBG)-eligible census block groups, are reported on. On February 2, 2010, Miami-Dade County Board of County Commissioners approved Resolution No. 137-10 requesting that the Mayor or his designee provide to the Board an annual report detailing the County's achievements in NRSAs. The monitoring measure needs to be revised to reflect the information that could be provided by the annual report on revitalization efforts in each of the eight NRSAs.

Objective LU-1 Monitoring Measure C
Delete the reference to "Office of Community and Economic Development (OCED)". Also, modify the measure so only the distressed portions of Commission Districts, such as Neighborhood Revitalization Strategy Areas or CDBG-eligible block groups, are reported on.

Objective LU-1 Monitoring Measure D
The Department of Planning and Zoning has over many years been devising policies to encourage or require "improved design of neighborhoods," but simply counting the number of new ordinances is not an adequate measure of the effectiveness of the policies in this objective, this measure should be revised to track the results of implemented policy.

Objective LU-2
Decisions regarding the location, extent and intensity of future land use in Miami-Dade County, and urban expansion in particular, will be based upon the physical and financial feasibility of providing, by the year 2015, all urbanized areas with services at levels of service (LOS) which meet or exceed the minimum standards adopted in the Capital Improvements Element.

CDMP Monitoring Measures. The extent of areas experiencing conditions below minimum adopted LOS, at LOS, and substantially above the adopted minimum LOS will be monitored by the Department of Planning and Zoning and reported in the EAR for each service addressed in the CDMP.

Objective Achievement Analysis. Chapter 163 Part II, Florida Statutes (F.S.), the "Growth Policy Act", requires that transportation (roadways and mass transit), storm water, potable water, sanitary sewer, solid waste, park and recreation facilities, and public schools meet or exceed the adopted level of service (LOS) established in the comprehensive plan of the local government. Miami-Dade County has adopted LOS standards for each of the above-referenced public facilities and services in the Capital Improvements Element of the CDMP as well as the individual facility and service elements. In 2005, the Florida Legislature adopted revisions to Chapter 163, F.S. that included establishing a LOS standard for public school facilities. In July 2008, Miami-Dade County adopted amendments to its Educational, Intergovernmental and Capital Improvement Elements, which included LOS standard for public schools.

Miami-Dade County Concurrency Management Program ensures that public facilities and services meet the minimum LOS standards and are available when needed to serve the proposed development. Following is overview of the LOS conditions of the aforementioned public services and facilities.

Transportation (Roadway and Mass Transit)
Policy TC-1B of the Traffic Circulation Subelement of the Transportation Element of the CDMP establishes the minimum acceptable peak-period operating LOS standards for all County and State roadways in Miami-Dade County. The "Traffic Circulation Subelement" section of this 2010 Evaluation and Appraisal Report, evaluates the County's progress in meeting the adopted LOS standards for roadways. The adopted peak-period LOS standards for all County and state roadways in Miami-Dade County are detailed in the Traffic Circulation Subelement of the CDMP (Page II-11). Furthermore, Policy TC-1C of the Traffic Circulation Subelement directs the County to maintain and enhance as necessary a comprehensive traffic count system for monitoring annually the LOS on Miami-Dade County's roadway system. The operating LOS condition is derived from traffic count data provided by Miami-Dade County's Department of Public Works and the Florida Department of Transportation (FDOT).

As of February 22, 2010, a total of 626 roadway segments were analyzed. Of these, two roadway segments were determined to be operating in excess of their adopted LOS E+20% standard, 25 roadway segments were found to operate within their adopted LOS E+20% standard, 52 roadway segment operating at LOS F (extremely congested), 48 segments operating at LOS E (very congested), 201 segments operating at LOS D (congested), and 298 segments operating at LOS C or better (uncongested). It should be noted that the peak-period operating conditions represent the actual traffic condition. Major congestion problems exist in several important travel corridors. To the north and northwest, conditions on portions of I-75, Okeechobee Road (SR 25), Palmetto Expressway (SR 826), Dolphin Expressway (SR 836); NW 107, 57 and 47 Avenues; and NW 202, 170, 154, 138, 122, 103, 71, 58, 41, and 17 Streets are extremely congested. To the south and southwest, operating conditions on portions of SW 177 (Krome), SW 147, 127, 122, 117, 97, 87, 57, and 27 Avenues; SW 104, 112, 120, 304, and 344 Streets; and Old Cutler Road were also extremely congested. Table 2.2.1-3 in the Mass Transit Subelement of this report lists all roadway segments within Miami-Dade County that fail to meet the adopted LOS standards applicable to those roadways and identifies those roadway segments programmed or planned for capacity improvements in the County's 2010 Transportation Improvement Program (TIP) or Long Range Transportation Plan (LRTP) to the Year 2035.

Policy MT-1A of the Mass Transit Subelement of the Transportation Element of the CDMP establishes the minimum peak-hour mass transit LOS standard, which states that all areas within the UDB that have a combined resident and workforce population of more than 10,000 persons per square mile, shall be provided with public transit service having 30 minutes headways and an average route spacing of one mile provided that:

- The average combined population and employment density along the corridor between the existing transit network and the area of expansion exceeds 4,000 per square mile, and the corridor is 0.5 miles on either side of any necessary new routes or route expansions to the area of expansion;
- It is estimated there is sufficient demand to warrant the service;
- The service is economically feasible; and
- The expansion of transit service into new areas is not provided at the detriment of existing or planned services in higher density areas with greater need.

Miami-Dade Transit Agency (MDT) has annually determined that nearly all of the urbanized area of Miami-Dade County have met or exceeded the adopted LOS standard for mass transit service and determined that the County continues to meet the standard based on review of the Metrobus/Metrorail service area and the latest socio-economic information provided by the Department of Planning and Zoning. Since the 2003 EAR, the MDT's Metrobus system was expanded from 90 to 105 routes but was subsequently reduced in 2009 to 90 routes as part of the recent system-wide Service Efficiency and Restructuring Initiative (SERI), discussed under Objective MT-2 of the Mass Transit Subelement of the Transportation Element. For a detailed analysis, please see the Objective Achievement Analysis for Objective MT-1 of the Mass Transit Subelement section in this report.

Drainage (Stormwater)

Policy CON-5A of the Conservation, Aquifer Recharge, and Drainage Element of the CDMP establishes the stormwater management LOS standard for Miami-Dade County, which contains both flood protection and water quality components. The minimum acceptable level-of-service standard for flood protection is the protection from the degree of flooding that would result from duration of one day from a ten-year storm, with exceptions in previously developed canal basins, where additional development to this base standard would pose a risk to existing development. Miami-Dade County is meeting the minimum LOS requirement for flood protection.

Miami-Dade County continues to enforce LOS standards for flood protection through two main processes. The National Flood Insurance Program (NFIP) sets minimum standards for design and construction of structures to ensure they are built to withstand flooding up to the 1% chance storm (i.e. 100-year storm). Miami-Dade County is a participant in good standing with the NFIP, and in fact exceeds the minimum flood protection standards as described in the program. This is demonstrated through the County's participation in the Community Rating System (CRS) of the NFIP. This voluntary program rewards communities that provide more than the minimum flood protection standards with flood insurance premium discounts for its residents. Miami-Dade County is currently a Level 5 in the CRS program. Communities start at a Level 10, and very few communities in the U.S. have achieved a level lower than 5. This Level 5 is in the top 2% in the country for large metropolitan areas, and through the CRS, the annual savings to Miami-Dade residents is over $23 million per year.

Furthermore, Miami-Dade County complies with the NFIP standards through enforcement of Chapters 11C, 24, and 33 of the Code of Miami-Dade County. The NFIP standards have been expanded to include minimum standards for land use and natural resources, such as preservation of water resources, open areas, wetlands and other natural areas. Chapter 33 (Zoning) had provisions for lot size and low density development, which gave the County credit in the CRS program. Chapter 11C was updated in 2009 by Ordinance 09-66 to reflect the current standards of NFIP for flood protection. Chapter 24, which is related to preservation of water resources, open areas, wetlands and other natural areas, was updated in 2008 by Ordinance 08-55.

The second method of ensuring the LOS for flood protection is by requiring stormwater management systems for all new construction. These required systems provide drainage for all new roads, rights-of-way and parking lots, thereby ensuring flood protection and water quality improvements to the stormwater discharges that occur as a result of our frequent rain events. Enforcement of these drainage requirements is performed through permits issued under the authority of Chapter 24 of the Code of Miami-Dade County.

The Department of Environmental Resources Management (DERM) is charged with administering both Chapters 11C and 24 of the Code. The DERM is now completing a review and update of Chapter 11C, which include provisions to increase the flood protection levels of service and flood proofing of new critical facilities.

The County is in the process of renewing a cooperative agreement with Federal Emergency Management Agency (FEMA) and the State of Florida for continuous updating of the Digital Flood Insurance Rate Maps. During the last update cycle, FEMA issued to Miami-Dade County the Flood Insurance Summary of Map Actions dated March 11, 2009, which established the new Base Flood Elevations in unincorporated areas of Miami-Dade County. The BCC adopted the revised Base Flood Elevations by Ordinance No. 09-66 on July 21, 2009. The revised Flood Insurance Rate Map became effective on September 11, 2009.

According to Policy CON 5A(2) of the Conservation, Aquifer Recharge and Drainage Element of the CDMP, the water quality component of the standard shall be met when the annual average for each of the twelve priority pollutants do not exceed the target criteria for each of these pollutants within a canal basin or sub-basin, as determined in accordance with procedures established by DERM. This criterion is monitored through the County's Stormwater Monitoring Program, which was designed to meet the requirements of the National Pollutant Discharge Elimination System (NPDES), as approved by the U.S. Environmental Protection Agency (EPA) and the State of Florida, for the control of water pollution.

For the 2003-2009 reporting period, the annual average value for each of the twelve NPDES priority pollutants was calculated and compared to the criteria listed in Policy CON-5A(2). Findings revealed that 13 drainage basins meet the LOS for water quality. Four additional drainage basins (the Florida City Canal, North Canal, C-102 and C-103) contained 1 of the 12 priority pollutants (the fertilizer-related Nitrate/Nitrite Nitrogen), therefore, are not in compliance with the LOS for surface water quality. For a detailed overview, please see the Objective Achievement Analysis for Objective CON-2 in the Conservation, Aquifer Recharge and Drainage Element in this report.

Potable Water

Policy WS-2A of the Water and Sewer Subelement of the Water, Sewer, and Solid Waste Element of the CDMP establishes the LOS standard for potable water and sanitary sewer facilities. For potable water, the regional treatment system must operate at a rated maximum daily capacity of no less than two percent above the maximum daily flow for the preceding year, and at an average daily capacity of two percent above the average daily system demand for the preceding five years. Furthermore, water must be delivered to users at a pressure of no less than 20 pounds per square inch (psi) and no greater than 100 psi. Minimum fire flows are based on land uses (CDMP, Pg. IX-4). In addition, the water quality must meet all federal, state, and County primary standards for potable water, and County storage capacity for finished water must equal no less than 15 percent of the countywide average daily demand.

Miami-Dade Water and Sewer Department (WASD) or municipal utilities provide all water services in Miami-Dade County. WASD operates the regional water supply system, which serves both incorporated and unincorporated areas in the County and produce over 87 percent of the County's public potable water supply.

The first component of the LOS for potable water requires that the regional treatment system must operate at a rated maximum daily capacity of no less than two percent above the maximum daily flow for the preceding year, and at an average daily

capacity of two percent above the average daily system demand for the preceding five years. Miami-Dade County met this first component of the level-of-service standard for potable water during the 2003-2009 reporting period; Table 2.5.1-1 in the Water and Sewer Subelement of this report show that the County has achieved this component.

The second component of the LOS standard for potable water requires that water be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. WASD is in the process of conducting a system-wide pressure analysis to identify areas that require improvement. Once identified, recommendations for system improvements would be finalized and incorporated into the County's Schedule of Capital Improvements. Pressure analysis is one component of the update to the WASD's Master Plan for Potable Water Service, which is currently in progress and will assist the County in meeting this component of the LOS for potable water.

The third component requires that water quality meet all federal, state, and County primary standards for potable water. WASD routinely monitors and reports on contaminants on the County's potable water supply. According to WASD's Water Quality Reports (for years 2003 through 2009), Miami-Dade water systems contained no violations and added that the County's potable water meets or exceeds all State and Federal requirements.

The fourth component requires that Countywide storage capacity for finished water must equal no less than 15 percent of the Countywide average daily demand. This standard helps to ensure that the County has sufficient water during daily peak demand hours, during prolonged fire events, and during source or pump failures. The Countywide projected annual average daily demand for 2010 is approximately 329 million gallons per day. Fifteen percent of 329 MGD would be 49.5 MG and the system-wide storage capacity, as shown in Table 2.5.1-3, is 124.8 million gallons. The County has achieved and surpassed this LOS standard (see Objective Achievement Analysis for Objective WS-2 of this report).

Wastewater

The County's adopted LOS standard for wastewater treatment and disposal requires that the regional wastewater treatment and disposal system operate at a capacity that is two percent above the average daily per capita flow for the preceding five years and a physical capacity of no less than the annual average daily sewer flow. The wastewater effluent must also meet all applicable federal, state, and county standards and all treatment plants must maintain the capacity to treat peak flows without overflow.

Currently, the regional system is operating at a capacity well beyond the adopted LOS requirement of two percent above the average daily per capita flow for the preceding five years; Table 2.5.1-4 in the Water and Sewer Subelement of this report show that the County has met this requirement during the 2003-2009 reporting period and Table 2.5.1-5 show that the regional wastewater treatment system will have excess treatment capacity through 2020. The Objective Achievement Analysis for Objective WS-2 in the Water and Sewer Subelement of this report provide a detailed overview of the County's treatment methods for wastewater flows and disposal procedures in accordance with federal, state, and county standards.

Solid Waste

The adopted LOS standard for the County's solid waste management system is to maintain sufficient waste disposal capacity to accommodate waste flows committed to the system through long-term contracts or interlocal agreements with municipalities and private waste haulers, and anticipated uncommitted waste flows, for a period of five years. According to 2009 projections of the system's remaining disposal capacity by the Department of Solid Waste Management (DSWM), there is adequate system disposal capacity to meet LOS through Fiscal Year 2016 or two (2) years beyond the minimum standard of five years of capacity for solid waste disposal.

Public Schools

Since the last EAR, Miami-Dade County has adopted public school concurrency. The amendments to Educational and Capital

Improvements Elements adding school concurrency became effective June 2009. The evaluation of school capacity is based upon the adopted LOS standard methodology which differs significantly from the former method of assessing residential development impacts on schools. The former methodology required collaboration with the Miami-Dade County School Board if the proposed development resulted in an increase of FISH utilization in excess of 115%. The new method requires all new residential development applications be reviewed based on the adopted LOS standard. The adopted LOS standard for public school facilities is 100% utilization of Florida Inventory of School Houses (FISH) (with relocatable classrooms). The LOS standard can be satisfied by: 1) construction of new capacity programmed to relieve the impacted school within three years; 2) capacity is available at a contiguous public school facility; 3) development is phased to meet existing capacity; or, 4) proportionate share mitigation option.

There have been no development orders reviewed for public school concurrency which has triggered the option for proportionate share mitigation, nor have any developments been denied for public school concurrency. The adopted LOS standard must be achieved and maintained throughout the five-year planning period. Miami-Dade County Public Schools (MDCPS) submits annually to the County a copy of its tentative District Educational Facilities Work Plan is submitted in May during the development of the plan, for review and comment by the County; and then in September after adoption of the plan by the Miami-Dade County School Board. The County adopts by reference the Miami-Dade County Public Schools District Educational Facilities Work Plan in its Capital Improvements Element of the CDMP. The latest Miami-Dade County Public Schools District Educational Facilities Work Plan demonstrates the achievement and maintenance of the adopted LOS standard throughout the planning period.

Parks and Recreation
Policy ROS-2A of the Recreation and Open Space Element of the CDMP establishes the minimum LOS standard for recreation and open space. The standard requires 2.75 aces of local recreation open space per 1,000 permanent residents in unincorporated areas. In addition, the county must provide recreation open space of five acres or larger within three-miles of a residential development.

As required by Chapter 163, Florida Statutes, and the Miami-Dade Service Concurrency Management Program, the Park and Recreation Department (PARD) calculates the level of service to be provided in each Park Benefit District (PBD). Table 2.1-3 below summarizes the level of service conditions by Park Benefit District as of October 2009. As the table indicates, each Park Benefit District is projected to operate above the adopted LOS standard for parks through 2015.

The adopted measures for this objective show that the following services are currently operating above their adopted minimum LOS standards: mass transit, public schools, potable water, wastewater, solid waste, and recreation and open space are being maintained. However, research findings indicate that number of County and state roadway segments within Miami-Dade County are operating in violation of their adopted LOS standards. Regarding drainage level of service, research findings indicate that four drainage basins (the Florida City Canal, North Canal, C-102 and C-103) are not in compliance with CDMP water quality criteria. Therefore, Objective LU-2 is partially being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The changes related to the objective are listed below. All policies remain relevant and should be retained.

Objective LU-2
This objective should include a statement about limitations to future land use and urban expansion related to climate change adaptation, specifically sea level rise (increased flooding along the coast and in the western and southern parts of the County and near waterways). In addition, the target date in the Objective should be changed from 2015 to the new short-term planning horizon.

Table 2.1-3
Projected 2009-2015 Local Recreation Open Space Level of Service

Park Benefit District	Projected 2015 Unincorporated Population	2009 Total Public Park & ROS	2009-2015 Public Park Land Acres Addition	2009-2015 School Playfield Addition	2015 Total ROS	Standard @2.75 Ac. Per 1,000 Persons	Year 2015 Surplus (Deficit) Ac.	2015 Percent of Standard
1	388,477	1,005.65	414.73	9.00	1,429.38	1,068.31	361.07	133.80%
2	626,893	1,619.43	409.36	4.00	2,032.79	1,723.96	308.84	117.91%
3	178,198	526.78	251.95	2.00	780.73	490.04	290.69	159.32%
Total	1,193,568.00	3,151.86	1,076.04	15.00	4,242.90	3,282.31	960.60	129.27%

Sources: Miami-Dade County Department of Planning and Zoning, Research Section 2009
Miami-Dade County School Board, Site Planning Department, 2006

Objective LU-3

Upon the adoption of the CDMP, the location, design, and management practices of development and redevelopment in Miami-Dade County shall ensure the protection of natural resources and systems by recognizing, and sensitively responding to, constraints posed by soil conditions, topography, water table level, vegetation type, wildlife habitat, and hurricane and other flood hazards, and by reflecting the management policies contained in resource planning and management plans prepared pursuant to Chapter 380, Florida Statutes, and approved by the Governor and Cabinet, or included in the Comprehensive Everglades Restoration Plan approved by Congress through the Water Resources Development Act of 2000.

Table 2.1-4
Adopted LUP Map Amendments
Which Contain Wetlands, 2003-2009

Amdt. Cycle	App No.	Wetland Basin/ Acreage	Land Use Change	Density/Intensity Changes	Mitigation
April 2004	2	East Turnpike Wetlands/ 260.15	Estate Density to Industrial & Office	650 DUs to 5,666,067 sq. ft. of industrial use	Class IV Wetland Permit
	6	North Trail/Bird Drive Wetland Basin/ 9.18	Low Density to Business & Office	55 DUs to 159,952 sq. ft. of retail	Class IV Wetland Permit/compliance with North Trail Everglades Basin Ordinance and Plans for mitigation/ funding for offsite mitigation
April 2005	3	Intra-coastal (C-8)/ 21.54	Parcel A: Low Density to Medium Density Parcels B and C: Low-Medium Density to Medium Density Parcel D: Low-Medium and Business & Office to Medium Density Parcel E: Low Medium Density and Business & Office to Business and Office	A: 6 to 28 DUs B: 36 to 69 DUs C: 24 to 47 DUs D: 0 units E: 131 DUs to 175,982 sq. ft.	Class IV Wetland Permit/additional permits from Army Corps of Engineers, FDEP, and the SFWMD

Source: Miami-Dade Department of Planning and Zoning, 2010
Notes
FDEP means Florida Department of Environmental protection
SFWMD means South Florida Water Management District
DU means dwelling units

CDMP Monitoring Measures. Approval of any of the following shall be logged by the Department of Planning and Zoning and reported in the EAR:

A. Number of dwelling units and other structures approved which are inconsistent with Miami-Dade County's East Everglades Zoning Overlay regulation (Chapter 33-B, Code of Miami-Dade County);

B. Any CDMP amendments that would increase the allowable number of dwelling units or nonresidential floor area in the environmentally sensitive areas; and

C. Any permitted development or infrastructure improvement on the unincorporated portion of the barrier islands, the Velocity Zone or the Coastal High Hazard Area in Miami-Dade County.

Objective Achievement Analysis

Measure A
An area of critical concern to Miami-Dade County is the *East Everglades Zoning Overlay District* area. This measure monitors development in this area. The *East Everglades Zoning Overlay District* is located west of the urbanized portion of the County; contiguous to the Everglades National Park. The area encompasses approximately 242 square miles. This area is bounded on its south and west by the Everglades National Park and to its north by the Tamiami Trail (SW 8 Street). Its irregular eastern boundary begins at the junction of Tamiami Trail (SW 8 Street) and Levee 31N, follows Levee-31N south to its junction with Canal 111, and follows Canal-111 south to its junction with Canal-111E. The boundary then runs north along Canal-111E for 0.5 miles, then due east to U.S. Route 1, and then follows U.S. 1 in a southeasterly direction to its intersection with the boundary of Everglades National Park.

On January 13, 2010, the Community Zoning Appeals Board approved Resolution No. 14-4-10 granting an Unusual Use to permit a sports shooting and training range in a 5-acre parcel located at 31810 SW 228 Avenue. According to research findings, this sports shooting and training range is the only project that has been approved in the East Everglades Zoning Overlay District area since 2003.

Measure B
This measure monitors adopted CDMP amendments that would increase the allowable number of dwelling units or nonresidential floor area in the environmentally sensitive areas. All amendments to the CDMP adopted during the April 2003-April 2009 amendment cycles were analyzed. A total of three amendments to the Land Use Plan map of the CDMP, which would increase the allowable number of dwelling units or nonresidential floor area on sites which contained jurisdictional wetlands were adopted. Miami-Dade County, however, ensured that the applicants for each of the CDMP amendment applications comply with impact mitigation requirements in accordance to County, regional, and state regulations. Table 2.1-4 above shows the wetlands impacted and the type of mitigation the County required by each of the applicants.

Measure C
This measure addresses any permitted development or infrastructure improvement on the unincorporated portion of the barrier islands, the Velocity Zone or the Coastal High Hazard Area (CHHA) in Miami-Dade County. The unincorporated portion of the barrier islands includes Fisher Island, Crandon Park, Bill Baggs Cape Florida State Park, and Haulover Beach Park and a portion of Virginia Key. The Velocity Zone is the "V" or VE" Zones identified on FEMA's flood insurance rate maps. Both the V and VE zones are defined as coastal areas with a one percent or greater chance of flooding and an additional hazard associated with storm waves. The CHHA only depicts the areas that are most likely to be affected by a storm surge, and includes the previously identified portions of the barrier islands and portions of coastal lands to the east and south of the Town of Cutler Bay.

Permitted development has been very limited in these coastal areas because Fisher Island is largely developed and the remainder of the unincorporated coastal area is primarily in public ownership. The local utility provider, Florida Power and Light's (FP&L) Turkey Point plant is located in the coastal area, and began its operations there in the early 1970s. From 2003-2009, FP&L expanded its unit number 5 plant at Turkey Point. An Administrative

Site Plan Review for the Fisher Island Villa Palma development, a 56-unit luxury condominium project, was approved, as a matter of right (with conditions) on February 14, 2005 (Process No. A2004000033). According to an aerial photograph of the subject site taken in 2009, no structure has been erected on the site.

County infrastructure was examined in the unincorporated sections of the barrier islands, and from Key Biscayne on south, within one thousand feet of the coast, until the Monroe County line. From 2003-2009 no new roadways, expansion of roadways, or drainage improvements occurred.

As the findings indicate above, the County has, overall, ensured the protection of natural resources and systems in locating new development and in its redevelopment practices. Although development was approved in areas that contained wetlands, the County ensured that the applicants comply with requirements mitigating impacts in accordance to County, regional, and state regulations. Objective LU-3 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The Objective and policies requiring changes are listed below. All other policies remain relevant and should be retained.

Objective LU-3
The current version of the CDMP was adopted in 1988, thus, the phase "Upon adoption of the CDMP,' should be deleted from this objective.

Policy LU-3D
The policy needs to be revised to specifically include all areas on the barrier islands. Significant densification continues within municipalities along the coastline. The County's role or responsibility to restrict additional water/sewer service for all areas within the Coastal High Hazard Area should be acknowledged.

Policy LU-3E
The policy and Figure 1 "South Miami-Dade Watershed Plan" should be removed. The study was completed and the BCC accepted it by Resolution R-603-07; however, the Plan was not adopted.

Policy LU-3F
Expand the definition of direct agricultural production to include sales and agritourism activities.

Policy LU-3G
The policy should be reviewed to address the term 'seasonal agriculture'.

Policy LU-3I
This policy required the development of the Dredged Materials Management Plan, which was completed in 2004. To maintain internal consistency with the Port of Miami Subelement, this policy should be replaced with a new policy that requires implementation of the plan as amended from time to time.

Objective LU-3 Monitoring Measures
The term "environmentally sensitive areas" needs to be clearly defined to facilitate accurate objective monitoring.

New LU-3 Policy. Include a policy that supports the Comprehensive Everglades Restoration Plan (CERP), and increased funding and resources for other regional and local habitat restoration and preservation efforts and initiatives.

Objective LU-4
Miami-Dade County shall, by the year 2015, reduce the number of land uses, which are inconsistent with the uses, designated on the LUP map and interpretive text, or with the character of the surrounding community.

CDMP Monitoring Measure. (See Monitoring Measure for Objective LU-5 below)

Policy Relevance: The objective and all of the policies were reviewed for relevance. The policies requiring changes are listed below. The Objective and all other policies remain relevant and should be retained.

Policy LU-4F
This policy needs to be updated by replacing the phase "Homestead Air Force Base Air Installation Compatible Use Zone (AICUZ) report" with "Homestead Air Reserve Base Air Installation Compatible Use Zone (AICUZ) report." Also, a reference to the approved strategies in the Joint

Land Use Study (JLUS) should be added to the policy. These reports address compatibility of the base with surrounding community. The Board of County Commissioners on April 6, 2010 accepted with Resolution R-357-10 both the 2007 Homestead Air Reserve Base AICUZ and JLUS reports plus approved certain strategies in the JLUS report.

Objective LU-5
Upon the adoption of this plan, all public and private activities regarding the use, development and redevelopment of land and the provision of urban services and infrastructure shall be consistent with the goal, objectives and policies of this Element, with the adopted Population Estimates and Projections, and with the future uses provided by the adopted LUP map and accompanying text titled "Interpretation of the Land Use Plan Map", as balanced with the Goals, Objectives and Policies of all Elements of the Comprehensive Development Master Plan.

CDMP Monitoring Measure. The number of rezoning applications filed by the Department of Planning and Zoning and approved by the Board of County Commissioners to bring preexisting zoning into closer uniformity with the LUP map shall be logged by the Department of Planning and Zoning and reported in the EAR.

Objective Achievement Analysis. The Director of the Department of Planning and Zoning (DP&Z) has filed nine applications since 2003 to bring pre-existing zoning in the unincorporated areas of the County into closer uniformity with the Land Use Plan map of the CDMP (See Table 2.1-5). Seven of these rezoning actions involved creating community and metropolitan urban center zoning districts. One rezoning application for the Leisure City Community Urban Center, however, was deferred indefinitely by Miami-Dade Board of County Commissioners at a public hearing held on May 6, 2010.

The other two rezoning applications reflected recently adopted CDMP applications that were also filed by the County. One application implemented Application No. 2 of the April 2004 Cycle of Amendments which redesignated a 260-acre parcel from Estate Density Residential (1-2.5 dwelling units per gross acre) to Industrial and Office on the adopted Land Use Plan map. The other rezoning application implemented Application No. 14 in the April 2007 Cycle of Amendments. This rezoning application implemented the Airport Land Use Master Plan 2015-2025 for Opa-locka Executive Airport that was part of Application No. 14 in the April 2007 Cycle of CDMP Amendments.

Monitoring measure for Objectives LU-4 and LU-5 indicates that these two objectives are being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The change related to the objective is listed below. All policies remain relevant and should be retained.

Objective LU-5
The current version of the CDMP was adopted in 1988, thus, the phase "Upon adoption of the CDMP" should be deleted from this objective.

Objective LU-6
Miami-Dade County shall protect, preserve, ensure the proper management, and promote public awareness of historical, architectural and archaeologically significantly sites and districts in Miami-Dade County, and shall continue to seek the addition of new listings to the National Register, and increase the number of locally designated historical and archeological sites, districts and zones.

CDMP Monitoring Measure. The number of new listings on the National Register, and the number of locally designated historic and archaeological sites, districts and zones shall be compiled by the Office of Historic Preservation and shall be reported by the Department of Planning and Zoning in the EAR.

Table 2.1-5
Zoning Changes Initiated for CDMP Consistency

Hearing Date	Resolution No.	Previous Zoning	Zoning Change	Location / Acreage
12/22/2004	Z1305	Multiple	NCUC[1]	South of SW 256 Street, north of SW 272 Street, west of SW 137 Avenue and east of SW 149 Avenue / 668 acres
11/17/2005	Z2505	Multiple	GCUC[2]	Lying south of Black Creek Canal, north of SW 220 Street, and between SW 113 Avenue and Approx. 190' west of SW 120 Avenue / 220 acres
11/17/2005	Z2605	Multiple	PCUC[3]	Lying south of SW 240 Street, north of SW 256 Street, west of SW 127 Avenue, and east of SW 144 Avenue / 824 acres
2/23/2006	Z606	AU/GU	IU-C	Lying east of NW 97 Avenue and between NW 170 Street and the HEFT (State Rd 821) / 260.15 acres
3/22/2007	Z507	Multiple	CRMUC[4]	The east side of the Dade Busway and North of Black Creek Canal / 81.2 acres
10/18/2007	Z5207	Multiple	PECUC[5]	Lying south of SW 168 Street, west of U.S. 1, north of SW 186 Street, and east of HEFT(State Rd 821) / 866 acres
3/8/2007	Z307	Multiple	OUAD[6]	Lying south side of theoretical NE 209 Street, west of the FEC and east of NE 23 Avenue and the Oleta River / 337 acres
5/21/2009	Z1309	GP	GP	Lying east of NW 57 Avenue and west of NW 37 Avenue, north NW 135 Street (Opa-locka Blvd) and south of NW 156 Street (Opa-locka Airport) / 1,505 acres
5/6/2010	Deferred indefinitely (Process No. Z2007000415)	Multiple	LCCU[7]	East of U.S. 1, between SW 145 Avenue and SW 296 Street / 420.4 acres

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

Notes
[1] Naranja Community Urban Center (CUC)
[2] Goulds (CUC)
[3] Princeton (CUC)
[4] Cutler Ridge Metropolitan Urban Center (MUC)
[5] Perrine (CUC)
[6] Ojus (CUC)
[7] Leisure City (CUC)

Objective Achievement Analysis

National Register of Historic Places

The National Register of Historic Places (NRHP) is the official list of the nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's (NPS) National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. Properties listed on the National Register may be eligible for federal grants or tax credits but are not protected from demolition unless federal funding is used or federal licenses are required. A total of 169 places in Miami-Dade County, an 8.3 percent increase from 2003, are registered on the National Register for Historic Places including some that are also locally designated. The 14 historic places added to the National Register since 2003 include one archeological site (El Populo in the vicinity of Biscayne National Park); six historic sites; five historic districts in

Homestead, Miami, and Miami Beach; and two national landmarks (the Freedom Tower at 600 Biscayne Boulevard and the Miami Circle at Brickell Point in downtown Miami). National Historic Landmarks are nationally significant historic places that are designated by the U.S. Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

Miami-Dade County Designated Historic Sites
On February 17, 1981, Miami-Dade County Board of County Commissioners adopted Ordinance No. 81-13 declaring as a matter of public policy the protection, enhancement and perpetuation of properties of historical, cultural, archeological, paleontological, aesthetic and architectural merit in the interests of the health, prosperity and welfare of Miami-Dade County residents. The ordinance created the Historic Preservation Board and empowered this board to designate historic and archaeological sites, historic districts and archaeological zones; and to review and regulate through Certificates to Dig or Certificates of Appropriateness alterations or proposals that impact designated properties in unincorporated Miami-Dade County and in municipalities without historic preservation programs. The County also has a property tax exemption program for renovating, restoring and rehabilitating historic properties that can be granted by the BCC. The Miami-Dade Historic Preservation Board designated between 2003 and 2009 a total of 20 historic places including 11 historical sites, 7 archaeological zones, and 2 historic districts. The number of historic places designated by the Miami-Dade Historic Preservation Board has increase 11.8 percent since 2003.

The monitoring measure for this objective indicates that Miami-Dade County is active in identifying, designating, and protecting historical, architectural, and archaeologically significant places throughout its jurisdiction. Therefore, Objective LU-6 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The objective and policies requiring changes are listed below. All other policies remain relevant and should be retained.

Objective LU- 6
The word “significantly” should be changed to “significant.”

Policy LU-6B
The term “thematic groups” should be deleted from the policy. It could be replaced with a type of designation that the County currently allows in the Historic Preservation Ordinance.

Policy LU-6C
This policy can be expanded by stating that the Office of Historic and Archaeological Resources can provide assistance in identifying possible grants and other funding sources to assist County departments with the maintenance and management of their historic resources.”

Policy LU-6G
The historic preservation ordinance sets a time limit that municipalities have to enact their own program. Therefore, this policy should clarify that the County will continue to act as the governing Historic Preservation Board and support staff for those municipalities that do not have their own historic preservation program or ordinance.

Policy LU-6H
Revise the title of the agency from “Office of Historic Preservation” to “Office of Historic and Archaeological Resources.”

Policy LU-6J
Replace the reference to the “Miami-Dade County Public School System” with a reference to “Miami-Dade County Public Schools.”

Policy LU-6K
Remove the term “tourist programs” from the policy. The County does not have the resources to provide these programs.

Policy LU-6L
Revise the title of the agency from “Office of Historic Preservation” to “Office of Historic and Archaeological Resources.”

Objective LU-7
Miami-Dade County shall require all new development and redevelopment in existing and planned transit corridors and urban centers to be planned and designed to promote transit-oriented-development (TOD) and transit use, which mixes residential, retail, office, open space, and public uses in a pedestrian-friendly environment that promotes the use of rapid transit services.

CDMP Monitoring Measure. The number of new development or redevelopment projects applied for and approved under a TOD plan, consistent with appropriate development standards as required in Objective LU-7 and associated policies, shall be documented and analyzed every 5 years. The monitoring shall include the ridership of the transit system in relation to the economy of the areas around the stations. The Department of Planning and Zoning shall conduct the analysis to the extent possible and report findings in the subsequent EAR.

Objective Achievement Analysis

Development Activity Within Urban Centers
Urban center zoning districts In Miami-Dade County currently adopted are the Downtown Kendall, Naranja, Leisure City, Goulds, Princeton, Ojus, Perrine, and Cutler Ridge. The bulk of development that has taken place within urban centers has occurred in Downtown Kendall Metropolitan Urban Center. As of September 2009, seventy-four site plan applications have been filed with DP&Z for residential, commercial and mixed-use projects in urban centers. These site plan applications sought approval for a total of 11,327 residential units and 1,452,000 square feet. A total of 35 transit oriented development projects (commercial, mixed-use and residential) within urban center zoning districts, which underwent Administrative Site Plan Review (ASPR) and were approved between 2003 and 2009. Urban centers zoning districts have been successful in increasing residential density and commercial intensity around some transit stations than would have otherwise been permitted. Since there is not a 'critical mass' of built projects in urban centers, it remains unclear as to the ultimate effect that these developments will have on the usage of public transportation However, findings indicate that transit ridership in the County has increased 31 percent between 2003 and 2009. For a detailed overview, please see the analysis for Measure C of Objective LU-10 in this report.

Joint Development Projects
Joint development is a form of transit-oriented development that is project specific and takes place on, above or adjacent to a transit facility. Joint development projects have been completed around the Dadeland South, Dadeland North, Douglas Road, Overtown, Allapattah, Santa Clara and Dr. Martin Luther King Jr. Metrorail Stations. A total of six joint development projects were completed between 2003 and 2009 including two residential projects at Allapattah and Santa Clara Metrorail Stations; and four office projects at Dadeland North, Dadeland South, Overtown, and Dr. Martin Luther King Jr. Metrorail Stations. A total of three additional joint developments have been initiated between 2003 and 2009 at the Brownsville, Northside and Okeechobee Metrorail Stations.

As the monitoring measures indicate, Miami-Dade County has promote transit-oriented developments and provided a mix of land uses that support a pedestrian-friendly environment within urban centers and near mass transit stations. Thus, Objective LU-7 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The policies requiring changes are listed below. The objective and all other policies remain relevant and should be retained.

Objective LU-7.
Add bicycle-friendly environment

Policy LU-7B
Add cross walks and pedestrian lights as pedestrian accommodations and add facilities for bicyclists.

Policy LU-7D
Revise to include that when development is located within ½ mile of mass transit stations it must be developed with an interconnected network of blocks and streets that connect with existing streets.

Policy LU-7F
Revise minimum densities upward around transit stations based on a study of similar metropolitan areas with rapid transit services.

Policy LU-7G
Add a requirement for a phasing plan to initiate, prioritize and formulate updated or new station area plans based on the overall priority categories for urban centers established by the Board of County Commissioners.

Policy LU-7H
Add target date for comprehensive review of regulations.

Policy LU-7I
Add target date for reviewing and creating development incentives to encourage higher density, mixed-use and transit oriented development at or near existing and future transit stations and corridors.

New Monitoring Measure for Objective LU- 7
A monitoring measure should be added that tracks land uses of all types in the vicinity of transit stations to determine if there is an adequate level of pedestrian destinations in these areas.

Objective LU-8
Miami-Dade County shall maintain a process for periodic amendment to the Land Use Plan map, consistent with the adopted Goals, Objectives, and Policies of this plan, which will provide that the Land Use Plan map accommodates projected countywide growth.

CDMP Monitoring Measure. The supply and consumption rates of residential, commercial, and industrial land shall be analyzed by the Department of Planning and Zoning for compliance with Objective LU-8 and findings will be reported in the subsequent EAR.

Objective Achievement Analysis. Miami-Dade County maintains a process for periodic amendment to Miami-Dade County's Comprehensive Development Master Plan and the Adopted 2015-2025 Land Use Plan map. During the amendment process, the supply, demand, and consumption rates of residential, commercial, and industrial land are analyzed and the availability of land suitable for development for each of the aforementioned land uses is then reported.

Land Use Policy LU-8F calls for the UDB to 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 Evaluation and Appraisal Report (EAR), in addition to a five-year surplus of developable land. The adequacy of non-residential land supplies is determined on the basis of land supplies in subareas of the County, such as Minor Statistical Areas (MSA), as well as land supply countywide (CDMP, Pgs. I-18, & I-69 No. 11).

In 2010, the County estimated residential capacity countywide at 148,154 for multi- and single-family structures. The projected demand for these types of units in the 2010-2015 period, is estimated at 7,956 units per year; 10,805 units per year in the 2015-2020 period; and approximately 10,478 units per year in the 2020-2025 period. Residential capacity countywide for single- and multi-family was projected to deplete in 2025. Capacity for single-family housing is projected to deplete in 2018 and for multi-family housing in 2034. It is important to note that since 2003, forty-nine amendments to the Land Use Plan map of the CDMP were adopted which allow higher residential densities.

The adequacy of non-residential land supplies is determined on the basis of land supplies in subareas of the County, such as Minor Statistical Areas (MSA), as well as countywide land supply within the UDB (CDMP, Pgs. I-18). Approximately 2,942.9 acres of vacant land are designated for commercial use countywide. Projected annual absorption rate for commercial land countywide for the 2010-2030 period is 124 acres per year; as a result, commercial land countywide is projected to deplete in 2034. In addition, 3,622.9 acres of vacant land are designated for industrial uses countywide. The projected annual absorption rate for industrial land for the 2010-2030 period is approximately 124.6 acres per year, thus, industrial land is projected to deplete in the year 2039.

As County data indicates, the UDB contains an adequate supply of land designated for residential use to satisfy projected residential demand countywide beyond the CDMP required 15 years after the adoption of the most recent EAR (2003). Furthermore, County supply/demand data shows more than adequate supply of commercial and

industrial land countywide to sustain commercial and industrial growth beyond the 2025 planning horizon. Therefore, the adopted measure for this objective indicates Objective LU-8 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance.

Policy LU-8E
Replace the phrase "to consider" with "for" in line two of the opening sentence.

Any recommended changes to Policies LU-8F and LU-8G will be address in the major issue, UDB capacity and expansion. The policy requiring change is listed below. The objective and all other policies remain relevant and should be retained.

Objective LU-9
Miami-Dade County shall continue to maintain, update and enhance the Code of Miami-Dade County, administrative regulations and procedures, and special area planning program to ensure that future land use and development in Miami-Dade County is consistent with the CDMP, and to promote better planned neighborhoods and communities and well designed buildings.

CDMP Monitoring Measure. The number of significant regulatory revisions made, consistent with CDMP, will be annually logged by the Department of Planning and Zoning and reported in the subsequent EAR.

Objective Achievement Analysis. During the 2003-2010 reporting period, a total of 18 significant regulatory revisions were made to ensure that future land use and development in Miami-Dade County is consistent with the CDMP. These include six urban center zoning districts and the 12 following regulatory revisions:

- Clarification of the *Trend of Development* process in the GU (Interim) Zoning District (Ordinance No. 04-63; adopted March 16, 2004);
- Creation of the RU-RH (Rowhouses) Zoning District **(**Ordinance No. 06-96, adopted 06-20-06);
- Provision of two different trend determination processes for properties in GU (Interim) Zoning Districts located inside and outside the UDB (Ordinance No. 08-57; adopted May 6, 2008);
- General reorganization and enhancement of the *Standard Urban Center District Regulation* (Ordinance No. 08-102, adopted 09-02-08);
- Revisions to the Downtown Kendall Urban Center (Ordinance No. 09-81, adopted 09-01-09);
- Enhancements to Chapters 18A of the Code, the Landscaping Ordinance**,** (Ordinance No. 09-35, adopted 05-05-09);
- Creation of Chapter 18B of the Code, the Right-of-Way Landscape Ordinance, **(**Ordinance No. 09-36, adopted 05-05-09);
- Revisions and enhancements to the BU (Business) and IU (Industrial) zoning districts **(**Ordinance No. 09-47, adopted 06-02-09);
- Creation of the Bird Road Design and Industrial Zoning District **(**Ordinance No. 09-71, adopted 09-01-09);
- Additional permitted uses to the IU-1 (Light Industrial Manufacturing) Zoning District **(**Ordinance No. 09-69, adopted 09-01-09); and
- Creation of the Villa Development Zoning District Regulations (Ordinance No. 10-22, adopted 03-02-10);
- Additional permitted uses to the AU (Agriculture) Zoning District (Ordinance Nos. 10-19, 10-20, and 10-21, adopted 03-02-10).

As indicated above, Miami-Dade County is active in ensuring that regulations affecting future land use and development in Miami-Dade County are consistent with the CDMP**.** Therefore, Objective LU-9 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The policies requiring changes are listed below. The objective and all other policies remain relevant and should be retained.

Policy LU-9H
Revise policy by stating that the County shall continue its special area planning program.

Policy LU-9I
Expand policy to address coordination with and/or assistance to municipalities in improving land development regulations.

Policy LU-9J
Expand by stating that the principles of the Urban Design Manual should be implemented by updating the zoning code.

Policy LU-9K
Revise target date.

Policy LU-9N
Delete Policy.

Policy LU-9O
Revise target date.

Policy LU-9P
Revise the second to last sentence by replacing the word "work-live" with "live-work.""

Policy LU-9S
Delete policy since the RU-RH zoning district, which allows detached and townhouses together, was adopted in 2006.

Policy LU-9T
Revise target date.

New Policies for Objective LU-9
A policy facilitating a systematic approach to identifying code deficiencies and preparing code amendments recommended by policies in the CDMP should be developed.

New LU-9, Policy. A study is needed to address minimum requirements for off-street parking and share parking in transit stations and areas with a mixture of uses.

New Monitoring Measure for Objective LU-9
Add a monitoring measure to this objective to track the ongoing use of Severable Use Rights (SURs).

Objective LU-10
Energy efficient development shall be accomplished through metropolitan land use patterns, site planning, landscaping, building design, and development of multimodal transportation systems.

CDMP Monitoring Measures

A. Revisions to the Florida Building Code, Miami-Dade Zoning Code, and other County development regulations which encourage, support, or require energy conservation will be compiled annually by the Department of Planning and Zoning and reported in the subsequent EAR.
B. Average electrical power consumption per capita and per residential unit will be compared to historical rates. This information will be compiled annually by the Department of Planning and Zoning from data supplied by Florida Power and Light and reported in the subsequent EAR.
C. Ridership rates per 1,000 persons on mass transit (Metrorail, Metromover, and MDTA buses) will be compared to historical rates on an annual basis. Ridership data is monitored and evaluated by the Miami-Dade Transit Agency. The most recent estimates of population prepared by the Department of Planning and Zoning will be used to determine ridership rates, and will be reported in the subsequent EAR.

Objective Achievement Analysis. Objective LU-10 remains relevant and its implementation is ongoing. However, the effectiveness of this objective is not adequately reflected by the current monitoring measures. The following indicators should be considered as replacement monitoring measures for this objective:

- Report on 'green building' activities and initiatives in Miami-Dade County;
- Report on the number of mixed-use projects (vertical and/or horizontal) approved and built in Urban Centers and other areas in the County;
- Report on vehicle miles traveled within Miami-Dade County;

- Measure A for this objective should be retained.

Measure A
This measure monitors revisions to the Florida Building Code (FBC), Miami-Dade County Zoning Code and other County development regulations, which encourage, support, or require energy conservation. The County adopted Ordinance 05-115 in June 2005 amending Chapter 8 of the Code of Miami-Dade Code, creating Section 8-6, which provides for expedited review and approval of building permit applications for green buildings. Certification programs that builders/developers can use that would qualify for the expedited review process are the Leadership in Energy and Environmental Design (LEED) from the U.S. Green Building Council, and the Green Home and Green Building standards from the Florida Green Building Coalition. "Green Buildings," as they are commonly termed, typically use environmentally superior building measures; for example, appliances that conserve water and are energy efficient; are designed to reuse stormwater on site; and avoid negative impacts on local natural habitat. These "green buildings" also take into account their surroundings by locating near mass transit or abandoned brownfield sites. The Miami-Dade Building and Neighborhood Compliance Department reports 4 expedited approvals to date.

The Board of County Commissioners passed in 2005 Resolution No. 1200-05 incorporating sustainable development building measures into the design, construction, renovation, and maintenance of County-owned, financed, and operated buildings. The Board of County Commissioners passed the aforementioned Resolution recognizing that sustainable development building measures are designed to encourage resource conservation, reduce waste generated by construction projects, increase energy efficiency, and promote the health and productivity of residents, employees and visitors in Miami-Dade County.

The Florida Building Code (FBC) regulates Miami-Dade County's construction and development standards, for such projects as the erection, maintenance, and alteration of public and private buildings and structures. The FBC was developed in 2002 and is maintained by the Florida Building Commission and is revised triennially. While the County can make recommendations to revise the FBC, this code cannot be revised on a local level. The reference to amending the FBC should be deleted from the measure of the County's effectiveness in energy efficient development.

Measure B
This measure monitors electrical power consumption countywide and compares current trends with historical consumption rates. Table 2.1-6 below shows that between 2003 and 2009, total electricity consumption increased countywide by approximately 2.7 percent. During this reporting period, electrical consumption per residential unit decreased slightly by 7.1 percent. In addition, per capita consumption decreased slightly, during the reporting period, by 7.3 percent. Thus, the average electrical power consumption per capita and per residential unit is declining in the County.

In March 3, 2009, Miami-Dade County Board of County Commissioners approved Resolution No. 228-09 directing the development of a plan by 2014 to reduce electricity consumption in Miami-Dade County governmental operations by 20% from 2007 consumption levels. The directive comes as a result of the County's efforts to contain electricity costs directly affecting Miami-Dade County's operating budget.

Measure C
This measure monitors changes in mass transit ridership in Miami-Dade County. Data on current mass transit boardings from Miami-Dade Transit Department was analyzed and compared with historical data. Table 2.1-7 below shows that boardings in all three transportation modes generally increased between 2003 and 2009. More specifically, ridership between 2003 and 2009 increased by 30 percent on Metromover, by 29.5 percent on Metrorail and by 31.3 percent on Metrobus. The total mass transit ridership increased by approximately 31 percent. In addition, the total ridership per 1,000 persons for all three modes increased by approximately 22.8 percent during the 2003-2009 reporting period.

Table 2.1-6
Electrical Power Consumption
Miami-Dade County, 2003-2009

	Electric Consumption (Electrical power measured in 1000s Kilowatt Hours)				Customers	
Year	Countywide	Residential	Per Residential Unit	Per Capita	Total Customers	Residential Customers
2003	26,379,216	12,593,363	15,298	5,368	936,083	823,210
2004	26,251,400	12,311,664	14,739	5,173	951,090	835,301
2005	26,637,264	12,494,972	14,727	5,159	966,906	848,446
2006	27,092,059	12,614,845	14,684	5,176	979,084	859,113
2007	27,733,222	12,889,040	14,715	5,223	998,204	875,901
2008	27,255,592	12,533,270	14,159	5,014	1,008,149	885,192
2009	27,101,365	12,597,056	14,212	4,976	1,008,931	886,390

Source: Florida Power & Light, and Miami-Dade Department of Planning and Zoning, 2010
Notes
Figures are based on an annual average and not just taken at end of year

Table 2.1-7
Mass Transit Ridership (Boardings)

Fiscal Year	Metrobus	Metrorail	Metromover	Total	Ridership per 1,000 Persons
2003/04	64,546,632	14,306,084	6,798,887	85,651,603	36,540
2004/05	72,050,370	16,010,189	8,077,052	96,137,611	40,548
2005/06	76,752,965	17,034,513	8,724,904	102,512,382	42,652
2006/07	82,364,607	17,234,964	8,221,687	107,821,258	44,270
2007/08	83,458,376	17,501,283	8,622,729	109,582,388	44,409
2008/09	84,775,337	18,522,752	8,839,156	112,137,245	44,861

Source: Miami-Dade County Transit Agency, Transit Ridership Technical Report, March 2009.

Monitoring measures for this objective indicate that the County is active in promoting energy efficiency and energy conservation through legislation, County programs and initiatives. In addition, the average electrical power consumption per capita and per residential unit is declining and the ridership rates per 1,000 persons on mass transit is increasing during the 2003- 2009. Therefore, Objective LU-10 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The policies requiring changes are listed below. The objective and all other policies remain relevant and should be retained.

Policy LU-10A
This policy outlines certain actions that shall be taken to achieve energy efficiency but does not indicate how these actions should be implemented or achieved. The policy should be strengthened by developing a targeted strategy to achieve infill of underutilized urban areas; including provisions for adequate infrastructure to be made available for the targeted infill areas.

Policy LU-10B
The target date needs to be revised to 2014.

Policy LU- 10E
The policy should be strengthened to promote incentives for energy efficiency and conservation measures.

Objective LU- 10 Monitoring Measures
Replace the existing measures with the following:

- Monitor the number of 'green buildings' built by the public sector and by the County through General Services Administration (GSA).
- Monitor the number of vehicle miles travelled (VMT) against gas consumption on county vehicles through GSA and transit.
- Monitor the number of Mixed-use projects (vertical and horizontal) approved and built in the Urban Centers and other areas.
- Monitor the number of approved building applications that received an expedited review for green building.

Objective LU-11
Miami-Dade County shall take specific measures to promote redevelopment of dilapidated or abandoned buildings and the renovation, rehabilitation, or adaptive reuse of existing structures.

CDMP Monitoring Measures. The reports documenting the methodology for determining the identification of sites suitable for redevelopment potential as referenced in Policy LU-11A will serve as the monitoring measure for this objective.

Objective Achievement Analysis. A methodology for identifying sites with high potential for redevelopment was developed and the description of the model, its application to the March 2003 Property Appraiser File, and the results, are documented in the *2003 Adopted Evaluation and Appraisal Report* (Pg. I-93). The 2003 EAR recommended further testing and refinement of the redevelopment model. Department of Planning and Zoning staff is currently working towards implementing these recommendations. Thus, reliability and validation of the model with respect to accuracy is not yet accomplished; therefore, achievement of Objective LU-11 is pending.

The County has, however, shown its commitment to redevelop blighted areas. In October 2001, Miami-Dade County received $35,000,000 in HOPE VI revitalization grant. The County proposed to redevelop a 58-acre county-owned property that was the site of the recently demolished Scott Homes and Carver Homes public housing developments. The County's redevelopment plan for the site included the development of 57 onsite affordable housing units, during Phase I, and an additional 354 on-site units (which would include not less than 160 of replacement public housing units) during Phase II of the redevelopment process for a total of 411 dwellings. Phase I has been completed. On December 16, 2008, the Board of County Commissioners approved Resolution No. 1417-08 authorizing the award contract for the completion of Phase II of the redevelopment of Scott-Carver, which is scheduled for completion in the latter part of 2012.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The objective and policies requiring changes are listed below.

Policy LU-11A
Revise the policy to report annually the applications of the model and delete dissemination to a particular industry group.

Policy LU-11B
Delete policy as it no longer makes sense to convene a study group given the redevelopment activity in Downtown Miami, Sunny Isles, Miami Beach, and Aventura since the last EAR.

Objective LU-11 Monitoring Measure
Revise by deleting reference to methodology. Add maintenance of annual records of redevelopment activity and potential.

Objective LU-12
Miami-Dade County shall take specific measures to promote infill development that are located in the Urban Infill Area (UIA) as defined in Policy TC-1B or in a built-up area with urban services that is situated

in a Community Development Block Grant (CDBG)-eligible area, a Targeted Urban Area identified in the Urban Economic Revitalization Plan for Targeted Urban Areas, an Enterprise Zone established pursuant to state law, or in the designated Empowerment Zone established pursuant to federal law.

CDMP Monitoring Measures. The reports that identify sites which might be suitable for infill housing and infrastructure assessment as referenced in Policy LU-12A, will serve as the monitoring measure.

Objective Achievement Analysis. The reports that identify sites which might be suitable for infill housing and infrastructure assessment as referenced in Policy LU-12A, have not been done. However, information regarding infill development in the County and in the Miami River Infill Area was used as an alternate approach in monitoring infill development.

In March 2001, in an effort to redevelop and revitalize Miami-Dade County's inner city neighborhoods, the Board of County Commissioners adopted Ordinance No. 01-47 creating *The Infill Housing Initiative* whose purpose is to increase affordable housing for low and moderate-income residents, generate payment of ad valorem taxes, and to redevelop urbanized neighborhoods by eliminating blight of vacant lots, and dilapidated and/or abandoned properties.

In January 25, 2007, the Board of County Commissioners amended Article VII of Miami-Dade County Code pertaining to *The Infill Housing Initiative* in order to clarify the purpose and focus of the initiative and introduce improved control and enforcement measures for the infill initiative (see Ordinance No 07-04). Also, the Board of County Commissioners approved Administrative Order No. 3-44 (effective February 08, 2007) establishing procedures for the implementation and management of the *Infill Housing Initiative*. These procedures carry out the goals of the *Infill Housing Initiative* and are referred to as the *Infill Housing Program*. Administrative Order No. 3-44 charges the General Services Administration (GSA) with the overall responsibility of administering the *Infill Housing Initiative*. This Administrative Order also directed the creation of the Affordable Housing Review Committee (AHRC), which allocates County-owned lots for the *Infill Housing Program*.

During 2008, forty-two (42) homes were completed and sold to qualified families; forty-nine (49) private lots entered the infill program. As of 2009, there were 563 sites available for development. Approximately 388 of those sites are under construction or pending construction; sixty-nine sites were approved; and 106 were conditionally approved. A total of 458 homes have been built and sold through the County's Infill Housing Program; these properties are located within the Urban Infill Area (UIA) or a Community Redevelopment Area, some of which are in the following municipalities: Miami, North Miami Beach, Coral Gables, and Miami Gardens, Florida City, and Homestead.

The Miami River Corridor Urban Infill Plan, which was adopted by the Miami River Commission, promotes homeownership, neighborhood improvement, and increased access to the waterfront through development of the Miami River Greenway. In addition, the Plan identifies neighborhood conservation districts in an effort to preserve the character of the river's surrounding neighborhoods, and provides for public and private investments for infill development and for multi-modal transportation infrastructure improvements along the river corridor. Portions of the Miami River Urban Infill Area are also designated for economic development purposes as Empowerment Zone, Enterprise Zone, and Targeted Urban Areas.

A significant number of residential projects within the Miami River Urban Infill Area are currently in the various stages of the development process. According to May 2009 data from the Miami River Commission, a total 6,156 residential units have been constructed in the Miami River Infill Area. Residential units under construction total 922 and 9,688 units are in the permitting process. Thus, the grand total of residential units provided in the area total 16,766. Some of these projects are part of mix-use developments, which include the development of hotels, retails, restaurants, and marinas.

As indicated above, Miami-Dade County has taken specific measures to promote infill development either in the Urban Infill Area; in a built-up area with urban services that is located in a CDBG-eligible area; in Targeted Urban Areas; within the Enterprise Zone; and in areas located within the Empowerment Zone. Therefore, Objective LU-12 is being achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. The objective and policies requiring changes are listed below. The other policy remains relevant and should be retained.

Objective LU-12
The areas listed for infill development other than the Urban Infill Area need to be revised. The geography chosen should focus on a more specific area. Reference to the CDBG eligible area should be deleted and consideration should be given to urban centers and Community Redevelopment Areas (CRAs).

Policy LU-12A
Revise policy by deleting the reference to underutilized sites as they are included in redevelopment. In addition, the reporting of the findings should be annually and directed to the general public not to a specific interest group.

New Policies for Objective LU-12
Include a policy that addresses incentives and the removal of barriers to infill development.

Include a policy that would promote infill development which supports transit for the workforce population.

Include a policy that would promote joint development incentives and opportunities for infill development adjacent or contiguous to existing and proposed transit service and transit stations.

Include a policy that would provide for the creation of flexible development standards to allow development on small, irregular or otherwise substandard parcels that may occur in older neighborhoods.

Objective LU-12 Monitoring Measure
Replace the existing measure with one that would track building activity on vacant land. This information compiled annually by the Department of Planning and Zoning and reported in the subsequent EAR.

Reorganization of Element

The overall philosophy of the Land Use Element should be maintained and does not require revising. However, this element should be rewritten and reorganized to make it more user friendly to the general public. The introduction to the element should be expanded to more fully explain its purpose. The text of the Interpretation of the Land Use Plan Map should be reviewed, reorganized and streamlined to the extent possible to make it less legalistic and easier to read while retaining the legal integrity of the CDMP. The possible use of graphics such as illustrations or pictures should be considered in the rewrite to help people understand some of the concepts in the text. Whenever a specific geographic area is mentioned for the first time in the narrative, a map showing its location should be added in the text.

The objectives should be reorganized to reflect both growth management and urban growth priorities. To address community design concerns, new objectives and associated policies should be considered. The topics addressed by these new objectives could include urban form, neighborhoods, urban centers, employment centers and mixed-use corridors. Text explaining the purpose of the objective can be added in front of each objective and associated policy cluster. As long as legal requirements are satisfied; goals, objectives and policies can be clarified and simplified.

In addition to the goal, objectives and policies; the Land Use Element also includes an introduction, interpretative text, map series and the adopted Land Use Plan (LUP) map. Recommendations to these portions of the Element are addressed in Chapter 4, Conclusions and Proposed Revisions.

2.2 TRANSPORTATION ELEMENT

Objective TE-1
Miami-Dade County will provide an integrated multimodal transportation system for the circulation of motorized and non-motorized traffic by enhancing the Comprehensive Development Master Plan and its transportation plans and implementing programs to provide competitive surface transportation mode choice, local surface mode connections at strategic locations, and modal linkages between the airport, seaport, rail and other inter-city and local transportation facilities. These plans and programs shall seek to ensure that, among other objectives, between 2004 and 2010 Miami-Dade Transit Agency boardings will increase at a rate equal to or greater than the rate of resident population growth during this period.

CDMP Monitoring Measures. The following adopted monitoring measure was used to evaluate the progress made in achieving this objective:

- Number of transportation plans prepared and adopted by State, Regional and local governments reviewed during the EAR reporting period; and review and analyze Metrorail, Metrobus and Metromover boarding and compare the boarding rates with the County's population growth rates for same period.

Objective Achievement Analysis. The Metropolitan Planning Organization's (MPO) Transportation Improvement Plan (TIP), which is revised annually, has been updated seven times (2003 through 2009), and the Long Range Transportation Plan (LRTP) has been updated twice (November 2004 and October 2009) during this reporting period. The following boards and committees assist the MPO in developing the TIP and LRTP: Metropolitan Planning Organization Governing Board, Transportation Planning Council (TPC), Transportation Planning Technical Advisory Committee (TPTAC), Transportation Improvement Program Steering Committee (TIPSC), Citizens' Transportation Advisory Committee (CTAC), Bicycle/Pedestrian Advisory Committee (BPAC), Long Range Transportation Plan Steering Committee (LRTPSC), and the Transportation Aesthetics Review Committed (TARC). The following State, Regional and County agencies and departments and municipalities are represented in some of the technical committees: Florida Department of Transportation (FDOT); Florida's Turnpike Enterprise (FTE); Florida Department of Environmental Protection (FDEP); South Florida Regional Planning Council (SFRPC); South Florida Transportation Authority (Tri-Rail); Broward County MPO; Miami-Dade Expressway Authority (MDX); Miami-Dade County Department of Planning and Zoning (DP&Z), Public Works Department (PWD), Department of Environmental Resources Management (DERM), Miami-Dade Transit (MDT), MPO Bicycle/Pedestrian Coordination, Seaport Department, and Aviation Department; Miami-Dade League of Cities; and the Cities of Miami, North Miami, Miami Beach and Hialeah. The citizens' advisory committees are formed by community leaders concerned with transportation issues and professionals in the field of architecture, engineering, and other disciplines. All these committees review all the programmed and planned projects that are listed in the TIP and LRTP and prepared by the FDOT, MDX, SFRTA, and Miami-Dade County MDT, PWD, Aviation Department and Seaport Department for operational need, transportation mode choice, and modal linkages between major generators and attractors. All changes to the TIP and LRTP need to be reflected in the CDMP.

As a result of the current economic downturn all transportation plans have been revised and the number of programmed and planned capital improvements reduced. The latest update of the LRTP, the Year 2035 LRTP, was a major refinement of the 2030 LRTP. This update resulted in a complete reassessment of the future capital and operational needs for the County's multimodal network, including but not limited to, the future traffic circulation network, mass transit system, aviation and seaport systems. The 2035 LRTP reflects a 21% reduction in projected revenues relative to the 2030 LRTP. However, the 2035 LRTP has emphasis on systems management and operations on existing transportation system and limited system expansion. Details regarding this major update of the LRTP on the traffic circulation network, mass transit system, aviation and seaport

systems are discussed further in the Traffic Circulation, Mass Transit, Aviation, Port of Miami River and Port of Miami Subelements of this Element. As a result of this major update, the Transportation Element and subelements will be adjusted to reflect the October 2009 LRTP Update and the findings of this evaluation activity, in keeping with the goals, objectives and policies of the CDMP.

During this reporting period, Miami-Dade Transit's combined ridership for Metrobus, Metrorail, Metromover, and Special Transportation Services grew from 86,843,010 in 2003 to 114,802,110 in 2008, or approximately 32.19 percent (see Table 2.2-1). The County's population was estimated to grow from 2,344,033 in 2003 to 2,499,667 in 2008, or approximately 6.64 percent (see Table 2.2-2). Therefore, the transit ridership increased at a greater rate than the resident population growth during the same reporting period. The tables below show the transit ridership by transit mode of service and the estimated population projections for the reporting period.

In conclusion, the intention of this objective continues to be achieved; the objective is on-going, remains relevant and should be retained. However, the targeted period to achieve the requirement of Objective TE-1 that transit boarding should increase at a rate equal to or greater than the rate of the population growth during the EAR reporting period should be deleted since the goal of the County is to increase transit ridership.

Table 2.2-1
Miami-Dade Transit Ridership Data
Boarding By Transit Mode

Annual Boarding	Metrobus	Metrorail	Metromover	STS	Totals
2003	64,546,632	14,306,084	6,798,887	1,191,407	86,843,010
2004	72,050,370	16,010,189	8,077,052	1,288,305	97,425,916
2005	76,752,965	17,034,513	9,444,910	1,454,361	104,686,749
2006	82,364,607	17,234,964	8,221,687	1,576,552	109,397,810
2007	83,751,383	17,075,266	8,769,924	1,669,284	111,265,857
2008	85,789,745	18,538,741	8,839,156	1,634,468	114,802,110
Totals	465,255,702	100,199,757	50,151,616	8,814,377	624,421,452

Source: Miami-Dade Transit's Transit Development Plans (2003-2008)

Table 2.2-2
Population Projections
Components of Change
Miami-Dade County, Florida: 2000 to 2010

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

Source: U.S. Bureau of the Census, Decennial Census 2000.
Post-2000 figures, Miami-Dade Planning & Zoning Department, Research Section, 2007.

Policy TE-1A of this Element calls for "…the County to promote mass transit alternatives to the personal automobile, such as rapid transit (i.e. heavy rail, light rail and express buses), fixed route bus and paratransit services." Transit service is coordinated with the location, intensity and density of designated future land uses as identified on the County's Adopted 2015 and 2025 Future Land Use Plan Map, and service extensions are based upon population and employment projections, which are derived from the land use categories of the CDMP Land Use Plan Map.

Miami-Dade Transit (MDT) operates four modes of mass transit: Metrobus, Metrorail, Metromover, and Special Transportation Services. This integrated multimodal transit system services most of the urbanized area of Miami-Dade County and provides transportation alternatives to the personal automobile. With the passage of the half-cent sales tax increase by the voters of Miami-Dade County on November 5, 2002, MDT was able to use some of the funds generated by this dedicated source of revenues to improve bus service, rapid transit and major highways and roadways. However, the economic downturn experienced by the country since 2008 has reduced the funds available to MDT which was forced to adjust some of the existing transit services and eliminate the least rode bus routes. In addition to the half-cent sales tax, MDT has been evaluating other alternative sources of revenue including farebox/faregate, parking passes, advertising permits, leases, joint development, and other non-operating revenues.

MDT's service area covers approximately 81.4 percent (342 square miles) of the County's Urban Area (approximately 420 square miles, excluding bay and ocean waters). In 2003, MDT operated 90 bus routes seven (7) days a week, twenty-four hour per day; in 2008, MDT operated 115 bus routes; and in 2009, MDT operated a total of 94 routes. The decrease in bus routes between 2008 and 2009 is also due to the implementation of MDT's system-wide Service Efficiency and Restructuring Initiative (SERI), a consolidation of services which has reduced the number of bus routes by consolidating and re-aligning some of the bus routes to its current level. Also, included in the SERI is the coordination of services between MDT and the municipalities that operate municipal circulator bus service within the County. Since 2003, the number of municipal circulator bus service has increased from five to 21. This increase in municipal circulators has also warranted certain adjustments in MDT's Metrobus system to avoid service duplication and coordination of County and municipal bus service. MDT introduced new direct express service (95 Express) along I-95 between the Fort Lauderdale Tri-Rail Station located at Broward Boulevard and I-95 and Downtown Miami. This is a non-stop service every 15 minutes during weekday rush hours. Also, as part of the bus service adjustments in 2009, MDT introduced another express bus route, the Airport Flyer (Route 150), which provides express service between Miami International Airport (MIA) and Miami Beach. The Airport Flyer provides service from 6 a.m. to 11 p.m., seven days a week.

Metrorail, the heavy rail portion of Miami-Dade County's transit system, provides service to 22 stations on a 22.6-mile electrified line. The Metrorail system interfaces with two other passenger rail systems, the Tri-Rail (commuter rail) and Metromover (automated people mover). Metrorail began service in 1984 with the last major expansion of the system completed in May 2003. Currently, the system is being extended 2.5 miles from the existing Earlington Heights Station to the Miami Intermodal Center (MIC), which is currently under construction, and will serve MIA via a new automated people mover that will connect the airport to the MIC.

MDT also operates an Automated People-Mover (APM) system or Metromover. The Metromover system includes a 1.9-mile Inner Loop serving the core of Downtown Miami, which opened in 1986; and a 2.5-mile Outer Loop serving the Adrienne Arsht Center for the Performing Arts Center area to the north and the Brickell Avenue area to the south. Metromover operates free of charge and has 21 stations.

In 1997, the MDT completed the 8.5-mile South Miami-Dade Busway, a roadway facility built to provide for exclusive Metrobus service from Dadeland South Metrorail Station to the Southland Mall area of Cutler Bay, located along South Dixie

Highway (SR 5/US 1) and SW 211 Street. During this EAR reporting period, MDT has completed the extension of the Busway from Southland Mall to SW 264 Street (2005) and from SW 264 Street to SW 344 Street in the City of Homestead (2007). Together the extensions added approximately 11.5 miles to the Busway system, 13 stations, and two additional park/ride facilities, with a third one currently under design and planned for construction at the Busway's southern terminus at SW 344 Street.

In addition to the various fixed-route transit modes, MDT operates a demand-response service known as Special Transportation Service (STS). The STS is a shared-ride, door-to-door transportation service for qualified individual with disabilities who are unable to utilize the fixed route system. The service covers most of urbanized Miami-Dade County and south to mile marker 50 along US 1 in central Monroe County. Service is provided by sedans, vans and lift-equipped vehicles, seven days a week, 24- hours a day. Moore details regarding transit service and improvements are discussed further in the Mass Transit Subelement Section of this report.

Policy TE-1B requires the County "…to maintain programs for optimal development and expansion of the Port of Miami and aviation systems, and continue to support viable operation and enhancement of the Port of Miami River." Miami-Dade County Aviation Department (MDAD) continues to improve the county's aviation system capacity through the development of facilities and operational improvements to make Miami International Airport more competitive and to meet future forecast. MDAD has a large ongoing capital improvement program aimed at the renovation and expansion of existing and construction of new facilities to meet current and future passenger, cargo and general aviation demands at County airports, especially the MIA. More detail regarding programs for development and expansion of the aviation facilities are described in the Aviation Subelement of this report.

In 1998, the Florida Legislature created the Miami River Commission (MRC) as the official clearinghouse for all public policy and projects related to the Miami River Corridor, a 5.5-mile navigable river which stretches from NW 36 Street to the mouth of the River. The MRC coordinates state, regional and local activities affecting the River. In April 2000, the Florida Legislature authorized the MRC, the City of Miami and Miami-Dade County to create the *Miami River Corridor Urban Infill Plan (2002)*, in part to plan for future infill development within portions of the river corridor. As of December 2009, 7,078 new residential units have been completed and 9,688 units have preliminary approval, but none are under construction. Also, the MRC has been implementing the *Miami River Corridor Multimodal Transportation Plan (2007)*, which includes short-sea shipping which would load seaport freight on a barge for offloading in the industrial district, thus removing cargo traffic from downtown streets. In addition, the plan recommends a centralized freight forwarding center connecting to the existing rail lines and Miami International Airport. The Miami River maintenance dredging and environmental cleanup was completed in November 2008, and 3.25 miles of the 10 miles of the Miami River Greenway have been completed. More sections of the Miami River Greenway are funded and designed for construction in 2010-2011. Additional information regarding the plan for the redevelopment and expansion of the Port of Miami River Corridor is provided in the Port of Miami River Subelement of this report.

The Port of Miami (POM) has witnessed the introduction of larger vessels in terms of size and passenger capacity that allows cruise lines to create greater efficiencies while offering expanded choices to their consumers. The growth in size of vessels affects the Port's ability to handle the passenger demand and requires renovations and expansions in order to accommodate the increased demand. Consequently, the POM's 2020 Conceptual Master Development Plan is currently being updated. The Master Development Plan accounts for the increase of cargo and passenger projections and the redevelopment necessary to maintain the Port's position as the world's largest cruise port. To continue its position as a world-class facility, the POM is continuously preparing for the next generation of cruise vessels. An ambitious capital improvement program has been underway. Completed in 2007 were two ultra-modern passenger cruise terminals, Terminals D and E.

Also, the POM in its effort to better service its cruise passengers recently unveiled a $15 million parking facility, Parking Garage D. The new garage serves two state of the art terminals recently constructed for the world's largest multi-day cruise operator, Carnival Cruise Lines. More details regarding the plan for the development, redevelopment and expansion of the POM is further discussed in The Port of Miami Master Plan Subelement.

Policy TE-1C calls for the County "…to ensure that other transportation agencies' plans provide high quality intermodal connections at optimal transfer points, including the Port of Miami tunnel, MIA west-side cargo area access improvements such as the NW 25 Street viaduct, and the Miami Intermodal Center (MIC)." As stated above, County staff reviews FDOT's Five-Year Work Program, MPO's TIP and LRTP, MDT's Transit Development Plan (TDP), and other regional and local governments' transportation plans. The construction of the MIC Rental Car hub and roadway access improvements are currently under construction and scheduled for completion in 2010. The 2.5-mile Metrorail extension from the existing Earlington Heights Station to the Miami Intermodal Center (MIC), which is currently under construction, will serve the MIA via a new automated people mover that will connect the airport to the MIC. Construction documents for the Miami Central Station were completed and construction will begin in July 2010 and is scheduled for completion in August 2012. The MIA Mover Connector is currently under construction and is anticipated to be completed and operational by September 2011. Construction of the NW 25 Street viaduct began in July 2007 and is schedule for completion in July 2011. On October 5, 2009, the state of Florida and the Miami Access Tunnel (MAT) consortium reached final accord on the construction of the Port of Miami tunnel as a public-private partnership. Construction of the tunnel will begin in approximately seven months with actual boring beginning in two year. The tunnel is expected to be open to the public in 55 months.

Policy TE-1D lists a number of transportation projects to be developed with the time frame of the CDMP (2015-2025). Of all the projects listed in this policy, only the Miami Intermodal Center is currently under construction. The MIC is scheduled for completion in August 2012. With regard to the Downtown Miami Transportation Center, Northeast Miami-Dade Terminal and Douglas Road Transit Center, these projects are still in the planning stages. Also, some park-and-ride facilities along the Busway have been developed as reported above.

Policy TE-1E calls for the County to "…promote improved intermodal linkages for the movement of passengers and freight, including the consideration of waterborne transportation." As indicated above the Busway corridor was completed in 2007. In addition, the I-95 Express Lanes Project, which consists of providing two express travel lanes on both direction between SR 836/I-95 in Miami-Dade Count and I-595 in Broward County, is currently being conducted in two phases. Phase 1 (consisting of Phase 1A and Phase 1B) began in February 2008 and was completed in the spring of 2010. Phase 1A, which included work on the northbound travel lanes of I-95 from SR-112/I-95 to the Golden Glades area north of NW 151 Street was completed in December 2008. Phase 1B began in the summer of 2008 and is expected to be completed by spring 2010. This phase will establish express lanes along the southbound of I-95 from the Golden Glades area to SR 836. Phase 2, which will cover the area between I-595 in Broward County and the Golden Glades area, is currently unfunded. A separate contract will be awarded for this phase of the project, and the contractor will provide a separate construction scheduled. Other major intermodal projects include: the 2.5-mile extension of the Metrorail from the Earlington Heights Metrorail Station to the Miami Intermodal Center, the MIA Mover Connector between the airport and the MIC, currently under construction and scheduled for completion in 2012; and the Port of Miami (POM) Tunnel, which is expected to be open to the public in 2014. In addition, numerous transportation improvements are programmed, planned, or in the planning stage that will improve intermodal linkages in Miami-Dade County. These transportation projects will be developed within the time frame of the CDMP. With regard to the Downtown Miami Transportation Center, Northeast Miami-Dade Terminal and Douglas Road Transit Center, these projects are still in the planning stages.

Policy TE-1F requires the County to vigorously implement the transit-supportive Land Use Element policies including, but not limited to, Urban Center guidelines in association with planned rapid transit facilities. The County continues to implement Land Use Element, Traffic Circulation and Mass Transit Subelement policies directed to discourage the use of single occupant vehicles (SOVs) and reduce traffic congestion with the designation of urban centers at location having high countywide multimodal accessibility, development of master plans for development or redevelopment of the planned urban centers, and the adoption of zoning ordinances to implement those plans. During this EAR reporting period, the County has adopted eight ordinances creating the Naranja Community Urban Center (CUC) Zoning District (2004); Goulds and Princeton CUC Zoning Districts (2005); Ojus Urban Area District, Perrine CUC Zoning District, and Cutler Ridge Metropolitan Urban Center Zoning District (2006); Leisure City CUC Zoning District (2007); and Model City CUC Zoning District (2010). Currently, the County is in the process of rezoning the Leisure City CUC and the North Central Urban Area District, developing master plans and implementing zoning ordinances for the Bird Road/SW 40 Street Corridor, and the designation on the Adopted 2015 -2025 Land Use Plan map of the Country Club of Miami Community Urban Center.

The Adopted Population Projections for Miami-Dade County from 2000 to 2025 reveal that the population of the County increased from 2,344,033 people in 2003 to 2,499,667 in 2008, or approximately 6.64% (see Table 2.2-2). Mass Transit boarding, on the other hand, increased from 86,843,010 in 2003 to 114,802,110 in 2008, or approximately 32.20% (see Table 2.2-1). Therefore, transit boarding did increase at a higher rate than the resident population growth during the reporting period. Consequently, the part of Objective 1 that address transit boarding has been achieved.

In conclusion, Miami-Dade County has made substantive progress in achieving Objective TE-1. However, the County acknowledges that more needs to be done and is striving to fulfill the intent of this objective. With the adoption of the half-cent sales tax and the implementation of the People's Transportation Plan several proposed rapid transit, bus service and roadway and highway improvements have helped alleviate roadway congestion and hopefully encourage more transit ridership. This objective remains relevant, is ongoing and should be retained. However, the target date to achieve the requirement of this objective that the transit boarding should increase at a rate equal to or greater than the rate of population growth during the reporting period for the next EAR should be deleted since the goal of the county is to achieve more transit ridership.

Policy Relevance. All policies under this objective were reviewed for continued relevance. Since all such policies are directive in nature and continue to have relevance, they should be retained. However, Policy TE-1D should be amended to delete the Miami Intermodal Center (MIC) of the list of intermodal facilities development under this policy. The reason is because the MIC is currently under construction and scheduled for completion in 2012.

Objective TE-2

In furtherance of pedestrianism as a mode of transportation encouraged in the planned urban area, by 2008 Miami-Dade County shall enhance its transportation plans, programs and development regulations as necessary to accommodate the safe and convenient movement of pedestrians and non-motorized vehicles, in addition to automobiles and other motorized vehicles.

CDMP Monitoring Measures. The following adopted monitoring measure was used to evaluate the progress made in achieving this objective:

- Number of bicycle and pedestrian facilities reviewed through site planning and plat reviews, and number of reviews of other transportation improvement plans; and implementation status of the Miami-Dade Bicycle Facilities Plan.

Objective Achievement Analysis. Miami-Dade County continues to promote and assists in the creation of a countywide system of interconnected designated bicycle ways through the implementation of the Miami-Dade Bicycle Facilities

Plan, review of transportation plans, and site plans and plats.

The Miami-Dade Bicycle/Pedestrian Program operates within the MPO Secretariat Office, which has the responsibility to oversee the development of the county's transportation plan. The MPO Bicycle/Pedestrian Coordinator reviews and may recommend specific designs of bikeways, special projects and maintenance practices. However, the county's PWD takes the initiative to design and develop bikeway projects, or when requested by others. The FDOT District 6 Bicycle/Pedestrian Coordinator is a liaison between FDOT and Miami-Dade County, manages the funding of grants awarded for various projects and provides information to support FDOT District 6's highway and transit projects. The Bicycle/Pedestrian Advisory Committee (BPAC), comprised of citizens appointed by the MPO Governing Board, reviews transportation projects for consistency with the Bicycle Facilities Plan and makes recommendations for improvement of the plans. The functions and responsibilities of the Committee involve, but not limited to, bicycle and pedestrian mobility planning, plans review, plan implementation/coordination, as well as encouragement and educational activities.

Since 2003, 53.5 miles of new bicycle lanes and paved paths have been added in Miami-Dade County (29 miles of new bike lanes and 24.5 miles of new shared-use paths). See Table 2.2-3 below.

Table 2.2-3
Bicycle Facility Mileage

	2003	2003-09	TOTAL
Bike Lanes	18.7	29.0	47.7
Shared-Use Paths	108.6	24.5	133.1
TOTAL	127.3	53.5	180.8

Source: MPO Bicycle/Pedestrian Coordinator, October 2009

Bicycle facilities are off-road and on-road facilities. Off-road facilities vary in form and function; some may be simple wider sidewalks and paths. On-road facilities are marked bike lanes along major corridors. The existing roadway network provides the foundation of the on-road bicycle network. On-road bicycle facilities are part of a road and are designated by striping, signs and markings for the preferential use by bicyclists. Shared-use paths are physically separated from a roadway or built in a separate right-of-way. New bicycle lanes have been created by FDOT, MDPWD, and the cities of Miami and Miami Beach through new road construction and the re-striping of existing roads. New shared-use paths have been constructed by MDT, MDX, MDPW, Miami-Dade Park and Recreation Department, and the City of Miami Beach as free-standing projects and as part of other transportation projects (e.g., the South Miami-Dade Busway).

There are over 30 potential greenway corridors identified through the South and North Dade Greenways Master Plans. The projects will utilize canal, railroad and transit rights-of-way. Sections of some of these corridors have been completed, are under construction, or funded for construction in the MPO's 2010 TIP. Table 2.2-4 below shows the non-motorized transportation improvements completed during this reporting period.

The MPO Bicycle/Pedestrian Advisory Committee reviews and comments on the programmed and planned transportation projects in the TIP and the LRTP, and staff of the MPO Bicycle/Pedestrian Coordination Office also reviews all transportation related projects through the Advance Notification review process and offers comments to improve and promote pedestrian and bicycle safety, comfort and attractiveness.

Table 2.2-4
Non-Motorized Facilities Since 2003

Name/ Location	Segment	Length/ miles
Jose Marti Park Riverwalk	SW 2 Avenue to Riverwalk Station	3.20
East Allapatha Greenway	On North River Drive	
Snake Creek Canal	NE 15 Avenue to W. Dixie Highway	4.00
Miami Riverwalk	NW 1 Street to NW 2 Street	0.10
North Beach Corridor 2	75 Street to 65 Street	1.00
North Beach	64 Street to 53 Street	1.00
South Beach	5 Street to Dade Boulevard	1.70
Lumus Park Riverwalk	I-95 to NW 4 Street	0.25
Biscayne/Black Creek Trails	Old Cutler Road to Black Point Park	11.50
Overtown Greenway	NW 3 Avenue to NW 7 Avenue	1.20
Dade Boulevard	(Miami Beach)	4.25
South Busway	SW 112 Avenue to SW 344 Street	11.50
SW 97 Avenue	SW 40 Street to SW 72 Street	2.00
SW 137 Avenue	NW 12 Street to SW 8 Street	1.50
SW 328 Street	US 1 to SW 152 Avenue	2.40

Source: Metropolitan Planning Organization, Miami-Dade County, April 2010.

In 1995, Miami-Dade Transit (MDT) began the bike on buses program to outfit its buses with racks that carry two bicycles. Now, the entire bus fleet is equipped with bicycle racks.

On July 13, 1999, the BCC adopted Ordinance No. 99-81 establishing bicycle parking requirements for bicycle parking, bicycle racks and other means of storage. Bicycle parking is now required for all parks, shopping centers, offices, restaurants and other uses, other than airport or seaport terminals, single family, duplex or townhouse which are exempt, to provide racks or other means of storage at rates which are based on the total number of vehicle parking spaces required. Bicycle parking is required to be located near the entrances to the buildings, in a highly visible, well lighted location with enough clear space to facilitate easy use.

Miami-Dade County has a program for sidewalk improvements. The Quality Neighborhood Improvements Program (QNIP) is an ongoing program, which provides for the construction of new sidewalks and the restoration of existing sidewalks and pedestrian paths. Pedestrian improvements funded by this program include the provision of ADA curb cuts, repairs of existing sidewalks, and construction of new sidewalks/pedestrian paths to provide continuity and access to schools and public facilities. Both FDOT and Miami-Dade Public Works Department have developed design guidelines for incorporating sidewalks and bicycle facilities in roadway projects. Between 2003 and 2009, the PWD has built approximately 435 miles of new sidewalks.

In conclusion, Objective TE-2 has been implemented, continues to be relevant and should be retained. However, the target date in this objective should be changed from "2008" to "2017".

Policy Relevance. All policies under this objective were reviewed for continued relevance. Since all such policies are directive in nature and continue to have relevance, they should be retained. However, Policy TE-2B should be modified to eliminate the target year since this policy is directive in nature, relevant and ongoing. No changes to the text of the policies are presently recommended.

Objective TE-3
As provided in the policies hereinunder, Miami-Dade County shall cooperate with the Metropolitan Planning Organization for the Miami Urbanized Area (MPO) to enhance Miami area planning procedures, methodologies and analytical tools to improve analysis of relationships between transportation facility plans and programs, and local land use plans, development standards and implementing programs.

CDMP Monitoring Measure. The following adopted monitoring measure was used to evaluate the progress made in achieving this objective:

- Number of changes to the procedures, methodologies and analytical tools proposed or adopted as a result of updates of the Long Range Transportation Plan (LRTP); and number of land use changes as a result of coordinating land use and transportation planning.

Objective Achievement Analysis. The MPO's LRTP was revised twice during this reporting period in December 2004 and October 2009. Objective TE-3 calls for County agencies to "…cooperate with the MPO to enhance the planning procedures, methodologies and analytical tools to improve analysis of relationship between transportation plans and programs and local land use plans…" It is the policy of Miami-Dade County that county agencies (DP&Z, MDT, MDAD, PWD, POM), Port of Miami River, and all state and regional transportation agencies (FDOT, MDX, FTE, and SFRTA), cooperate and work with the MPO to better coordinate transportation and land use planning, enhance the intermodal qualities of the transportation system, and enhance the intermodal qualities of the transportation analysis and plans. The LRTP Steering Committee, TPTAC, BPAC, CTAC, and the TARC also reviewed the update of the TIP and LRTP. As previously indicated, the 2035 LRTP (October 2009) was a refinement and enhancement of the previous Year 2030 LRTP (November 2004). The 2035 plan was updated using existing as well as new strategies. The existing strategies include Congestion Management strategies (Point and segment improvements, Transportation Demand Management and multimodal improvement) and Non-motorized strategies (bicycle and pedestrian facilities). The new strategies include Technological strategies (Open road electronic tolling), Tolling strategies (Managed lanes and Special Use lanes), Telecommunication, and Transit. In addition, a new LRTP development process was used which considered Congestion Management financial set-aside, Freight Movement plan, regional coordination and development of a Regional Long Range Transportation Plan, and intensive public involvement. The public involvement consisted of a series of workshops by planning areas (12 meetings), Block and Ribbons exercise, and surveys (option finders and interactive LRTP website). The current 2035 LRTP (October 2009) differs from the 2030 LRTP (November 2004) in that there was a reduction by 21% in projected revenues.

Several changes to the Land Use Plan map, Traffic Circulation, Mass Transit and Aviation Subelements were adopted as a result of Applications to amend the CDMP and transportation planning changes approved during this reporting period. These changes are listed below.

- Amended the Adopted 2015 and 2025 LUP map and Traffic Circulation Subelement Figures 1 (Planned Year 2025 Roadway Network), Figure 3 (Roadway Functional Classification – 2025), and Figure 4 (Limited Access Roadway Facilities -2025), to add extensions of NW 154 Street, NW 170 Street, NW 97 Avenue, and NW 107 Avenue, a new interchange at the Homestead Extension of the Florida Turnpike (HEFT) and theoretical NW 170 Street, and extend the Urban Development Boundary (UDB) to include the application site subject of the amendment. (April 2005-2006 CDMP Amendment Cycle, Ord. Nos. 06-43; 2006 Remedial Amendment to the CDMP, Ord. 06-116).

- Amended Concurrency Management Program of the Capital Improvement Element to address state statutory requirements regarding Proportionate Fair-share mitigation option and methodology for transportation facilities. (October 2005-2006 CDMP Amendment Cycle; Ord. No. 06-139).

- Amended the Adopted 2015 and 2025 Land Use Plan map and Mass Transit Subelement Figure 2, "Future Mass Transit System – 2025", to reflect addition of a Regional Activity Center and a Transit Center at the intersection of NW 12 Street and NW 107 Avenue, respectively. (April 2007-2008 CDMP Amendment Cycle; Ord. No. 08-43).

- Amended the Adopted 2015 and 2025 Land Use Plan map and Figure 1, Planned Year 2025 Roadway Network, to depict SW 344 Street from SW 192 Avenue to SW 182 Avenue on the LUP as a Major Roadway and as a four-lane roadway on Figure 1. (April 2006-2007 CDMP Amendment Cycle; Ord. No. 07-52).

- Amended the Adopted 2015 and 2025 LUP map and Traffic Circulation Subelement Figure 1, Planned Year 2025 Roadway Network, to

move the Urban Development Boundary along the center line of North Kendall Drive (SW 88 Street) and west along theoretical SW 172 Avenue on the LUP and depicts a new SW 172 Avenue from North Kendall Drive to theoretical SW 88 Street on Figure 1. (April 2007-2008 CDMP Amendment Cycle, Ord. No. 08-47).

- Amended Land Use Element and Aviation Subelement to change land use designation for Opa-locka West Airport from "Terminal" to "Open Land"; update the Aviation Facilities maps (Figures 1 and 2), airport schematic maps (Figures 3 through 8); and add four new Airport Land Use Master Plans depicting land uses at County airports to the map series of the Aviation Subelement. Revise text of the Land Use Element Section titled "Transportation" and add new Policy AV-7E in the Aviation Subelement. (April 2007-2008 CDMP Amendment Cycle; Ord. No. 08-47).

- Amended Land Use Element and Aviation Subelement of the Transportation Element to revise the text of the Transportation land use category and the Aviation Facilities Improvements Section, respectively, limiting the percentage range of non-aviation related uses at Kendall-Tamiami Executive and Miami International Airports. (April 2008-2009 CDMP Amendment Cycle; Ord. No. 09-28).

- Amended the Land Use Element and Aviation Subelement of the Transportation Element to eliminate references to Opa-locka Executive, Kendall-Tamiami Executive, Homestead General Aviation, and Miami International Airports' landside and airside areas in order to properly distinguish aviation and non-aviation uses on Miami-Dade Aviation Department owned property, and re-designate certain airport-owned properties at Opa-locka Executive and Miami International Airports to "Terminal" on the Adopted 2015 and 2025 Land Use Plan map. (October 2008-2009 CDMP Amendment Cycle; Ord. No. 09-89). In addition, the texts in the Aviation Subelement and Land Use Element were revised to allow for gaming establishment but limited to Miami International Airport. (October 2008-2009 CDMP Amendment Cycle; Ord. No. 09-90).

In conclusion, progress has been made in achieving Objective TE-3. This objective is directive in nature, continues to be relevant and should be retained. It should be pointed out that the Department of Planning and Zoning has requested the MPO to fund a study to evaluate the current methodology used to develop the Long Range Transportation Plan (LRTP) in order to make the plan goal oriented and more sustainable by allowing for an iterative planning process that would result in a better integration of a transportation system supported by a more desirable distribution of land use. The study which was approved in February 2010 is scheduled to be completed in September 2011.

Policy Relevance. All three policies under this objective are directive in nature, remain relevant and should be retained.

2.2.1 Traffic Circulation Subelement

This section of the EAR evaluates the progress made in achieving the adopted Traffic Circulation Subelement objectives as of the date of this report. Objective achievement analysis involves the use of information outlined in the adopted monitoring measures to monitor progress and assess achievement of the various objectives of this subelement. If a listed monitoring measure could not be used to adequately address a particular objective, an appropriate surrogate measure was developed and applied to evaluate objective achievement. In instances where neither a listed monitoring measure nor a surrogate measure could be used or adequately developed, then objective achievement was evaluated through a policy implementation assessment. Each Transportation Circulation Subelement objective is listed below followed by a description of the monitoring measure associated with that objective, an objective achievement analysis, and a policy relevancy analysis.

An analysis of policy relevance is also discussed below. All policies under each subelement objective are reviewed for continued relevance, but only those policies which may require some revision are identified and addressed.

Objective TC-1
It is desirable that all roadways in Dade County operate at level of service (LOS) C or better. By the year 2010 no roadways in Miami-Dade County should operate at a level of service lower than the base level of service standard contained herein.

CDMP Monitoring Measures. The following is the adopted monitoring measure for this objective:

- Attainment of adopted traffic circulation level of service standards.

Objective Achievement Analysis. Policy TC-1B under this objective establishes the County's adopted minimum acceptable peak-period[1] operating level of service (LOS) standards for all State and County roads in Miami-Dade County. The adopted roadway LOS standards vary depending on the classification of the roadway, the location of the roadway, and the availability of transit. Table 2.2.1-1, Peak-Period Roadway LOS Standards, below, summarizes the adopted LOS standards for all state and county roads in Miami-Dade County.

Policy TC-1C calls for the County to maintain and enhance a comprehensive traffic count system for annually monitoring the level of service on, at a minimum, the County roadway system. Level of service conditions in the County are monitored and evaluated on a monthly basis by the Miami-Dade County Public Works Department as required by the County's Concurrency Management System (Ordinance No. 89-66 and Administrative Order 4-85). The operating LOS condition is derived from traffic count data collected annually by Miami-Dade County Department of Public Works and the Florida Department of Transportation (FDOT).

Roadway LOS standards are expressed as a volume-to-capacity (v/c) ratio, which is the ratio of the number of vehicles to the road capacity during peak hour. Peak roadway capacities for County roadways were determined using FDOT's ARTPLAN spreadsheet model and the Generalized Level-of-Service Tables for State roadways.

The FDOT has adopted statewide minimum level of service standards (Rule 14-94, F.A.C.) for the state roadway facilities. In 2009, the Florida Legislature passed legislation altering some of the requirements for local governments to establish LOS standards for state transportation facilities. The new requirements provide for local governments to consult with FDOT, as provided by Section 163.3180(5), (7), or (15), F.S., regarding LOS standards on roadways of the Strategic Intermodal System (SIS), Florida Intrastate Highway System (FIHS), or funded by the Transportation Regional Incentive Program (TRIP). Miami-Dade County will review and amend, if necessary, its adopted LOS standard on the SIS, FIHS and TRIP funded facilities accordingly.

[1] Peak-period means the average of the two highest consecutive hours of traffic volume during a weekday.

Table No. 2.2.1-1
Peak-Period* Roadway LOS Standard
Non-FIHS Roadways

Location	Transit Availability		
	No Transit Service	20 Min. Headway Transit Service Within 1/2 Mile	Extraordinary Transit Service (Commuter Rail or Express Bus)
Outside UDB	LOS D-State Minor Arterials LOS C-County Roads and State Principal Arterials		
Between UIA and UDB	LOS D (90% of Capacity); or LOS E on SUMAs (100% Capacity)	LOS E (100% of Capacity)	120% of Capacity
Inside UIA	LOS E (100% of Capacity)	120% of Capacity	150% of Capacity

FIHS Roadways					
FIHS Facility	Location				
	Outside UDB	Inside UDB	Roadways Parallel to Exclusive Transit Facilities	Inside Transportation Concurrency Management Areas	Constrained or Backlogged Roadways
Limited Access Facilities	B	D [E]	D [E]	D [E]	Manage
Controlled Access Facilities (Two Lanes)	C	D	E	E	Manage
Controlled Access Facilities (Four or More Lanes)	B	D	E	E	Manage

Source: Miami-Dade County Comprehensive Development Master Plan, October 2006 Edition As Amended Through May 6, 2009.

Notes: LOS inside of [brackets] applies to general use lanes only when exclusive through lanes exist.
FIHS = Florida Intrastate Highway System
UIA = Urban Infill Area – Area east of, and including NW/SW 77 Avenue and SR 826 (Palmetto Expressway), excluding the City of Islandia, and excluding the area north of SR 826 and west of I-95.
UDB = Urban Development Boundary
SUMA = State Urban Minor Arterial
*Peak Period means the average of the two highest consecutive hours of traffic volume during a weekday

Table 2.2.1-2, below, describes the levels of service in term of the v/c ratio and type of traffic flow.

Table 2.2.1-2
Roadway Level of Service Description

V/C Ratio		LOS	Description
0.0 - 0.60	=	LOS A:	free flow traffic at average travel speed
0.61 - 0.70	=	LOS B:	stable flow with the presence of other users in traffic stream being noticeable
0.71 - 0.80	=	LOS C:	uncongested with other users in traffic stream causing significant interactions
0.81 - 0.90	=	LOS D:	congested stable flow with major delays
0.91 - 1.00	=	LOS E:	very congested with traffic at or near capacity
1.01+	=	LOS F:	extremely congested with breakdown flow (major delays occurring frequently)

Source: Highway Capacity Manual, Special Report 209, 2000.

At the time of the preparation of this EAR, FDOT had not published its 2009 average daily traffic (ADT) volumes, therefore, the ADT volumes derived from the 2008 traffic counts collected by Miami-Dade County Public Works Department and provided by the FDOT were used in this evaluation.

Existing Level of Service. As of February 22, 2010, a total of 626 roadway segments were analyzed. Of these, two roadway segments were determined to be operating in excess of their adopted LOS E+20% standard, 25 roadway segments were found to operate within their adopted LOS E+20% standard, 52 roadway segment operating at LOS F (extremely congested), 48 segments operating at LOS E (very congested), 201 segments operating at LOS D (congested), and 298 segments operating at LOS C or better (uncongested). It should be noted that the peak-period operating conditions represent the actual traffic condition. Major congestion problems exist in several important travel corridors. To the north and northwest, conditions on portions of I-75, Okeechobee Road (SR 25), Palmetto Expressway (SR 826), Dolphin Expressway (SR 836); NW 107, 57 and 47 Avenues; and NW 202, 170, 154, 138, 122, 103, 71, 58, 41, and 17 Streets are extremely congested. To the south and southwest, operating conditions on portions of SW 177 (Krome), SW 147, 127, 122, 117, 97, 87, 57, and 27 Avenues; SW 104, 112, 120, 304, and 344 Streets; and old Cutler Road were also extremely congested. However, of the 626 roadway segments currently monitored, 49 were identified operating in violation of the adopted LOS standards. Of these, 21 segments are located in the County's Urban Infill Area (UIA), the County's Transportation Concurrency Exception Area; 23 segments are located between the Adopted 2015 Urban Development Boundary (UDB) and the UIA; and five segments are located outside the UDB. Of the 21 roadway segments inside the UIA, six segments are part of three historic designated roadways (Red Road/SW 57 Avenue, Sunset Drive/SW 72 Street and Old Cutler Road) and no expansion or widening is permitted. Of the 23 roadway segments between the UDB and UIA, six are programmed or planned for capacity improvements or congestion management and 17 are anticipated to be addressed with congestion management or premium transit improvements. The five roadway segments located outside the UDB are state roadways with programmed or planned for improvements. Table 2.2.1-3 lists, and Figure 2.2.1-1 depicts, all roadway segments within Miami-Dade County that fail to meet the adopted LOS standards applicable to those roadways and identifies those roadway segments programmed or planned for capacity improvements in the County's 2011 Transportation Improvement Program (TIP) or Long Range Transportation Plan (LRTP) to the Year 2035.

Policy TC-1D requires that the issuance of all development orders for new development or significant expansions of existing development shall be contingent upon compliance with the Level of Service standards contained in Policy TC-1B, except as otherwise provided in the Concurrency Management Program section of the Capital Improvement Element. As mentioned above, current LOS conditions are monitored and evaluated on a monthly basis as required by the County's Concurrency Management Program. The concurrency LOS differs from the operating (existing) LOS in that the provisions of the Currency Management System are applied to each roadway LOS calculation. The committed development trips of approved development not yet constructed are applied to the affected traffic counts on specific roadway segments and allowances for increases in roadway capacity are included in any given segment where capacity improvements are programmed for construction in the TIP within the next three years. Future transit availability is also considered as a component of the LOS standards. These committed development trips and programmed roadway capacity improvements are tallied monthly with every development approval. Figure 2.2.1-2, Concurrency LOS Roadway Violations, identifies the roadway segments determined to violate the Concurrency Roadway LOS standards.

Roadway capacity improvements programmed in the Metropolitan Planning Organization's (MPO) 2011 Transportation Improvement Program (TIP) are expected to improve eleven of the deficient segments, and improvements planned in the 2035 Long Range Transportation Plan (LRTP) are expected to improve thirteen roadway segments. No improvements for the deficient roadway segments

are planned in the People's Transportation Plan. The remaining 17 deficient segments may affect development in the area between the UDB and UIA until roadway capacity and/or mass transit service are improved to meet the adopted LOS standards. However, the 2035 LRTP identifies some roadway, transit and congestion management improvements which are partially funded but if they become fully funded and completed would address the deficiencies in those 17 roadway segments. The partially funded improvements which include the East-West Express Bus Route along the Dolphin Expressway (SR 836), from the Florida International University to Downtown Miami, will help alleviate congestion on SR 836/Dolphin Expressway, Flagler Street and SW 8 Street/Tamiami Trail (SR 90); the extension of SR 874/Don Shula Expressway from the HEFT to SW 137 Avenue would help alleviate congestion on SW 104, SW 112, SW 120 and SW 152 Streets, and SW 137, SW 122 and SW 117 Avenues; the grade separation at selected intersections on the South Miami-Dade Busway from SW 88 Street to Florida City will help alleviate congestion on South Dixie Highway; and the congestion management improvements on NW 36/41 Street, NW 58 Street, NW 47 Avenue and NW 57 Avenue will improve the operational conditions of all these roadways. The planned congestion management improvements include intelligent transportation system (ITS), grade separation, access management, signal optimization, open road tolling, street and traffic operational improvements, and premium transit service. The County will further evaluate the 17 roadway segments and will recommend financially feasible improvements as part of the EAR-based amendments.

Table 2.2.1-3
Deficient Roadway Segments

Roadway	Segment Existing	Adopted LOS	Existing LOS	2010 TIP	2035 LRTP Lanes/Priority	PTP
S. Dixie Hwy. (US 1)	MP 13.658-MP 13.928	C	D	10' – 12' NB outer shoulder (UC)	No	No
SW 57 Ave./Red Road*	SW 42 St. to Brescia Ave.	E	F	No	No	No
SW 177 Ave./SR 997	SW 232 St. to SW 248 St.	C	D	No	2 to 4 / IV	No
SW 177 Ave./SR 997	Okeechobee Rd. to SW 8 St.	C	F	No	2 to 4 / IV	No
S. Dixie Hwy. (US 1)	SW 104 St. to SW 112 St.	EE	E+23%	No	Metrorail / Unfunded	No
NW 57 Ave./Red Road*	NW 138 St. to NW 103 St.	E	F	2 to 4 lanes	4 to 6 / IV	No
SW 177 Ave./SR 997	SW 232 St. to SW 216 St.	C	E	No	2 to 4 / IV	No
SR 826/Palmetto Expy.*	SW 40 St. to SW 24 St.	D	F	8 to 10 (UC)	No	No
SR 826/Palmetto Expy.*	SR 836 to NW 36 St.	D	F	8 to 10	Sp. Use Lanes / III	No
NW 47 Avenue	NW 183 St. to NW 199 St.	SUMA	F	No	2 to 4 / I	No
SW 72 Street	Palmetto Expy. to US 1	E	F	No	No	No
NW 107 Ave (SR 985)	Flagler St. to SR 836	SUMA	F	4 to 6	No	No
SR 836/Dolphin Expy.*	SR 826 to NW 72 Ave.	D	E	Interchange	Add Aux. Lanes/I	No
SR 836/Dolphin Expy.*	NW 57 Ave. to NW 72 Ave.	D	F	EB Aux. Lanes	No	No
SR 836/Dolphin Expy.*	NW 27 Ave. to NW 37 Ave.	D	E	No	Add Aux. Lane / II	No
SR 836/Dolphin Expy.*	NW 12 Ave. to I-95	D	F	Open Road Tolling	Ramp to I-95/III	No
I-75 (SR 93)	SR 821 to Broward Co. Line	D	E	No	Special Use Lane / II	No
SW 8 St./Tamiami Trail	SW 127 Ave. to HEFT	SUMA	F	No	No	No
Caribbean Blvd.	E/O HEFT to Franjo Rd.	HE	F	No	2 to 3 Lanes / I	No
SW 87 Ave.	SW 88 St. to SW 112 St.	SUMA	F	Add turn lanes	No	No
Highland Lakes Blvd.*	NE 203 St. to NE 186 St.	E	F	No	No	No
Ingraham Highway.*	McFarland to SW 42 Ave.	E	F	No	No	No
Miller Dr./SW 56 Street*	SW 57 Ave. to SW 67 Ave.	E	F	No	No	No
NE 2 Ave.	NE 215 St. to NE 199 St.	D	E	No	No	No
NW 17 Street*	NW 27 Ave. to NW 37 Ave.	E	F	No	No	No
NW 41 St./NW 36 Street	SR 826 to NW 87 Ave.	D	E	No	No	No
NW 58 Street	SR 826 to NW 87 Ave.	D	F	No	No	No
NW 71 Street*	N. Miami Ave to NW 12 Ave.	E+20%	E+26%	No	No	No
NW 103 Street	SR 826 to NW 87 Ave.	HE	F	No	No	No
NW 122 Street	SR 826 to NW 87 Ave.	D	F	No	No	No
NW 138 Street	SR 826 to NW 87 Ave.	D	F	No	No	No
NW 154 Street	SR 826 to NW 84 Ave.	D	F	No	No	No
NW 170 Street	NW 87 Ave. to NW 77 Ave.	D	E	No	No	No
NW 202 Street	NW 57 Ave. to NW 67 Ave.	D	F	No	No	No
Okeechobee Rd.(SR 5)*	NW 62 Ave. to NW 67 Ave.	E	F	No	No	No
Old Cutler Road*	SW 72 St. to SW 88 St.	E	F	No	No	No
Old Cutler Road*	SW 88 St. to SW 57 Ave.	E	F	No	No	No
Old Cutler Road*	SW 136 St. to SW 152 St.	E	F	No	No	No
Old Cutler Road*	SW 152 St. to SW 168 St.	E	F	No	No	No
SW 57 Avenue*	SW 88 St. to SW 116 St.	E	F	No	No	No
SW 27 Avenue*	US 1 to South Bayshore Dr.	E	F	2 to 3 lanes	2 to 3 / I	Yes
SW 97 Avenue	US 1 to Old Cutler Rd.	D	F	No	No	No
SW 104 Street	US 1 to SW 87 Ave.	D	E	No	No	No
SW 112 Street	SW 99 Ave. to SW 117 Ave.	EE	E+23%	No	No	No
SW 117 Avenue	SW 103 St. SW 136 St.	D	F	No	No	No
SW 120 Street	SW 117 Ave to SW 137 Ave	D	F	No	No	No
SW 122 Avenue	SW 104 St. to SW 123 St.	D	E	No	No	No
NW 127 Avenue	NW 6 St. to SW 7 St.	D	F	2 to 4 (UC)	No	No
SW 304 Street	US 1 to SW 177 Ave.	D	E	No	No	No

Source: Miami-Dade County Department of Planning and Zoning, Miami-Dade County Public Works Department, February 2010.
Notes: TIP = 2011 Transportation Improvement Program; LRTP = Long Range Transportation Plan for the Year 2035; PTP = People's Transportation Plan; UC = Under Construction.
SUMA = State Urban Minor Arterial (Adopted LOS Standard: E between UDB and UIA); EE = E+20% (120% of Capacity); HE = LOS E.
*Roadway segment located within the Urban Infill Area.

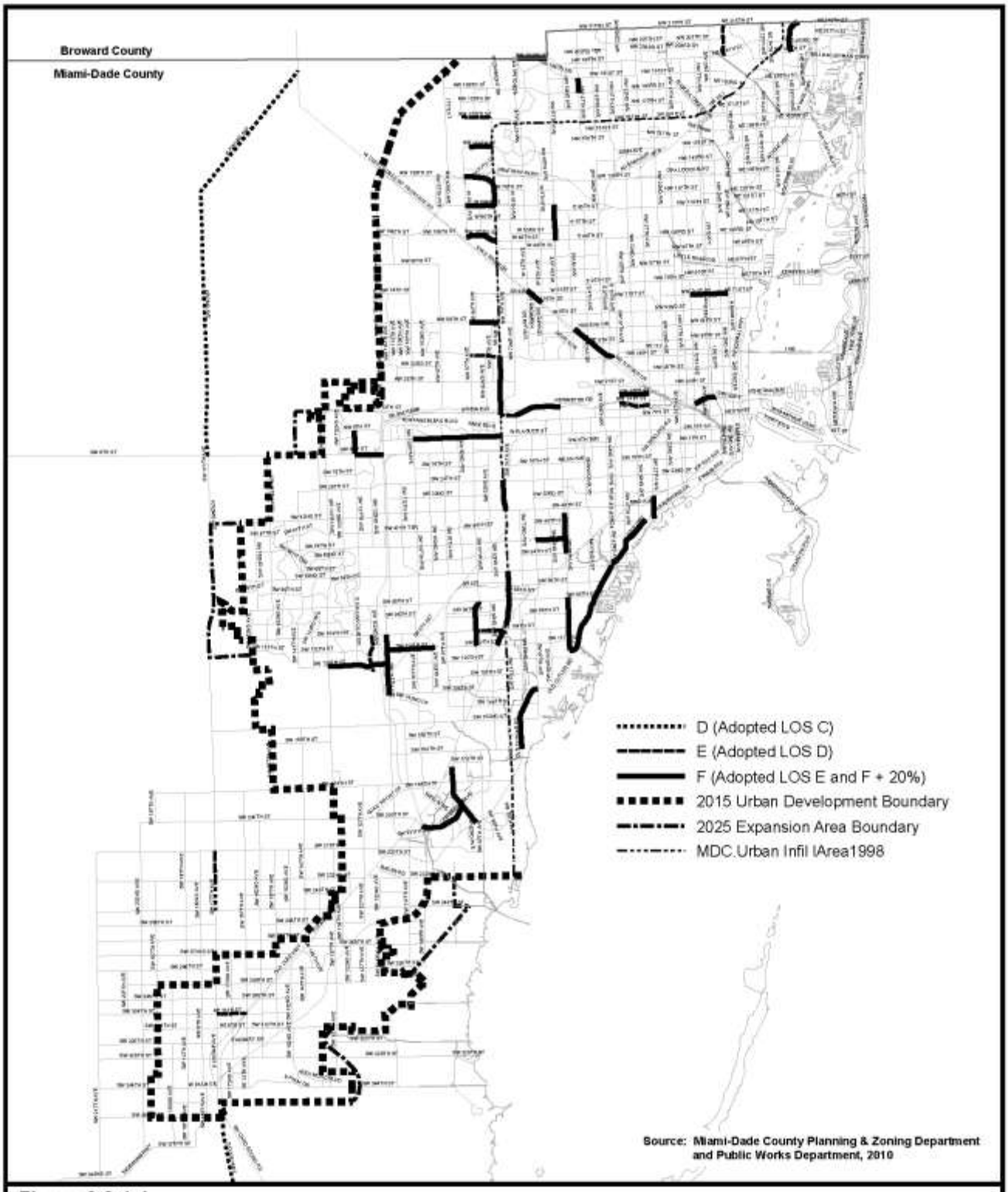

Figure 2.2.1-1
EXISTING OPERATING LEVEL OF SERVICE (LOS) 2008: ROADWAY SEGMENTS EXCEEDING THE ADOPTED LOS STANDARDS

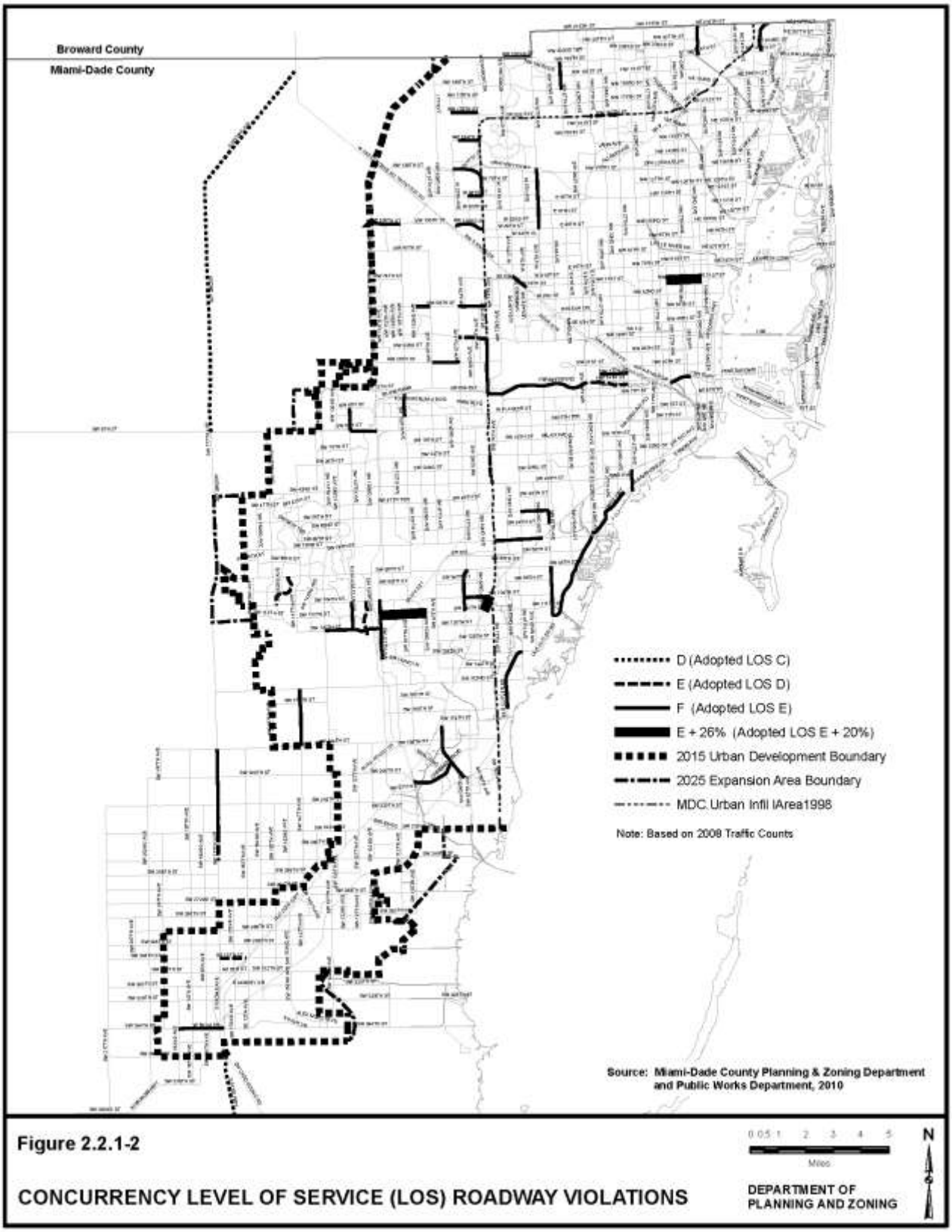

Figure 2.2.1-2

CONCURRENCY LEVEL OF SERVICE (LOS) ROADWAY VIOLATIONS

Table 2.2.1-4, Roadway Segments Operating at their Adopted LOS Standards, below lists all the roadway segments currently operating at their adopted LOS standards and identifies those roadway segments with programmed or planned capacity improvements listed in the County's 2010 TIP and/or 2035 LRTP.

Table 2.2.1-4
Roadway Segments Operating at their Adopted LOS Standards

Roadway	Segment	Adopted LOS	Existing LOS	TIP	LRTP Lanes/Priority	PTP
SW 177 Ave./SR 997	SW 8 St. to SW 88 St.	C	C	2 to 4 lanes	2 to 4 lanes / II	No
SW 8 St./Tamiami Trail	SW 137 Ave. to SW 127 Ave.	D	D	No	No	No
SW 8 St./Tamiami Trail	SW 147 Ave. to SW 137 Ave.	D	D	No	No	No
SR 826/Palmetto Expy.	NW 57 Ave. to NW 47 Ave.	D	D	Add Aux. Lane	Add Aux. Lane / I	No
SR 826/Palmetto Expy.	NW 57 Ave. to NW 67 Ave.	D	D	Add Aux. Lane	Add Aux. Lane / I	No
SR 826/Palmetto Expy.	SW 24 St. to SW 8 St.	D	D	No	No	No
SR 826/Palmetto Expy.	SW 8 St. to W. Flagler St.	D	D	No	No	No
SR 826/Palmetto Expy.	Flagler St. to SR 836	D	D	No	No	No
SR 826/Palmetto Expy.	NW 58 St. to NW 74 St.	D	D	No	No	No
SR 826/Palmetto Expy.	NW 103 St. to NW 122 St.	D	D	No	Special Use Lanes / III	No
SR 826/Palmetto Expy.	NW 122 St. to NW 138 St.	D	D	No	Special Use Lanes / III	No
SR 826/Palmetto Expy.	NW 47 Ave. to NW 37 Ave.	D	D	No	No	No
SW 177 Ave./SR 997	SW 8 St. to Okeechobee Rd.	C	C	2 to 4 lanes (N/O SW 8 St to M.P. 2.754)	2 to 4 lanes / IV	No
SW 177 Ave./SR 997	SW 88 St. to SW 184 St.	C	C	2 to 4 lanes (SW 88 St to SW 136 St)	2 to 4 lanes / II	No
NW 135 St./SR 916	NW 2 Ave. to NE 6 Ave.	E	E	No	No	No
SR 836/Dolphin Expy.	NW 27 Ave. to NW 17 Ave.	D	D	Removal Toll Plaza	Add Aux lane / II	No
SR 836/Dolphin Expy.	NW 87 Ave. to SR 826	D	D	Reconstruction & Interchange	No	No
SR 836/Dolphin Expy.	NW 57 Ave. to NW 42 Ave.	D	D	Add EB Aux. lane	Add Aux. lane/ I	No
SR 836/Dolphin Expy.	NW 42 Ave. to NW 37 Ave.	D	D	No	Add Aux. lane / II	No
Don Shula Expy./SR 874	SW 112 St. to HEFT	D	D	No	No	No
Don Shula Expy./SR 874	SR 826 to SR 878	D	D	No	4 to 8 lanes, ETDM	No
I-95 (North/South Expy.)	NE 203 St. to NE 183 St.	D	D	No	Special Use lanes / III	No
I-75 (SR 93)	SR 826 to Broward Co. Line	D	D	No	Special Use lane / IV	No
NW 87 Ave./Galloway Rd.	NW 12 St. to NW 25 St.	D	D	No	No	No
NW 87 Ave./Galloway Rd.	NW 25 St. to NW 36 St. Ext.	E	E	No	No	No
Ives Dairy Rd./NE 203 St.	NW 2 Ave. to San Simeon W.	D	D	No	No	No
SW 177 Ave./SR 997	SW 184 St. to SW 216 St.	C	C	No	2 to 4 lanes / IV	No
Ludlam Rd./SW 67 Ave.	SW 136 St. to SW 152 St.	E	E	No	No	No
SW 56 St./Miller Dr.	SW 87 Ave. to SW 97 Ave.	D	D	No	No	No
SW 56 St./Miller Dr.	SW 117 Ave. to SW 127 Ave.	D	D	No	No	No
SW 56 St./Miller Dr.	SW 137 Ave. to SW 147 Ave.	D	D	No	No	No
NE 2 Ave.	NE 215 St. to Ives Dairy Rd.	D	D	No	No	No
NW 2 Ave.	NW 215 St. to NW 199 St.	D	D	No	No	No
NW 12 St.	NW 72 Ave. NW 87 Ave.	D	D	No	No	No
NW 25 St.	NW 87 Ave. to NW 97 Ave.	D	D	4 to 6 lanes (NW 89 Ct. to SR 826)	No	No
NW 36 St. Extension	NW 97 Ave. to NW 107 Ave.	D	D	No	No	No
NW 41 St.	NW 107 Ave. to HEFT	D	D	No	No	No
NW 58 St.	NW 97 Ave. to NW 102 Ave.	D	D	No	No	No
NW 106 St.	HEFT to NW 107 Ave.	D	D	No	No	No
NW 79 Ave.	NW 36 St. Ext. to NW 58 St.	D	D	No	No	No
NW 79 Ave.	NW 36 St. Ext. to NW 25 St.	D	D	No	No	No
NW 107 Ave.	NW 12 St. to NW 25 St.	D	D	No	No	No
NW 107 Ave.	NW 25 St. to NW 41 St.	D	D	No	4 to 6 lanes / II	No
NW 122 St.	NW 57 Ave. to SR 826	E	E	4 to 5 lanes (W. 19 Ct. to W. 17 Ct.)	No	No
NW 138 St.	Okee. Rd. to NW 107 Ave.	D	D	No	No	No
NW 199 St.	HEFT to NW 2 Ave.	D	D	No	No	No

Table 2.2.1-4 (continued)
Roadway Segments Operating at their Adopted LOS Standards

Roadway	Segment	Adopted LOS	Existing LOS	TIP	LRTP Lanes/Priority	PTP
NW 199 St.	NW 37 Ave. to NW 57 Ave.	D	D	No	No	No
Old Cutler Rd.	Franjo Rd. to SW 216 St.	D	D	No	No	No
SW 97 Ave.	SW 8 St. to SW 24 St.	D	D	No	No	No
SW 97 Ave.	SW 24 St. to SW 40 St.	D	D	No	No	No
SW 97 Ave.	SW 88 St. to SW 112 St.	D	D	No	No	No
SW 107 Ave.	SW 152 St. to SW 184 St.	D	D	No	2 to 4 lanes, Unfunded	No
SW 117 Ave.	SW 40 St. to SW 72 St.	D	D	No	No	No
SW 117 Ave.	SW 72 St. to SW 88 St.	D	D	No	No	No
SW 117 Ave.	SW 184 St. to Quail Roost Dr.	D	D	No	No	No
SW 117 Ave.	US 1 to Quail Roost Dr.	D	D	No	No	No
SW 127 Ave.	SW 26 St. to SW 42 St.	D	D	No	No	No
SW 127 Ave.	SW 42 St. to SW 56 St.	D	D	No	No	No
SW 127 Ave.	SW 72 St. to SW 88 St.	D	D	No	No	No
SW 127 Ave.	SW 88 St. to SW 104 St.	D	D	2 to 4 lanes	2 to 4 lanes / I	No
SW 127 Ave.	SW 104 St. to SW 120 St.	D	D	2 to 4 lanes	2 to 4 lanes / I	No
SW 132 Ave.	SW 8 St. to NW 6 St.	D	D	No	No	No
SW 136 St./Howard Dr.	E/O US 1 to SW 67 Ave.	D	D	No	No	No
SW 136 St.	W/O US 1 to SW 97 Ave.	D	D	No	No	No
SW 137 Ave.	SW 8 St. to NW 6 St.	D	D	No	No	No
SW 137 Ave.	SW 56 St. to SW 72 St.	D	D	No	No	No
SW 137 Ave.	SW 72 St. to SW 88 St.	D	D	No	No	No
SW 147 Ave.	SW 56 St. to SW 72 St.	D	D	No	No	No
SW 147 Ave.	SW 88 St. to SW 72 St.	D	D	No	No	No
SW 147 Ave.	SW 88 St. to SW 104 St.	D	D	No	No	No
SW 147 Ave.	SW 104 St. to SW 120 St.	D	D	No	No	No
SW 147 Ave.	SW 184 St. to SW 200 St.	C	C	No	No	No
SW 147 Ave./Naranja Rd.	SW 200 St. to SW 216 St.	C	C	No	No	No
SW 147 Ave./Naranja Rd.	SW 216 St. to SW 232 St.	C	C	No	No	No
SW 152 Ave.	SW 88 St. to SW 96 St.	D	D	No	No	No
SW 168 St./Richmond Dr.	US 1 to SW 117 Ave.	D	D	No	No	No
SW 184 St./Eureka Dr.	US 1 to SW 87 Ave.	D	D	No	No	No
SW 184 St.	SW 147 Ave. to SW 157 Ave.	D	D	No	2 to 4 lanes, Unfunded	No
SW 200 St.	US 1 to Quail Roost Drive	D	D	No	2 to 4 lanes / IV	No
SW 248 St.	SW 127 Ave. to SW 112 Ave	D	D	2 to 3 lanes (SW 121 Pl. to SW 122 Ct.)	No	No
SW 280 St./Waldin Dr.	US 1 to SW 142 Ave.	D	D	No	No	No
SW 288 St./Biscayne Dr.	HEFT to SW 132 Ave.	D	D	No	No	No
SW 288 St./Biscayne Dr.	US 1 to HEFT	D	D	No	No	No
SW 296 St./Avocado Dr.	US 1 to SW 147 Ave.	D	D	No	No	No
SW 320 St.	US 1 to SW 192 Ave.	D	D	2 to 3 lanes (SW 187 Ave. to US 1)	2 to 4 lanes, Unfunded	No

Source: Miami-Dade County Department of Planning and Zoning, Miami-Dade County Public Works Department, February 2010.
Notes: TIP = Transportation Improvement Program 2010.
LRTP = MPO Long Range Transportation Plan for the Year 2035.
PTP = People's Transportation Plan.

Table 2.2.1-5 below lists all roadway capacity improvement projects currently under construction.

Table 2.2.1-5
Roadway Capacity Improvement Projects Currently Under Construction

Roadway	Segments	Improvements
SR 9A/I-95 Express	N/O SR 836/I-395 to Golden Glades Interchange	Add Special Use Lane
SR 826/836	SR 826 Interchange to SR 836	4-lane divided express lanes
NW 138 St.	NW 107 Ave. to I-75	Widen 2 to 6 lanes
NW 72 Ave.	NW 74 St. to Okeechobee Rd.	Widen 2 to 4 lanes
NE 15 Ave.	NE 163 St. to NE 170 St.	Widen to 4 lanes
NE 15 Ave.	NE 159 St. to 163 St., NE 170 St. to MG Dr.	Widen to 3 lanes
NW 97 Ave.	NW 138 St. to NW 154 St.	New 4 lanes
SW 162 Ave.	SW 162 Ave. from SW 47 St. to SW 48 Terr.	Widen 2 to 4 lanes
SW 47 Avenue	SW 162 Ct. to SW 160 Ave.	Widen 2 to 3 lanes
SW 184 St.	SW 147 Ave. to SW 137 Ave.	Widen 2 to 4 lanes
Ponce de Leon Blvd.	Alcazar Ave. to Salamanca Ave.	4 to 4 lanes with left turn bays
NW 37 Ave.	North River Dr. to NW 79 St.	Widening 2 to 5 lanes
SW 137 Ave.	HEFT to US-1	Widening 2 to 4 lanes
SW 157 Ave.	SW 184 St. to SW 152 St.	New 4 lane road
SW 160 St.	SW 147 Ave. to SW 137 Ave.	New 4 lane road
SW 127 Ave.	SW 88 St. to SW 120 St.	Widen to 4 lanes
SW 136 St.	SW 154 Ave. to SW 139 Ct.	Widening 2 to 4 lanes
SW 157 Ave.	SW 120 St. to SW 112 St.	New 4 lanes
SW 157 Ave.	SW 136 St. to SW 120 St.	New 4 lanes
NW 74 St.	HEFT to SR 826	New 6 lanes
NW 87 Ave.	NW 154 St. to NW 186 St.	Widening 2 to 4 lanes
NW 25 St. Viaduct	SR 826 to NW 68 Ave.	New road construction
NW 90 St.	NW 114 Ave. to NW 112 Ave.	New 2 lanes
NW 137 Ave.	NW 12 St. to NW 17 St.	New 4 lanes
NW 137 Ave.	NW 12 St. to NW 14 St.	2 or 4 lanes of 4 lanes divided

Source: Metropolitan Planning Organization's 2010 *Transportation Improvement Program and* Miami-Dade County Public Works Department, 2010.

Policy TC-1E calls for the County to improve the operating efficiency of the existing thoroughfare system and reduce peak hour congestion by encouraging the application of low-cost transportation system management techniques including, but not limited to, improved traffic signal timing, intersection marking, channelization, and on-street parking restrictions. Policy TC-1F provides for the County to implement transportation demand management program to reduce overall peak-hour demand use of single occupant vehicles (SOV). The County has implemented other potential solutions to improving the operating deficiency of the existing thoroughfares and reducing peak hour congestion. The congestion management solutions include intersection capacity improvements, better transit service and headways, and transportation demand management (TDM) and transportation system management (TSM) strategies to mitigate development impacts. Congestion management strategies currently implemented include:

- Traffic demand management;
- Traffic operations improvements;
- Transit operations improvements;
- Van pooling and car-pooling;
- Employer-based staggered and/or flexible work hours;
- Park and ride lots at Metrorail stations, South Miami-Dade Busway and Metrobus routes;
- High-occupancy vehicle lanes;
- Transportation Management Associations (TMAs);
- Bike/Pedestrian facilities;
- Intelligent corridor systems;

- Special transportation system for the economically disadvantaged, the elderly and disabled individuals; and
- Subsidies for transit riders.

The Florida Department of Transportation started the implementation of high-occupancy lanes/express lanes along I-95 in February 2008. The 95 Express Project, which is being conducted in phases, will consist of two northbound and two southbound express lanes along I-95 between SR 836/I-535 in Miami-Dade County to I-595 in Broward County. Phase 1A, which established two northbound travel lanes along I-95 between SR 112/I-195 and NW 151 Street, began in February 2008. Phase 1B, which established two southbound travel lanes along I-95 between Golden Glades and SR 836, began in the December 2008. Phase 2, which will go from Golden Glades Interchange in Miami-Dade County northward to I-595 in Broward County, is currently unfunded.

Miami-Dade Transit's 95 Commuter Express Bus Rapid Transit (BRT) is taking advantage of this new facility and provides a fast and convenient service for commuters between Broward and Miami-Dade Counties. Three new routes provide direct express service to downtown Miami making use of the 95 Express lanes. Commuters travel on brand new, Wi-Fi accessible, hybrid articulated buses. The new express routes are funded by the Federal Transit Administration and the Florida Department of Transportation.

On November 5, 2002, the citizens of Miami-Dade County approved a half-cent sales tax increase to be the dedicated source of revenue to support transportation improvements and to fund the People's Transportation Plan. The Plan calls for the implementation of bus service, rapid transit and major highway and road improvements. However, the economic downturn experienced by the country since 2008 has reduced the funds available to MDT which was forced to adjust some of the existing transit services and eliminate the least rode bus routes. MDT has been evaluating other alternative sources of revenue including fare box/fare gate, parking, passes, advertising permits, leases, joint development, and other non-operating revenues.

Policy 1G directs the County to continue to implement procedures and requirements for all development, regardless of size, to contribute its proportionate share of transportation facilities, or funds or land therefore, necessary to accommodate the impact of the proposed development. The County shall periodically review and update impact fee schedules to ensure that all public and marginal costs are appropriately recognized, and that fee structures reflect pertinent geographic variability in facility usage.

On January 22, 2009, the Board of County Commissioners approved and adopted amendments to the Road Impact Fees (RIF) Ordinance (Ord. No. 88-112) for the purpose of ensuring that all new development bears its proportionate share of the capital cost of road facilities necessary to allow an adequate level of roadway service within Miami-Dade County and its municipalities. The adopted amendments update the cost information used in the RIF formula found in the Section 33E-7 and the road impact fee schedule in Section 33E-8 of the RIF Ordinance. The RIF formula and schedule were last updated in 1994 (Ord. No. 94-134). The adopted amendments will gradually bring RIF revenues into line with current road construction costs. It is estimated that the update will increase RIF revenues by approximately 95 to 120 million dollars over the next five years. Policy 1G continues to be relevant and implemented through the adopted RIF Ordinance and the Impact Fee Manual.

Policy TC-1I calls for the County to investigate and develop by 2005 parking management strategies to promote the land use and transportation objectives of the CDMP to reduce the use of Single Occupant Vehicles (SOVs) and highway congestion and encourage the use of transit and ridesharing. In 1994, the MPO retained the Center for Urban Transportation Research (CUTR) to prepare the Countywide Parking Policy Study (December 1994). The goal of the study was to present the MPO with information obtained from literature research and review of local current policies to be used in conjunction with the development of tasks associated with a much larger countywide Parking Policy Study. In 1999 the MPO prepared a comprehensive *Countywide Parking Policy Study*

for Miami-Dade County (October 1999). The study addressed the countywide goals of transportation improvement, air quality enhancement, economic development, and the promotion of energy conservations. The study found that parking in Miami-Dade County is distributed in a manner that the older cities in the eastern areas of the County have the highest concentration of metered and free curb parking, as well as the majority of the private and public operated fee-based parking lots and garages. However, land uses in the remaining areas of the County provide free or reserved free off-street parking in compliance with current land use regulations. The study recommended parking management strategies that have been partially implemented. At present, Miami-Dade County does not have a coordinated and cohesive parking policy, therefore, this policy continues to be relevant and should be retained.

However, it should be pointed out that the County continues to implement policies directed to discourage the use of SOVs and reduce traffic congestion. With the designation of urban centers at locations having high countywide multimodal accessibility, development of master plans for development of the centers, and the adoption of zoning ordinances to implement the plans, the County continues to create well designed urban centers that will encourage convenient alternative to travel by automobile, provide more efficient land use and create identifiable "town centers". Also, with the new requirements for shared parking in the planned urban centers, the County is implementing Policy LU-1A of the Land Use Element and to some extend Policy TC-1I of the Traffic Circulation Subelement.

Policy TC-1J requires the County that upon completion of the Countywide Parking Policy Study conducted by the MPO to amend the CDMP Transportation Element as necessary to facilitate implementation of the study's recommendations and to depict planned future major parking facilities in the Traffic Circulation Subelement map series. The implementation of this policy depends on the implementation of Policy TC-1I. At present, Miami-Dade County does not have a coordinated and cohesive parking policy, therefore, this policy continues to be relevant and should be retained.

Policy 1K provides for the County to utilize the MPO transportation planning and project review processes to evaluate and implement roadway and transit improvements that will improve access to, and connections to between the County's major aviation, rail and port facilities. This policy is relevant, continues to be relevant and should be retained.

In conclusion, the results of the LOS analyses performed by the Miami-Dade County Public Works Department and presented in Figures 2.2.1-1 and 2.2.1- 2 and Tables 2.2.1-3 and 2.2.1-4 indicate that not all roadway segments in Miami-Dade County are operating within their adopted LOS standards. As discussed above, this objective has not been achieved and must be modified since it is unrealistic to expect that all roadways in Miami-Dade County will ever operate at level of service (LOS) C or better. In fact, adopted LOS standards for roadways within the UIA allow roadways to operate at 120% and 150% of their capacity because of the presence of 20-minute headway transit service or extraordinary transit (commuter rail or express bus service). The reason for these LOS standards is to promote infill development and discourage suburban sprawl. Therefore, the objective should be that all roadways in Miami-Dade County operate at or above their adopted LOS standards. Moreover, the transportation deficiency analysis for the 2035 LRTP identified more than 200 roadway capacity improvement projects needed to meet desired mobility conditions. These projects include highway projects which would cost $14.6 billion, transit capital projects which would cost $12.1 billion, and transit operations and maintenance expenditures amounting to $13.5 billion ($10.4 billion for existing system, $3.1 billion for new service). The total cost of the needed improvements amounts to $40.2 billion. However, it should be pointed out that the County has and will continue to strive to look for alternate solutions to reduce the use of single occupant vehicles (SOVs) and traffic congestions and encourage the use of transit and ridesharing. Also, the planning horizon of this objective should be eliminated since the intent of Objective TC-1 is ongoing.

Policy Relevance. All policies under this objective were reviewed for continued relevance. All such policies are directive in nature, continue to have relevance and, therefore, should be retained. However, Policy TC-1B should be reviewed to make sure the adopted LOS standards meet the provisions of Chapter 163 and the State Minimum Level of Service Standards for the State Highway System (SIS, FIHS and TRIP funded facilities). In addition, the planning horizon of Policy TC-1I should be extended from 2005 to 2015.

Objective TC-2
Rights-of-way and corridors needed for existing and future transportation facilities will be designated and reserved.

CDMP Monitoring Measures. The following is the adopted monitoring measure for this objective:

- Enforcement of minimum right-of-way requirements established in Chapter 33 of the Code of Miami-Dade County and Public Works Manual either through acquisition or dedication.

Objective Achievement Analysis. The County continues to achieve this objective through the implementation of Policies TC-2A, TC-2B, TC-2C, and TC-2D; and the enforcement of the minimum right-of-way requirements established in Chapter 33 of the Code of Miami-Dade County, specifically section 33-133, Right-of-way Plan and Minimum Width of Streets and Ways. On all section line roadways the minimum official right-of-way width is 80 feet and on all half-section line roadways the minimum right-of-way width is 70 feet, unless otherwise specified in section 33-133 of the Code. During this evaluation period, Section 33-133 of the Miami-Dade County code was amended once. Ordinance 04-209, adopted by the Board of County Commissioners on July 27, 2004, assigned an official right-of-way width of 50 feet to the half-section line roadway segment of SW 62 Avenue between SW 24 Street (Coral Way) and SW 30 Street. The zoned right-of-way width for a half-section line roadway is 70 feet. The subject roadway segment lies adjacent to an older residential subdivision. Public Works Department reviewed the right-of-way needs for the roadway segment and determined that a 50-foot right-of-way width is more compatible with the existing residential neighborhood and sufficient for present and future capacity needs. It should be pointed out that State laws and Supreme Court decisions that protect property rights make it more difficult for local jurisdictions to protect rights-of-way needed for future transportation facilities.

Policy TC-2A calls for the County enforce the minimum right-of-way requirements, 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 in the corridors. The Department of Planning and Zoning requested the Metropolitan Planning Organization to prepare a *Typical Roadway Section and Zoned Right of Way Update Study* (2008) to identify: 1) a list of area type and roadway types representative of land use and transportation mix within the County and to develop typical sections for each roadway type for future use within the County, and 2) identify rights-of-way needed to be preserve for future multimodal transportation corridors. The County is evaluating the findings and recommendations of the study for implementation.

Policy TC-2B provides for the County to require the dedication of the appropriate share of all necessary rights-of-way from all developments at the time of development. Policy TC-2C calls for the County to acquire or reserve, where necessary, rights-of-way for future transportation improvements identified in the Traffic Circulation and Mass Transit Subelements. This policy is also implemented through the enforcement of Chapter 28 of the Code of Miami-Dade County. Chapter 28, Subdivisions, establishes the standards for the division of land, and the dedication of roads, highways, streets, and alleys for the creation of sound, stable and healthy communities. The dedication of rights-of-way for the safe and convenient vehicular, pedestrian and bicycle traffic circulation in land developments is enforced through the platting and site approval processes.

Policy TC-2D provides for the County to create a continuous network of section-line, half-section line and quarter-section line road system, interrupted

only when it would destroy the integrity of a neighborhood or development. The County shall not approve vacation of zoned rights-of-way unless it is determined not needed for present or future public use. This policy is implemented through the review of the subdivision of land and Road Closing Petitions filed with the Public Works Department.

In conclusion, Objective TC-2 is achieved through the implementation of its policies and the enforcement of the minimum rights-of-way requirements established in the Code of Miami-Dade County and the Public Works Manual. This objective continues to be relevant and should be retained. No changes to the text of this objective are presently recommended at this point.

Policy Relevance. All the policies under this objective continue to be relevant, are directive in nature and should be retained. No changes to the language of these policies are presently recommended.

Objective TC-3
The County's transportation system will emphasize safe and efficient management of traffic flow.

CDMP Monitoring Measures. The following are the adopted monitoring measures for this objective:

- Enforcement of adopted roadway design standards and procedures in the Public Works Manual during the review of site plans and plats of proposed developments. Identify high accident-frequency locations and recommend remedial actions to alleviate hazardous conditions based on information provided by the Miami-Dade Police Department Data Systems Bureau.

Objective Achievement Analysis. This objective is implemented through the enforcement of the adopted roadway design standards and procedures in the Public Works Manual. All subdivision approvals and plats have to comply with the County's and FDOT's roadway design standards.

Policies TC-3A and TC-3B call for the County to provide for an adequate, properly designed and safe system for controlling vehicular accessibility to major thoroughfares through adopted design standards and procedures and to monitor high-frequency locations on the County highway system to identify any design improvements, which may alleviate hazardous conditions and incorporate such improvements into the TIP.

Table 2.2.1-6 below identifies the 25 locations with the highest accident-frequency in Miami-Dade County. Four locations were within roadway segments operating at LOS C or better, which may be an indication that congestion was not a significant factor in the occurrence of accidents; ten locations were within segments operating at LOS D; three locations within segments operating at LOS E; and four locations were within segments operating within their adopted LOS E+20% standard. Four of the intersections were within roadway segments where the county did not monitor their operating conditions.

Even though roadway capacity improvements are not currently planned or programmed for the majority of roadways with high accident-frequency locations, the list of such locations provides guidance for future scheduled improvements.

Miami-Dade County continues to enforce roadway design standards during the review of site plans and plats for proposed development. Such measures are in place to ensure the adequacy of street design for safety, traffic control and emergency access. Also, road improvements are updated annually in the TIP and LRTP to address deficient road segments and intersections to alleviate hazardous conditions. In conclusion, this objective has been achieved, remains relevant and should be retained. No changes to the text of this objective are presently recommended.

Policy Relevance. These two policies under this objective continue to have relevance and should be retained. No changes to the language of these policies are presently recommended.

Table 2.2.1-6
High Accident Locations in Miami-Dade County, 2008

2008 Rank	Location	Number of Accidents	Number of Fatalities	2008 LOS
1	SW 137 Ave. / SW 152 St.	202		D
2	SW 137 Ave. / SW 56 St.	150		D
3	SW 117 Ave. / SW 152 St.	135		D
4	NW 67 Ave. / NW 167 St.	130		E+8%
5	SW 137 Ave. / SW 88 St.	114		C or Better
6	SW 117 Ave. / SW 104 St.	112	1	NA
7	SW 122 Ave. / SW 26 St. (Coral Way)	105		NA
8	NW 42 Ave. / NW 25 St.	102		C or Better
9	SW 117 Ave. / SW 72 St.	100		D
10	NW 72 Ave. / NW 36 St.	95		E
11	SW 107 Ave. / SW 72 St.	89		E
12	NW 7 Ave. / NW 103 St.	87		NA
13	NW 107 Ave. / NW 12 St.	86		D
14	SW 97 Ave. / SW 24 St.	84		D
15	NW 27 Ave. / NW 79 St.	78		D
16	SW 137 Ave. / SW 104 St.	78		D
17	NW 87 Ave. / NW 12 St.	72		D
18	SW 107 Ave. / SW 104 St.	71		E+5%
19	SW 137 Ave. / SW 26 St. (Coral Way)	70		E+3%
20	NW 67 Ave. / NW 169 St.	67		E+8%
21	NW 72 Ave. / NW 12 St.	67		C or Better
22	SW 184 St. / S. Dixie Hwy	66	2	D
23	SW 107 Ave. / SW 24 St.	66		E
24	NW 27 Ave. / NW 119 St.	65		C or Better
25	SW 117 Ave. / SW 120 St.	65		NA

Source: Miami-Dade County Police Department, 2010 and Miami-Dade County Public Works Department, 2010.
NA: not applicable as no traffic count station was located nearby.

Table 2.2.1-7 below identifies the roadways with high accident-frequency locations that have been improved, improvement is under construction, or improvement is programmed or planned.

Table 2.2.1-7
Improvements to High Frequency-Accident Locations

Location	Segment	Improvement	Status
SW 117 Ave./SW 152 St.	SW 184 St. to SW 152 St.	Widen 2 to 4 lanes	Completed (2008)
NW 7 Ave./NW 103 St.	NW 101 St. to NW 113 St.	Safety improvements	Completed (2008)
NW 27 Ave./NW 79 St.	NW 79 St. to NW 84 St.	Safety Project	2012/2013
NW 27 Ave./NW 103 St.	NW 79 St. to NW 103 St.	Safety improvements	Completed (2008)
NW 27 Ave./NW 119 St.		Safety Project	2012/2013
NW 42 Ave./N.W. 25 St.	NW 37 Ave. to NW 42 Ave.	Widen 2 to 4 lanes	Completed (2008)

Source: Miami-Dade County Public Works Department, 2010 and 2011 Transportation Improvement Program, June 17, 2010.

Objective TC-4
The Traffic Circulation Subelement will continue to be coordinated with the goals, objectives and policies of the Land Use Element, including the land uses, Urban Development Boundary and Urban Expansion Area designated on the Land Use Plan map, and with the goals, objectives and policies of all other Elements of the CDMP.

CDMP Monitoring Measures. The following is the adopted monitoring measure for this objective:

- Quantify the number of Element amendments reviewed for consistency with the goals, objectives and policies of the Land Use Element, including the land uses, Urban Development Boundary and Urban Expansion Area designated on the Land Use Plan map, and with the goals, objectives and policies of all other Elements of the CDMP.

Objective Achievement Analysis. Section 2-116.1 of the Code of Miami-Dade County establishes the procedures for the CDMP to be reevaluated and amended periodically, usually semiannually. Current procedures provide for the filing of applications in April and October. Plan components eligible for amendment application during the semiannual filing periods are summarized below.

Application Filing Period (Month)	Plan Component Eligible for Amendment	
	Even-numbered Year	Odd-Numbered Year
April Period	All components except UDB, UEA and land use outside the UDB. [Mandatory Cycle]	All components including the UDB and UEA [Mandatory Cycle]
October Period	All components except UDB, UEA and land use outside the UDB [Optional Cycle]	All components except UDB, UEA and land use outside the UDB. [Mandatory Cycle]
Source: Section 2-116.1 Code of Miami-Dade County.		

Amendments to all elements of the CDMP are analyzed to determine consistency with the goals, objectives and policies of the Traffic Circulation Subelement and the amendment's potential impact on the current and future roadway network. From 2003 to 2009 there have been 12 regular amendment cycles (April 2003-2004 through April 2009-2010), one Remedial Amendment, one Special Application (Miami-Dade County Public School) and two DRI/CDMP Amendment applications (Miami Metrozoo and Beacon Lakes DRIs). In total there were 45 small-scale Land Use Plan map amendments, 37 standard Land Use Plan map amendments, two Development of Regional Impact amendment applications, and one special settlement agreement amendment applications adopted. Three of the LUP map applications resulted in changes to the UDB and changes to the Traffic Circulation Subelement of the Transportation Element. However, of the three applications, the Lowe's Application located at the intersection of SW 137 Avenue and SW 8 Street, has been challenged and therefore its adoption is not yet final.

Objective TC-4 has five policies. Policy TC-4A provides for the County to maintain the Traffic Circulation Subelement consistent with the objectives and policies of the CDMP Land Use Element. The CDMP amendment applications are reviewed for consistency with all elements and subelements of the CDMP and for internal consistency within the adopted components of the CDMP.

Policy TC-4B calls for the County to use the Adopted LUP map to guide the planning of future transportation corridors and facilities to ensure proper coordination between transportation planning and future development patterns. Policy TC-4C requires the allocation of financial resources to serve first the area within the Urban Development Boundary and to avoid the transportation improvements in Agriculture and Open Land areas, except where necessary for public safety. These two policies are implemented through the coordination with the MPO during the development of the County's Transportation Improvement Program and Long Range Transportation Plan, and the review of all transportation projects through the Advance Notification and Early Coordination review processes. The 2011 TIP and 2035 LRTP for Miami-Dade County represent the culmination of the coordination efforts between transportation and land use planning. The 2035 LRTP represents an

advance in the state of coordination of transportation/land use planning to a level that maximizes the benefits of public involvement; financial allocation; local, regional and state coordination; and transportation/land use planning coordination.

Policy TC-4E calls for FDOT to prepare, and the Board of County Commissioners to adopt, a detailed binding access control plan for the Krome Avenue Corridor. The plan should emphasize access to properties fronting Krome Avenue primarily through alternative street locations. No construction associated with the four-laning of Krome Avenue, or other capacity improvement, outside the UDB shall occur until FDOT has prepared, and the BCC adopted, the access control plan. The County is still waiting for the FDOT to prepare the access plan. This policy is relevant, continues to be relevant and should be retained.

In conclusion, this objective has been achieved. All amendments to the CDMP are analyzed for internal consistency with the Traffic Circulation Subelement and all other elements. This objective remains relevant and should be retained. No changes to the language of this objective are presently recommended.

Policy Relevance. All five policies under this objective continue to have relevance, are directive in nature and, therefore, should be retained. No changes to the language of these policies are currently recommended.

Objective TC-5
The traffic circulation system will protect community and neighborhood integrity.

CDMP Monitoring Measures. The following is the adopted monitoring measure for this objective:

- Quantify the number of reviews processed for proposed roadway construction improvements, provided by oversight committees for the protection of community and neighborhood integrity.

Objective Achievement Analysis. Each State and County roadway improvement project programmed in the TIP receives technical and public reviews before its inclusion in the TIP and during the PD&E phase. Three technical committees, the Transportation Improvement Program Development Committee, the Transportation Planning Technical Advisory Committee (TPTAC), the Transportation Planning Council (TPC), and two citizens' advisory committees, the Citizens Transportation Advisory Committee (CTAC) and the Transportation Aesthetic Review Committee (TARC), are responsible for the review of the projects for potential impacts on community and neighborhood integrity. The CTAC committee provides citizens with a forum to voice any concerns they may have regarding the need for and/or impacts of the projects and an opportunity to evaluate the recommendations of the technical committees. The TARC ensures that high visibility transportation projects, i.e. bridges, are reviewed for their aesthetic impact on the community.

Executive Order 95-359 requires FDOT to request permitting and permit reviewing agencies to review transportation-related projects for consistency with the adopted CDMP, Long Range Transportation Plan, Transportation Improvement Plan, and any other local plans. Federal, state, regional and local agencies review transportation projects through the Advance Notification process and furnish FDOT with comments they consider pertinent at the time of the review. Miami-Dade County Department of Planning and Zoning (DP&Z) is the County agency responsible for review, evaluation and coordination of the comments on the proposed transportation projects. Several County departments review and comment on the proposed transportation projects and DP&Z compiles their comments for collective submission to FDOT. Since 2003, Miami-Dade County staff has reviewed and provided written comments on 28 Advance Notification transportation projects (23 FDOT projects, one Tri-Rail project, three MDX projects, one City of Miami project), for community and neighborhood integrity and attended multiple public informational meetings. Table 2.2.1-8 below lists all the transportation projects reviewed by County staff during this reporting period.

On September 14, 1998, the Transportation Planning Council of the Metropolitan Planning Organization passed and approved Resolution No. 38-98 requesting that the Florida Department of Transportation, the Miami-Dade County Public Works Department and the Miami-Dade Transit Agency issue Early coordination notifications to the Bicycle/Pedestrian Program Office (BPPO), the Department of Environmental Resources Management (DERM), and Department of Planning and Zoning (DP&Z), among other County departments, to ensure that timely and appropriate input is provided at the initial review stages of transportation related project development. Since 2003, DP&Z, BPPO, DERM and other County department staff have reviewed a total of 30 County transportation related projects for community and neighborhood integrity.

In conclusion, this objective has been implemented through the MPO transportation planning and programming process and the Advance Notification and Early Coordination review processes. The objective continues to be relevant and, therefore, should be retained. No changes to the language of this objective are presently recommended.

Policy Relevance. All three policies under this objective call for the County to protect the character of neighborhoods, locate and design roadways and intersections in a manner which would not sever or fragment land, and discourage through traffic in neighborhoods by adequately accommodating traffic on arterial roadways. All three policies were reviewed for continued relevance, are directive in nature, and continue to have relevance; therefore, they should be retained.

Table 2.2.1-8
Advance Notifications and Early Coordinations Reviewed: 2003-2009

Year	Project Description	City/County/ State
2003	SR 934 – NW/NE 79 and 81/82 Streets from NW 13 Ct. to Biscayne Bay	FDOT
2003	Dolphin Corridor Environmental Advance Notification – East/West Limits: from NW 32 Ave. to NW 127 Ave.; North/South Limits: from NW 36 St. to Flagler St.	Tri-Rail
2003	MIC/Earlington Heights Connector	County
2003	SR 9A/I-95 new access ramp to westbound SR 836	FDOT
2004	SR 5/US 1 from Card Sound Road to the HEFT	FDOT
2004	NW 74 St. from the HEFT to SR 826/Palmetto Expy. and the HEFT from NW 41 St. to Okeechobee Toll Plaza	FDOT
2004	SR 860/Miami Gardens Dr./NW 186 St. from east of I-75 to Red Rd/NW 57 Ave.	FDOT
2004	I-395 ROW acquisition from NE 1 Ave. to N. Bayshore Dr.	FDOT
2004	Golden Glades Multimodal Transportation Facility	FDOT
2004	SR 997/Krome Ave./SW 177 Ave. from SW 136 St. to SR 25/US 27/Okeechobee Rd.	FDOT
2004	SR 997/Krome Ave./SW 177 Ave. from SW 136 St to SW 296 St.	FDOT
2004	SW 56 St. road improvements from SW 152 St. to SW 158 Ct.	County
2004	SW 42 St. road improvements from SW 149 Ave. to SW 150 Ave.	County
2004	SW 143 Terr. road improvements from SW 145 Pl. to SW 144 Ave.	County
2004	NE 2 Ave. bridge and road widening from W. Little River Canal to NW 91 St.	County
2004	SW 62 Ave. road improvements from SW 24 St. to NW 7 St.	County
2004	SW 62 Ave. road improvements from SW 70 St. to SW 64 St.	County
2004	SW 160 St. road improvements from SW 147 Ave. to SW 137 Ave.	County
2004	SW 138 St. bridge and road widening at Miami River Canal	County
2005	SR-5/Brickell Ave. from SE 4 St. to SE 25 Rd.	FDOT
2005	SW 328 St. road improvements from US 1 to SW 162 Ave.	County
2005	SW 142 Ave. road improvements from SW 8 St. to SW 42 St.	County
2005	SW 26 St. road improvements from SW 147 Ave. to SW 149 Ave.	County
2005	NW 87 Ave. road improvements from NW 162 St. to NW 170 St.	County
2005	NW 74 St. road improvements from NW 87 Ave. to NW 107 Ave.	County
2006	City of Miami Circulator Project Alternatives Analysis	City of Miami
2006	HEFT from SR 874 to SR 836	FTE
2006	SW 216 St. road improvements from the HEFT to SW 127 Ave.	County
2006	NW 37 Ave. road improvements from NW 79 St. to N. River Dr.	County

Table 2.2.1-8 (continued)
Advance Notifications and Early Coordinations Reviewed: 2003-2009

Year	Project Description	City/County/ State
2006	SW 180 St. road improvements from SW 147 Ave. and SW 137 Ave.	County
2006	NW 87 Ave. road improvements from NW 186 St. to NW 154 St.	County
2006	SW 136 St. road improvements from SW 149 Ave. to SW 139 Ct.	County
2006	SW 27 Ave. road improvements from US 1 to Bayshore Dr.	County
2006	SW 157 Ave. road improvements from SW 152 St. to SW 184 St.	County
2006	South Florida East Coast Corridor Transit Analysis	FDOT
2007	HEFT Interchange at SW 328 St./SE 8 St./Lucy St.	FTE
2007	SW 264/268 St. connector from SW 147 Ave. to SW 112 Ave.	County
2007	SW 264 St. road improvements from US 1 to SW 147 Ave.	County
2007	SW 137 Ave. road improvements from US 1 to SW 200 St.	County
2007	SW 137 Ave. road improvements from HEDF to US 1	County
2007	SW 157 Ave. road improvements from SW 42 St./Bird Rd. to SW 8 St./Tamiami Trail	County
2007	SW 328 St. road improvements from SW 137 Ave. to SW 152 St.	County
2008	MIA Area Traffic Circulation Improvements	FDOT
2008	North Corridor Metrorail extension design modifications	County
2008	NW 7 Ave./SR7/US 441 Reversible Flow Lanes from NW 5/6 St. to NW 119 St.	County
2008	SR 93/I-75 study	FDOT
2008	SR 907/Alton Rd. from 5th St. to Michigan Ave.	FDOT
2008	SR-916/NW 138 St. from NW 67 Ave. to SR-823/NW 57 Ave.	FDOT
2009	SR-948/NW 36 St. and SR-969/NW 72 Ave. Grade Separation	FDOT
2009	SR-997/Krome Ave./SW 177 Ave. Truck By-pass	FDOT
2009	HEFT widening from SR 836 to NW 57 Ave.	FTE
2009	West Avenue Connector Bridge from Dade Boulevard to 17 St.	City of Miami Beach/FDOT
2009	SR 924 Gratigny Pkwy East Extension from NW 32 Ave. to I-95	MDX
2009	SR 874 Ramp Connector to SW 136 St.	MDX
2009	SR924 Gratigny Pkwy extension to HEFT	MDX
2009	HEFT Interchange at NW 170 St.	FTE
2009	SR 836 from NW 17 Ave. to west of midtown interchange	FDOT
2009	Park-and-Ride facility at NW corner of SW 344 St./Palm Dr. and NW 2 Ave.	County

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

Objective TC-6
Plan and develop a transportation system that preserves environmentally sensitive areas, conserves energy and natural resources and promotes community aesthetic values.

CDMP Monitoring Measures. The following is the adopted monitoring measure for this objective:

- Number of transportation demand management (TDM) and transportation system management (TSM) programs implemented, number of environmental reviews conducted for roadway construction and reconstruction projects, and number of arterial landscaping improvements completed.

Objective Achievement Analysis. This objective has been implemented through the implementation of the various policies and types of reviews required during the planning and development of transportation improvement projects. Concerns regarding the environment, natural resources and aesthetics are addressed through the Florida State Clearinghouse Advance Notification process for all Federal and State-funded transportation projects; the Miami-Dade County Department of Environmental Resources Management (DERM) review process; the CTAC and TARC review committees; the Miami-Dade Bicycle/Pedestrian Advisory Committee; and the MPO, FDOT and MDX public hearing processes. Also, FDOT, in consultation with the Federal Highway Administration, determine what degree of environmental documentation is necessary to determine the type of environmental evaluation for transportation projects. During this evaluation period, FDOT completed Environmental Impact Statements (EISs) for the East-West Multimodal Corridor, the Miami Intermodal Center and the Port of Miami Tunnel. EIS is the highest level of environmental assessment.

Miami-Dade County Public Works Department also makes determination on the type of environmental evaluation a transportation project requires based upon in-house environmental evaluations, comments received through coordination with other County agencies and public hearings. During the design of transportation projects, DERM, DP&Z, as

well as the aforementioned committees require buffer zones and landscaping, where feasible and necessary, in order to promote community aesthetics values (Policies TC-6F and TC-6G).

As discussed in the evaluation section of Objective TC-1, the County is implementing TDM and TSM programs to reduce the overall peak-hour demand and use of single occupant vehicles (SOV). Policy TC-1F of this subelement outlines the type of strategies employed in Miami-Dade County to reduce overall peak-hour demand and use of single occupant vehicles. Presently, there is no transportation management association in Miami-Dade County. However, employer-based subsidies exist for transit riders, including discount programs for certain groups. In addition, the County has successfully implemented a vanpooling program since January 1998. The program has grown from 57 vanpool projects in 2003 to 207 vanpool projects in 2010, a substantial increase since 2003. The South Florida Vanpool Program, a joint effort between the Florida Department of Transportation, the MPO and the South Florida Commuter Service, provides vans to individuals traveling together on a regular basis to work. The program is also accessible to institutions, businesses, agencies and other organizations in the South Florida Region. Park-and-ride lots are also provided at key locations along major corridors served with prime transit service such as the Metrorail, the exclusive Busway corridor, Express Bus service, as well as high-occupancy vehicle lanes such as on Interstate 95. Miami-Dade County realizes that much more needs to be done and is striving to implement projects such as High Occupancy Toll (HOT) or Special Use Lanes which are proposed along major expressways. Incorporation of the latest electronic technology or Intelligent Transportation Systems (ITS) plays an integral role as a measure of easing congested traffic conditions. In addition, non-motorized facilities (on-road bicycle lanes, off-road greenways/trails and sidewalks) are included in capital projects, when feasible (Policy TC-6E).

In conclusion, this objective and its seven policies are being implemented. The objective remains relevant and should be retained. No changes to the language of this objective are presently recommended.

Policy Relevance. All seven policies were reviewed for continued relevance, are directive in nature, continue to be relevant, and, therefore, should be retained.

Objective TC-7
Miami-Dade County's Traffic Circulation Subelement, and the plans and programs of the State, region and local jurisdictions will continue to be coordinated.

CDMP Monitoring Measures. The following is the adopted monitoring measure for this objective:

- Quantify the number of reviews completed on various plans and programs of FDOT, MPO, and where appropriate, adjacent counties; and annually verify the consistency of programmed improvements for implementation in the TIP with the CDMP.

Objective Achievement Analysis. The TIP is revised annually and the LRTP has been updated twice since 2003, in November 2004 and October 2009. A representative of the Miami-Dade County Department of Planning and Zoning participates in the revision of the TIP and update of the LRTP. Changes to the TIP and the LRTP may need to be reflected in the CDMP. The 2035 LRTP was a refinement and enhancement of the previous 2030 LRTP (updated in November 2004). This update resulted in a complete reassessment of the future capital and operational needs for the County's multimodal network. As a result of the LRTP update, the future traffic circulation network included in the Traffic Circulation Subelement of the Transportation Element of the CDMP will be adjusted during future plan amendment cycles to reflect the revised planning activity, in keeping with the goals, objectives and policies of the CDMP. Furthermore, the County considers CDMP consistency while reviewing transportation plans and comprehensive plan amendments of other municipalities or adjacent counties. In addition, all large-scale development projects such Development of Regional Impact (DRI) are reviewed, in coordination with the South Florida Regional Planning Council (SFRPC), for impacts and consistency with the various elements

of the CDMP, including the Traffic Circulation Subelement. Since 2003, the County has reviewed two proposed new DRIs, the Beacon County Line (withdrawn in 2009) and Parkland (still under review), several Notices of Proposed Change to existing DRIs (Miami Metrozoo, Beacon Lakes, Park Square at Doral), and commented over 100 municipal plans amendments for consistency with the County's CDMP, including potential impacts on the County's traffic circulation system.

Annually, the MPO prepares and adopts a TIP as described in the earlier sections of this report. All transportation projects programmed in the TIP, including State and County highway projects and projects related to transit, aviation, seaport and non-motorized facilities are reviewed by County staff for consistency with the Transportation Element, Traffic Circulation, Mass Transit, Aviation, Port of Miami River, and The Port of Miami Master Plan Subelements, as well as other elements of the CDMP. In addition, the FDOT's Five-Year Work Program is reviewed annually for consistency with the CDMP and the MPO's TIP and LRTP. Any discrepancies between the County's plans and the Work Program are identified and relayed to FDOT.

In conclusion, this objective has been achieved, continues to be relevant and should be retained. No changes to the text of this objective are presently recommended.

Policy Relevance. All five policies under this objective were reviewed for continue relevance, are directive in nature, continue to be relevant, and, therefore, should be retained.

Future Traffic Circulation Map Series. All Traffic Circulation Map series must be updated to reflect changes to existing and future conditions.

2.2.2 Mass Transit Subelement

Objective MT-1
By the year 2007, the mass transit system shall operate at a level of service no lower than the standard contained herein.

CDMP Monitoring Measure. All areas of Miami-Dade County will be monitored annually to determine transit system compliance with the adopted level-of-service standard through the use of service planning guidelines developed by MDT. The most recent estimates of population and work force prepared by the Department of Planning and Zoning will also be used.

Objective Achievement Analysis. Policy MT-1A of the Mass Transit Subelement establishes the adopted level of service (LOS) standard for mass transit. The LOS standard requires that all areas within the Urban Development Boundary (UDB), depicted on the CDMP Land Use Plan (LUP) map, with a combined resident and workforce population of more than 10,000 persons per square miles be provided with a minimum peak-hour service having 30-minute headways at an average route spacing of one mile, provided certain conditions exist. Furthermore, Miami-Dade Transit (MDT) has been charged with the responsibility of reviewing and approving concurrency applications for mass transit levels-of-service as stated in County Ordinance 89-66, Administrative Order 4-85, and Section 33-G of the Miami-Dade County Code.

The MDT has annually determined that nearly all of the urbanized area of Miami-Dade County have met or exceeded the adopted LOS standard for mass transit service and determines that it continues to meet the standard based on review of the Metrobus/Metrorail service area and the latest socio-economic information provided by the Department of Planning and Zoning. Since the 2003 EAR, the MDT's Metrobus system was expanded from 90 to 105 routes but was subsequently reduced in 2009 to the current level of 90 routes as part of the recent system-wide Service Efficiency and Restructuring Initiative (SERI), discussed under Objective MT-2.

Figure 2.2.2-1 shows, by Traffic Analysis Districts (TADs), those areas in the County having a combined resident and work force population of more than 10,000 persons per square mile, and currently served by mass transit having headways of 30 minutes or less. The data presented in Figure 2.2.2-1 demonstrates that the adopted LOS standard for mass transit service is generally being met pursuant to Policy MT-1A, despite recent service reductions. It should be noted that in addition to the MDT's transit service, 21 of the County's 35 municipalities currently operate their own municipal circulator bus services (mentioned under Objective MT-2 and further discussed under Objective MT-8). These municipal circulators are supplementary to MDT's transit service, but are not shown on Figure 2.2.2-1. It should be further noted that as part of the recent SERI, the MDT has restructured its service to remove/reduce route duplication in areas served by municipal circulators. One example of the MDT's restructured or reduced service is in the area generally between SR-25/Okeechobee Road and SR-826/Palmetto Expressway south of SW 138 Street/W 84 Street, within the Cities of Hialeah and Hialeah Gardens. This reduced service is in keeping with the SERI initiative and the fact that two municipal circulators (City of Hialeah's Marlin and Flamingo routes) are currently operated within that area.

In conclusion, the objective was achieved, remains relevant and should be retained with modifications. The objective should be modified to remove the specific target date and make the objective an ongoing effort.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained.

Objective MT-2
Coordinate the provision of efficient transit service and facilities with the location and intensity of designated future land use patterns as identified on the Land Use Plan Map, and the goal, objectives and policies of the Land Use Element.

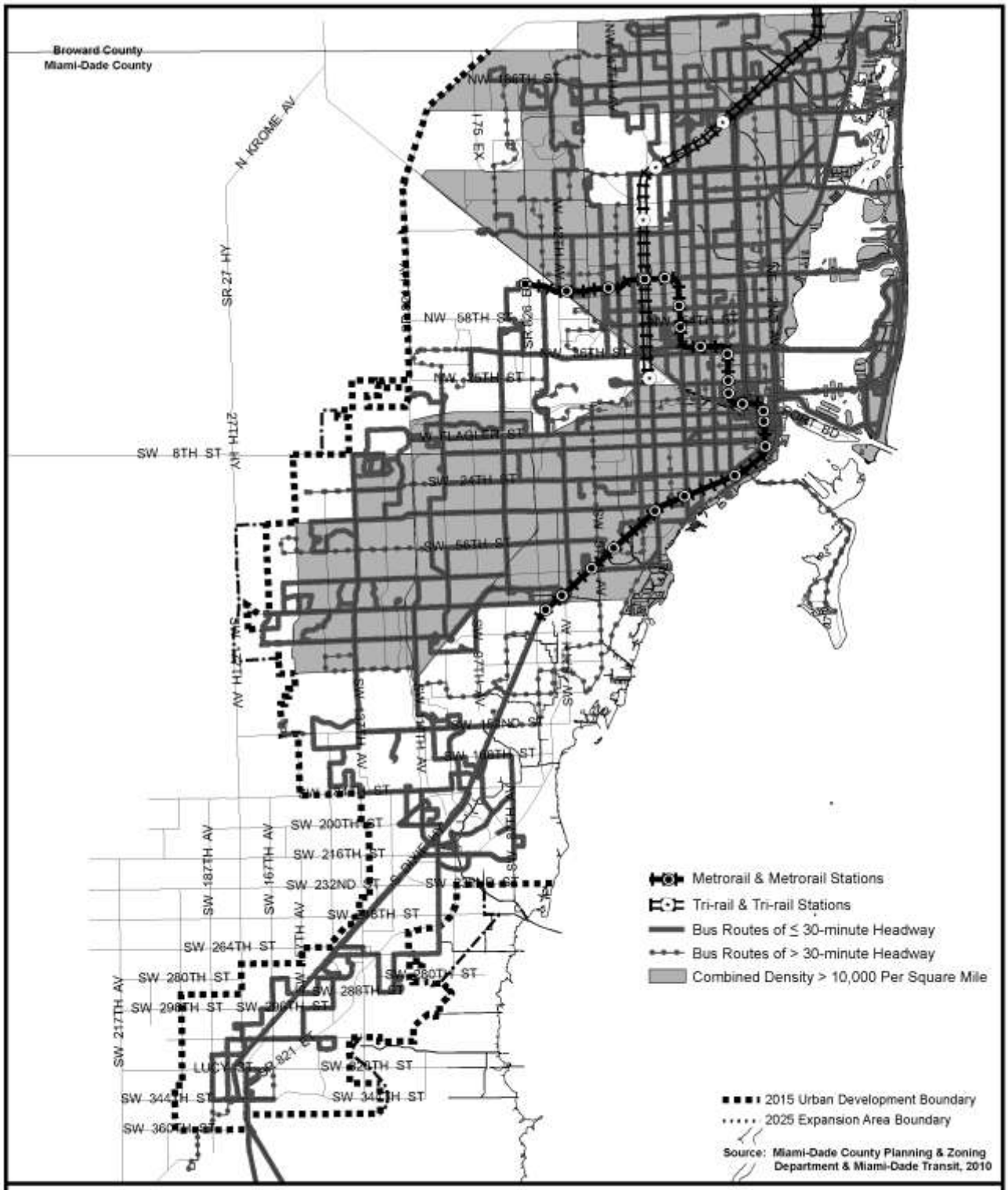

Figure 2.2.2-1

YEAR 2009 PROJECTED COMBINED POPULATION AND EMPLOYMENT DENSITY BY TRAFFIC ANALYSIS DISTRICTS

CDMP Monitoring Measure. All areas of Miami-Dade County will be monitored annually to determine transit system compliance with the adopted level-of-service standard through the use of service planning guidelines developed by MDT. The most recent estimates of population and work force prepared by the Department of Planning and Zoning will also be used.

Objective Achievement Analysis. The monitoring measure for this objective is the same as for Objective MT-1, and as discussed under Objective MT-1, the adopted LOS standard for mass transit service is being met pursuant to Policy MT-1A. The MDT operates four modes of mass transit: bus (Metrobus), heavy rail (Metrorail), automated guideway (Metromover) and a demand-response paratransit system (Special Transportation System or STS). The integrated multi-modal transit system covers most of the area within the UDB, approximately 342 square miles, or 81 percent of the entire urbanized area of Miami-Dade County. Additionally, service area extensions are based upon projected population and employment growth, which are derived from the land use categories of the LUP map. Each transit mode is further discussed below.

Metrobus is a fixed-route bus service system that operates seven days a week, twenty-four hours per day. The system, as of December 2009, comprises a total of 90 routes with a total fleet of 816 buses. Since 2003, the system was expanded from 90 to 105 routes in addition to route realignments, route extensions, peak and off-peak headway improvements, service span improvements and weekend service additions. However, within the past three years through implementation of the MDT's system-wide SERI, a consolidation of services has reduced the number of routes to its current level. The SERI has sought to streamline the system, providing better efficiency and remodeling the network into a more grid-like service pattern. Also included in the SERI is the coordination of services between the MDT and municipalities within the County that operate municipal circulator bus service. Since 2003, the number of municipalities that provide circulator bus services has increased from 5 to 21. The increased number of municipal circulator bus service warranted certain adjustments in the MDT's Metrobus system to avoid route duplication and the coordination of County and municipal bus services. The most recent coordination efforts occurred in 2009 between the MDT and all relevant municipalities. The MDT continues to plan for and maintains inter-governmental cooperation with the various municipalities for accommodations between Metrobus/Metrorail service and municipal circulator bus service.

In 1997 the MDT completed an 8.5 mile segment of the South Miami-Dade Busway, a roadway facility built to provide for exclusive Metrobus service from the Dadeland South Metrorail Station (an urban center) to the Southland Mall area of Cutler Bay, generally at SW 204 Street (an urban center). During this EAR reporting period, the MDT has completed an extension to the Busway from Cutler Bay to SW 264th Street that opened for service in April 2005 and another extension from SW 264 Street to SW 344 Street in Florida City that opened in December 2007. Together the extensions added approximately 11.5 miles, 13 stations and 2 additional park/ride facilities to the Busway system. A third park/ride lot is under design and planned for construction at the Busway's southern terminus at SW 344 Street. Currently, the South Miami-Dade Busway operates with 29 stations and five park/ride lots with 965 available parking spaces. The new park/ride lot at SW 344th Street will add an approximate 261 additional parking spaces. Additionally, the Busway traverses 10 urban centers, designated as such on the LUP map, providing a direct premium transit link from these centers to Metrorail and to other urban centers along the Metrorail line throughout the County. The LUP map designated urban centers are areas within which compact and intensified urban development is promoted. The Miami-Dade Board of County Commissioners has adopted zoning ordinances for 6 of the 10 urban centers traversed by the Busway, since the 2003 EAR, which serve to implement the intent of compact and intensified development in the designated urban centers. The urban centers with adopted implementing zoning ordinances include the Naranja, Goulds, Princeton, Perrine, and Leisure City community urban centers, and the Cutler Ridge metropolitan urban center.

Metrorail, the heavy rail portion of Miami-Dade County's transit system, provides service to 22 stations on a 22.4 mile electrified line. The Metrorail system operates primarily on an elevated structure that interfaces with the South Florida Commuter Rail (Tri-Rail) system at the Tri-Rail/Metrorail station and the Metromover at the Brickell and Government Center stations. Metrorail began service in 1984 with the last major expansion completed with the opening of the Palmetto station in May 2003. The MDT maintains a total fleet of 136 Metrorail vehicles. Construction of a 2.4 mile Metrorail extension linking the existing system at the Earlington Heights station to the Miami Intermodal Center (MIC), east of the Miami International Airport (MIA), is currently underway and scheduled for completion in 2012. Connection between the MIC and MIA will be provided through the MIC/MIA Connector People Mover project, also under construction and scheduled for completion in 2012. The Metrorail extension project includes a new station at the MIC, a multimodal transfer hub for Metrobus, Metrorail, Tri-Rail, Amtrak, and other chartered services such as intercity bus lines, consistent with the MIC's transit center[1] designation in the Mass Transit Subelement and urban center designation on the LUP map. Furthermore, the MIC and all existing Metrorail stations are designated on the LUP map as urban centers, promoting compact and intensified urban development around these stations.

Metromover is a fully automated people mover (APM) system within the most intensely developed portion of the County, the downtown Miami metropolitan urban center. The Metromover includes a 1.9 mile elevated loop, which opened in 1986, serving the core of the downtown Miami area (Inner Loop), and two extensions that added 2.5 miles of service, opened in 1994: one north to the Adrienne Arsht Center for the Performing Arts Center area; the other traveling south, serving the Brickell area (Outer Loop). MDT maintains a fleet of 29 Metromover vehicles. As of 2008, 12 new Metromover vehicles were placed into service and the original 12 vehicles procured for the system opening were decommissioned. An additional 17 cars are to be purchased to replace the remaining fleet cars. These vehicles are anticipated to be placed into service by 2012. No new extension has been added since 1995.

MDT operates a demand-response service known as Special Transportation Service (STS). STS is a shared-ride, door-to-door transportation service for qualified individuals with disabilities who are unable to utilize the accessible fixed-route transit system. The service area matches the public transportation system (Metrobus and Metrorail) and includes most of urbanized Miami-Dade County and south to Marathon (mile marker 50) in the middle Keys. Service is provided by sedans, vans and lift-equipped vehicles, seven days a week, 24 hours per day.

In conclusion, progress has been made in achieving this objective and the objective remains relevant. Therefore, this objective should be retained. However, the monitoring measure should be revised to better link and evaluate the planning of future transit service and facilities consistent and concurrent with designated future land use patterns.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained.

Objective MT-3
Provide a sound funding base utilizing public and private sources that will assure maintenance of existing service operations and timely implementation of the needed transportation improvement projects and services.

CDMP Monitoring Measure. Monitor the implementation of policies and objectives for the future operation of transit in Miami-Dade County related to service levels, fare structures, ridership projections, financial needs and recommended funding sources.

Objective Achievement Analysis. The majority of the County's transit services continue to be funded through a combination of grants from Federal, State and local sources, as well as by the November 2002

[1] Transit Centers are locations where several routes or different modes of transit converge, and are designed to handle the movement of transit vehicles and the boarding/alighting and transferring of passengers between transit routes or transit modes.

County citizens approved half-cent sales tax increase, the County's General Fund, advertising, passenger fares, joint development permits, leases, and other miscellaneous revenues. The half-cent sales tax is a dedicated funding source for transportation improvements within the People's Transportation Plan (PTP). However, it is difficult to describe the funding base as being sound when the majority of such funding is still provided by the County's General Fund and grant sources as opposed to a dedicated source of revenue.

MDT's operating expenses exceeded $582 million for fiscal year 2008, an increase of approximately 27% since 2003. Metrobus comprises approximately 58% of the expenses, while Metrorail comprises approximately 14%. The County's General Fund provided for approximately 52% of transit operating expenses during the 2003 EAR reporting period and continues to be the largest source of revenue covering approximately 25% of Metrobus operating expenses. The half-cent sales tax revenue currently funds approximately 24% of operating expenses, while the remaining 51% of operating expenses is funded through subsidies including the State Operating Assistance and Local Gas Tax Transfer, in addition to transit fares/fees and other miscellaneous revenues. Improvements to the transportation system are also funded through the sources identified above. However, recent trends have indicated the federal government's increasing preference for assisting those transit capital projects with greater state and particularly local financial commitments thereby reducing the federal share of discretionary funding. This coupled with the current budget contraction at various levels of County government underscore the need for more dedicated sources of funding for transit services.

In addition to the half-cent sales tax, MDT has been evaluating other alternative sources of revenue including farebox/faregate, parking, passes, advertising permits, leases, joint development, and other non-operating revenues. To keep up with rising operating costs, the County increased transit fares by 25 cents in May 2005, the first such increase in 15 years. Regular fares were raised again in October 2008 by 50 cents. The fare for Special Transportation Service (STS) users was also increased to $3.00 per trip. At the time that the Board of County Commissioners approved the most recent fare increase, they also established by ordinance automatic fare adjustments every three years consistent with the Consumer Price Index (CPI).

Joint development is being successfully pursued in several areas whereby a developer can contribute to the construction costs for transportation facilities in return for certain development rights in areas adjacent to transit stations and terminals, with significant commercial potential. Toward this end, MDT has developed jointly with private-public sector partnerships, six Metrorail stations yielding over 2.3 million sq. ft. of office space, 400,000 sq. ft. of retail space, over 570 dwelling units, the majority being affordable housing units, 4,600 structured and surface parking spaces along with 305 hotel rooms. Future development partnerships are being identified at six other Metrorail stations with one, at the Brownsville Metrorail station, already in the zoning and permitting phase. These public-private partnerships provide an additional source of revenue for transit service and facilities.

The County continues to seek alternative sources of funding including but not limited to Federal and State grants, advertising, passenger fares, joint development, permits, leases, sales, and other revenue mechanisms such as road impact fees for transit or transit development impact fees. The use of dedicated funds to roadway capacity improvements as a source of transit funding is also being contemplated.

In conclusion, progress has been made in achieving this objective, but the County should pursue other funding sources to assure maintenance of existing service and implementation of needed improvements. The objective remains relevant and should be retained. The text of this objective should be modified to relate specifically to transit improvement projects and services.

Policy Relevance. All the policies under this objective continue to be relevant, are ongoing and should be retained.

Objective MT-4
Provide convenient, accessible and affordable mass transit services and facilities.

CDMP Monitoring Measure. MDT will annually update and identify the number and location of transit facilities and types of transit services which provide access to traffic generators such as major centers of employment, commercial, medical, educational, governmental and recreational activity.

Objective Achievement Analysis. Policies MT-4A through MT-4C call for the provision of convenient and affordable mass transit service to activity, employment and institutional centers. As discussed in Objective MT-3 above, May of 2005 was the first time in 15 years that the County increased transit fares, and again in 2008 for a $0.75 total increase. The next increase is scheduled for 2011 and will be consistent with the CPI. Since 2003, MDT has and continues to provide convenient and affordable mass transit service to all the residents of Miami-Dade County to access employment, educational and leisure activities. The South Miami-Dade Busway was expanded beyond the initial 8.2-mile dedicated bus lanes (from Dadeland South Metrorail Station to the Southland Mall) in April 2005 and in December 2007 adding a total 11.5 miles (from the Southland Mall to Florida City). Additionally, the Metrorail is currently being extended to connect the existing Metrorail line from the Earlington Heights station to the new Miami Intermodal Center (MIC), which is the gateway to the Miami International Airport and includes a Tri-Rail station and numerous car rental facilities. The MDT also continues to provide, with public sector assistance, door-to-door transportation service to persons with disabilities in our community.

In the 2003 EAR, it was reported that MDT provided service to 32 major traffic generators and attractors with three of them having transit centers. As stated in the Objective MT-2 Achievement Analysis, MDT's Metrobus system was expanded to a maximum of 105 routes after 2003, but was subsequently reduced to 90 routes in part through the system-wide SERI. However, the current transit system provides service to 51 major trip generators identified in the MDT's 2009 Transit Development Plan (TDP), and listed in Table 2.2.2-1 below. The table shows the major trip generators with the corresponding bus route(s) or mass transit mode, including Metrorail or Metromover, which serves each generator and a general statement of where the service can be accessed.

Table 2.2.2-1
MDT Major Trip Generators, December 2009

Major Generators	Bus Routes/Other Mode	Comments
Special Attractors		
Coconut Grove	6, 22, 27, 48, & 249	Service on local roadways
Downtown Miami	C, S, 2, 3, 6, 7, 8, 9, 11, 21, 24, 51, 77, 93, 95, 120, 207/208, 211, 243, 246, 277, 500, Metromover, & Metrorail	Service on local roadways and within walking distance of Government Center and Historic Overtown/Lyric Theatre stations and the various Metromover stations
Joseph Caleb Community Center	22, 46, 54, 246, & 254	Service on adjacent roadways
Miami International Airport	J, 37, 42, 57, 132, 133, 150, & 238	Bus terminal on site; shuttle to Tri-Rail Station
Metrozoo	252	On-site service to entrance
Miami Seaquarium	B	Service on adjacent roadway
Port of Miami	243	On-site service via local roadways
South Beach	A, C, L, M, S, 115, 120, 123, & 150	Service on local roadways
Educational Centers		
Barry University	2, 9, 10, & 19	Service on adjacent roadways
FIU - University Park	8, 11, 24, & 71	On-site terminal with shelters
FIU - Biscayne Bay	75 & 135	On-site service
Florida Memorial	32	Service on adjacent roadway
MDC - Homestead	34, 35, & 344	Service on adjacent roadways
MDC - Interamerican	8, 27, 207, & 208	Service on adjacent roadways
MDC - Kendall	35, 56, 71, 104, & 204	On-site service with shelters
MDC - Medical Center	M, 12, 21, 22, & 32	Service on adjacent roadways
MDC - North	19, 27, 32, & 97	On-site terminal with shelters
MDC - West	36	Service on adjacent roadway
St. Thomas University	32	Service on adjacent roadway
University of Miami	48, 56, 500, & Rail	Service on adjacent roadways and within walking distance of University station
Regional Retail Centers		
Aventura Mall	E, S, 3, 9, 59, 93, 99, 120, &183	On-site service
Bal Harbour Shops	G, H, S, & 120	Service on adjacent roadways
Dadeland Mall	1, 52, 73, 87, 88, 104, 204, 240, 272, 288, & Metrorail	Service on adjacent roadways and within distance of the Dadeland North station
Diplomat Mall	E	Service on adjacent roadway
Dolphin Mall	7, 36, 71, 137, & 238	On-site terminal with shelters
(The) Falls	31, 34, 38, 52, 136, 252, & 287	Service on adjacent roadway and at Busway Station at SW 136 Street
Mall of the Americas	7, 11, 51, & 87	On-site service with shelters
Miami International Mall	7, 36, 71, 137, & 238	Service on adjacent roadways
Prime Outlets	35, 70, & 344	On-site and adjacent roadway service
Skylake Mall	H, 9, 10, 59, & 183	Service on adjacent roadways
Southland Mall	1, 31, 35, 38, 52, 70, & 137	Service on adjacent roadways
Village at Merrick Park	37, 40, 42, 48, 136, 249, & 500	Service on adjacent roadways and within walking distance of the Douglas Road station
Westland Mall	29, 33, & 54	Service on adjacent roadways
163 Street Mall	E, H, 2, 3, 9, 10, 16, 19, 22, 75, & 246	Service on adjacent roadways and off-site terminal
Regional Hospitals		

Table 2.2.2-1
MDT Major Trip Generators, December 2009

Major Generators	Bus Routes/Other Mode	Comments
Aventura	E	Service on adjacent roadway
Baptist	88 & 104	Service on adjacent roadways
Doctors'	56	Service on adjacent roadway
Hialeah	L, 28, 42, 79, & 135	Service on adjacent roadways
Homestead	35	Service on adjacent roadway
Jackson Memorial / U.M. / Cedars of Lebanon / V.A.	M, 12, 17, 21, & 22 32, 95, 246, & Metrorail	Service on adjacent roadways and within walking distance from Civic Center station
Jackson North	E, 2, 22, & 246	Service on adjacent roadways
Jackson South	52, 57, & 252	Service on adjacent roadway
Kendall AMI	40	Service on adjacent roadway
Mercy	12 & 48	On-site service with shelters
Miami Children's	56	On-site service with shelters
Miami Heart Institute	115	Service on adjacent roadway
Mount Sinai	C, M, & 115	On-site service
North Shore	33, 77, & 277	Service on adjacent roadways
Palmetto General	29	On-site service with shelters
Palm Springs General	33 & 54	On-site service with shelters
South Miami	37, 57, 72, 73, 500, & Metrorail	Service on adjacent roadways and within walking distance from South Miami station

Source: Miami-Dade Transit, February 2010

Various other projects were completed during this EAR reporting period or are scheduled to be completed during the next EAR reporting period that will impact the delivery of transit services. These projects support the County's transit service although they are not under the supervision of MDT. The following is a sample of these projects:

- I-95 Managed Lanes – Miami-Dade County's northbound segment (Phase 1A) was completed and began toll operation in December 2008. Phase 1B (Miami-Dade County southbound segment) was completed and began toll operation in January 2010. Phase 2, the Broward segment from north of Golden Glades to I-595, is scheduled to be completed in early 2012.
- Miami Intermodal Center (MIC) construction – is currently underway and scheduled to be completed in mid-2012.
- MIC-Miami International Airport (MIA) People Mover Connector – is also expected to be completed in 2012.
- Tri-Rail double tracking project – was completed and became operational with an increase of service to 50 trains per day during the Fall of 2007
- Golden Glades Intermodal Center project – construction of the 500+ space east parking lot was completed and opened for service in December 2009. Miami-Dade Transit realigned existing service in the same month to serve this additional surface parking lot. In addition, the Intermodal Center project is still currently listed in FDOT's Five-year work program during the year 2014.

In conclusion, progress has been made in achieving this objective. The objective remains relevant and, therefore, should be retained. No change to the text of this objective is recommended.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained.

Objective MT-5
Provide equitable transportation services to all groups in the metropolitan population, including the special transportation needs of the elderly, persons with disabilities, low income and other transit dependent persons.

CDMP Monitoring Measure. MDT will monitor and compile necessary data in compliance with the applicable reporting requirements of the Title VI Civil Rights Requirements, the Americans with Disabilities Act of 1990, and Chapter 427, Florida Statutes.

Objective Achievement Analysis. MDT provides a review every three years for the Federal Transit Administration's Title VI Civil Rights program. The last review was completed and submitted in October 2009. The triennial review addresses the following requirements:

- Ensures that the level and quality of transportation service is provided without regard to race, color or natural origin.
- Identifies and addresses, as appropriate, disproportionately high and adverse human health and environmental effects, including social and economic effects of programs and activities on minority populations and low-income populations;
- Promotes the full and fair participation of all affected populations in transportation decision making;
- Prevents the denial, reduction or delay in benefits related to programs and activities that benefit minority or low-income populations; and
- Ensures meaningful access to programs and activities by persons with limited English proficiency.

MDT also provides the necessary information in the Annual Update of the Americans with Disabilities Act (ADA) of 1990 Complementary Paratransit Plan. The document includes a progress report on compliance with the paratransit service criteria. It also provides a five-year demand forecast estimate for paratransit needs, budget cost, vehicle estimates and public participation documentation.

Chapter 427, F.S. and Rule 41-2 establishes and mandates the creation of a coordinated transportation system for the "transportation disadvantaged" in the State of Florida. The Commission for the Transportation Disadvantaged (CTD) was created to carry out this state mandate. In Miami-Dade County, Miami-Dade Transit is charged with the responsibility of implementing the program, applying for grants, and coordinating the transportation for the disadvantaged. To support this program, $1.50 is added to the cost of all vehicular license tags sold in the State, in addition to revenues from parking tickets for illegal parking in handicapped designated spaces. These funds are placed in the Transportation Disadvantaged Trust Fund (TDTF) administered by the CTD. Miami-Dade County received $7.2 million in FY 2008 from the TDTF. The Local Coordinating Board allocates $2 million to be spent on Metropasses and tokens for the disadvantaged and the remaining $5.2 million to offset the cost of paratransit trips for the disabled. There are 250 agencies in Miami-Dade County receiving Metropasses and tokens subsidized through the TDTF. The passes and tokens are provided free of charge to agencies, programs and entities that serve:

- School children who are at risk receiving a basic education, or cannot afford public transportation and not served by the school bus system;
- Economically disadvantaged parents who are at risk and are mandated to attend counseling and parenting classes so that they can be reunited with their children or to become self-sufficient;

- Elderly who want to remain active participants in the community, but cannot afford transportation to hot meals sites, physicians, volunteer groups, and social events.
- Disabled individuals who do not qualify for ADA paratransit;
- Individuals who are homeless and participate in programs via social service departments, programs or agencies that serve the homeless;
- Individuals who are unemployed and participate in job training and job placement programs;
- Individuals at risk participating in rehabilitative programs (alcohol and drug abuse, and domestic violence); and
- Individuals who, because of income status, inability to drive due to age or disability, are unable to transport themselves or to purchase transportation services and have no other form of transportation available.

Other programs such as the Section 5310, Golden Passport, Patriot Passport and Medicaid Metropass are also included in the coordinated transportation system.

Overall, a great deal of progress has been made in achieving this objective, and the monitoring measures have been carried out. This objective is relevant and should be retained. No changes to the text of this objective are presently recommended.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained.

Objective MT-6
Continue to coordinate Miami-Dade County's Mass Transit Sub-element, and the plans and programs of the State, region and local jurisdictions.

CDMP Monitoring Measure. MDT will review and comment, as necessary, on various transit-related plans and programs of the Florida Department of Transportation, the Metropolitan Planning Organization, and where appropriate, adjacent counties. Monitor annually, the status of improvements programmed for implementation in the Transportation Improvement Program (TIP), and the Capital Improvements Element (CIE), and other improvements identified in the Mass Transit Sub-element.

Objective Achievement Analysis. MDT reviews all Federal and State-funded transportation projects during planning and development stages through the State Clearinghouse Advance Notification process. The Development of Regional Impact (DRI) review process, allows MDT to review and comment on all applications for developments of regional impact. Such a review provides the opportunity to comment on proposed large-scale developments within adjacent counties, as well as those proposed within Miami-Dade County. The Development Impact Committee (DIC) review process also provides MDT the opportunity to review and comment on all applications for developments of County impact.

MDT continues to coordinate mass transit planning with the plans and programs of the Florida Department of Transportation, the South Florida Regional Transportation Authority (Tri-Rail), the South Florida Regional Planning Council, the Southeast Florida Transportation Council, Broward County Transit, the Miami-Dade Expressway Authority (MDX), the Miami-Dade County Metropolitan Planning Organization, the Miami-Dade County Public Works Department, and the Miami-Dade Department of Planning and Zoning.

As a result of this coordination, MDT operates local Bus Route E serving the Hallandale Beach Boulevard/Diplomat Mall area and Route 99 along the County line of Miami-Dade and Broward County. MDT also operates two commuter-type routes (Dade/Monroe Express and the Card Sound Express) into Monroe County via the Overseas Highway and Card Sound Road. Broward County Transit (BCT) also operates local routes, 1, 2, 6, 9, 15 and 18 in northern Miami-Dade County. The Tri-County Commuter Rail Authority (Tri-Rail) operates a commuter train service that operates along a 71-mile, double-track line linking Palm Beach, Broward and Miami-Dade County. Tri-Rail serves five stations in Miami-Dade County, including one directly linked to the Metrorail system at the Tri-

Rail/Metrorail Transfer station at NW 79th Street, in Hialeah. One other station, the Miami Airport station, will also link to the Metrorail system when the Earlington Heights/MIC extension is completed in 2012. The other remaining Tri-Rail stations within Miami-Dade County are located at Golden Glades, Opa-locka, and the Hialeah Market station just north of the MIA.

In conclusion, this objective has been achieved through the required coordination and review processes, and the monitoring measure has been carried out. Since this objective is directive in nature and continues to be relevant, it should be retained. No changes to the text of this objective are presently recommended.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained.

Objective MT-7
Initiate, by 2007, protection strategies for Mass Transit rights-of-ways and exclusive transit corridors.

CDMP Monitoring Measure. MDT will investigate and report on strategies for preserving planned mass transit rights-of-ways and exclusive corridors by 2007.

Objective Achievement Analysis. Progress has been slow towards achieving this objective. The only effort made so far to investigate strategies for preserving planned mass transit rights-of-way goes back to August 1993, when the MPO commissioned the Railroad Rights-of-Way Assessment Study for the purpose of identifying rail right-of-way segments, their potential future uses and investigating methods for preservation. However, Miami-Dade County has adopted strategies for roadway rights-of-ways, which are or will be used by MDT's bus fleet. The County through the provisions of Section 33-133, Right-of-way Plan and Minimum Width of Streets and Ways, of the Code of Miami-Dade County, preserves the minimum right-of-way widths for streets, roads and public ways for the unincorporated area of the County. Also, the Public Works Manual sets forth minimum requirements governing public and private roadway design and construction. Enforcement of Section 33-133 of the Code and the manual implement the minimum roadway right-of-way requirements established and by the County.

In 2004 and 2005, the MPO also studied various ways to enhance bus service in Miami-Dade County. One of the concepts was to operate buses on the shoulders of expressways to create a faster and more attractive bus service. An Interlocal Agreement was executed between MDT and the Florida Department of Transportation (FDOT) for establishing a Pilot Project for Bus-on-Shoulders in January 2006. MDT entered into agreements with FDOT and the Miami-Dade Expressway Authority (MDX) to allow transit buses along the shoulders of the expressways under their jurisdictions in March 2006. The Pilot Project was created along SR-874 (Don Shula Expressway) and SR-878 (Snapper Creek Expressway) based on three existing MDT Kendall Area Transit (KAT) routes as the base for the Pilot Project. The three KAT routes operate on Sunset Drive (Route 272), Kendall Drive (Route 288) and Killian Drive (Route 204) respectively. Bus-on-Shoulder service on these routes started in March 2007. A Bus-on-Shoulders Service Evaluation Study was completed by the MPO in January 2009 documenting nearly two years of service during the pilot project. The report's results documented that expanded operation on shoulders can attract riders and improve overall bus transit service in the area. The report's findings concluded that there was no increase in traffic accidents, no adverse wear on the highway's shoulders or other features were evident with bus use, that the service did gain riders, and that riders judged the project favorably.

In conclusion, very little progress has been made in achieving this objective, but the objective remains relevant, and should be retained. However, since MDT has not investigated strategies to protect future mass transit rights-of-ways, the planning horizon of this objective should be changed to the year 2014.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained. However, Policy

MT-7B should be revised, or a new policy should be added under the objective, to include buses-on-shoulders as an additional highway improvement that needs to be further studied. The MPO's January 2009 study demonstrates that the pilot concept was successfully implemented. Therefore, the County should continue to coordinate with the FDOT, MDX and other transportation agencies to incorporate transit uses within highway facilities.

Objective MT-8
Encourage ease of transfer between mass transit and all other modes, where it improves the functioning of the transportation network.

CDMP Monitoring Measure. MDT will provide an annual listing of improvements made during the previous year of the park and ride lots and garages, bicycle lockers and racks, pedestrian walkways and taxi and jitney stands that are incorporated as part of transit facilities. In the course of reviewing highway improvement projects, comments will be made related to the provision of bus turnout bays, bus shelters, HOV lanes and other associated facilities to accommodate mass transit.

Objective Achievement Analysis. The information requested in the monitoring of this measure was reported annually within the Transit Development Plan (TDP). MDT is also currently maintaining a Parking Inventory Report which is updated whenever a change is implemented and was used to assess this objective. In 2002, The Evaluation and Appraisal Report (EAR) reported that MDT had 9,702 park and ride spaces available, including Metrobus park/ride lots and Metrorail station lots and parking garages. Presently, MDT has 12,329 spaces available. As reported in the 2003 EAR, development and redevelopment of surrounding lands adjacent to Metrorail stations decreased the number of spaces available. However, during this reporting period, a new Metrorail station was opened, another station had a development project completed which include the replacement of a garage, and a major initiative to add parking capacity along the Busway and the Busway extension is underway. A total of 2,627 parking spaces were added during this EAR reporting period. MDT will continue to pursue additional opportunities to identify locations especially along the Busway to better serve its patrons.

On average about 71% of parking spaces are utilized on any given weekday. However, actual parking usage is highest on the southern portion of the Metrorail line exceeding 98% occupancy at the three southern-most stations. Usage at all but one of the Busway park and ride lots maintains an average of 96% occupancy rate. Since 2003, three new park and ride lots were added and negotiation for additional parking spaces at a pre-existing lot which have resulted in 824 additional spaces for Busway patrons. At the Metrobus Golden Glades west parking lot, usage occasionally reaches nearly 98% utilization. Existing bus service was realigned to serve the newly opened 500+ space east parking lot at the Golden Glades to maximize the use of the additional parking spaces. New emphasis is made to identify new park and ride locations for express bus routes and along the Busway. The number of parking spaces provided for Metrobus and Metrorail are summarized in Table 2.2.2-2 below.

Bike lockers are available for rent at eleven of the twenty-two Metrorail stations. This rental program is administered by the Miami-Dade County Metropolitan Planning Organization. Currently, Metrorail bike locker rental usage averages about 50% system-wide. The highest utilization is concentrated along the southern alignment stations with very little usage at the northern-most stations. Also, bike rack parking is available free of charge at every single Metrorail station. Every Metrobus is equipped with bike racks on the front of the vehicle to facilitate greater ease of transfer between transit modes.

With regard to the planning and design of rapid transit sites, terminals, transit centers, bus stations and other transfer sites, MDT has given high priority to the provision of safe, attractive and comfortable environments for pedestrian, vehicular, bicycle and transit users.

Regarding the coordination and incorporation of taxi and/or jitney stands as part of transit facilities, a pilot program was initiated in 2004 whereby five Metrorail stations (Dadeland South, Dadeland North, Coconut Grove, Hialeah and Okeechobee)

would have taxi stands located near each station's kiss-and-ride areas. Signage was also installed to designate the proper area where taxi service could be conducted.

Miami-Dade Transit also plans for and maintains inter-governmental cooperation with various municipalities for accommodations between Metrobus/Metrorail service and municipal circulator bus service. Two Metrorail stations, Douglas Road and Hialeah, have city-run circulator bus service (Coral Gables and Hialeah respectively) currently serving the stations. Additionally, as part of the system-wide Service Efficiency and Restructuring Initiative, MDT staff met with every municipality in 2009 to review coordination between agencies. Currently, twenty-one municipalities (Aventura, Bal Harbour, Bay Harbor Islands, Coral Gables, Doral, Hialeah, Hialeah Gardens, Medley, Miami Beach, Miami Lakes, Miami Shores, Miami Springs, North Bay Village, North Miami, North Miami Beach, Palmetto Bay, Sunny Isles Beach, Surfside, Sweetwater, Virginia Gardens and West Miami) either contract out or operate their own circulator bus service. Several other municipalities (Cutler Bay, Homestead, Miami, Miami Gardens, Opa-locka and South Miami) are studying the implementation of city operated/funded circulator bus service financed in part by each city's PTP (People's Transportation Plan) sales tax monies or by ARRA (American Recovery and Reinvestment Act) funding.

Roadway improvement projects are reviewed through the State Clearinghouse Advance Notification process for FDOT projects, and the Early Coordination Review process for County projects. These reviews allow MDT the opportunity to provide input on the provision of appropriate transit features during the design stages of state and County roadway improvements.

In conclusion, progress has been made in achieving this objective. The objective remains relevant and, therefore, should be retained. No change to the text is recommended.

Policy Relevance. All the policies under this objective are directive in nature, continue to be relevant and should be retained.

Table 2.2.2-2
Miami-Dade Transit
Active Park & Ride Facilities (2003 vs. 2009)

Facilities Existing	No. of Parking Spaces (2003)	No. of Parking Spaces (2009)
Metrobus		
Golden Glades	1,350	1,561
Hammocks Town Center	50	50
MDC Kendall Campus	25	-
Coral Reef (SW 152 St / SW 117 Ave)	115	95
Sunset Strip	30	-
Busway / SW 152nd Street	91	126
Busway / SW 168th Street	-	149
Busway / SW 200th Street (Cutler Ridge)	50	-
Busway / SW 112th Avenue	-	456
Busway / SW 244th Street	-	95
Busway / SW 296th Street	-	139
Sub-total	1,711	2,671
Metrorail		
Dadeland South	1,284	1,323
Dadeland North	1,973	1,975
South Miami	1,738	1,774
University	195	401
Douglas Road	190	226
Coconut Grove	199	204
Vizcaya	91	93
Overtown	35	-
Santa Clara	104	61
Allapattah	66	66
Earlington Heights	93	95
Brownsville	428	423
Dr. Martin Luther King, Jr. Plaza	-	643
Northside	294	292
Tri-Rail	-	39
Hialeah	315	321
Okeechobee	986	1,012
Palmetto	-	710
Sub-total	7,991	9,658
Total	9,702	12,329

Source: 2003 EAR and 2009 MDT Parking Inventory List

Future Mass Transit Map Series: The map series will be updated to reflect changes to existing and planned transit facilities based on the most current information available. For example, the South Dade Busway was completed, is now opened for service, and should be shown as an existing facility rather than as a planned facility.

2.2.3 AVIATION SUBELEMENT

Aviation Monitoring Program
The Miami-Dade Aviation Department ("MDAD") recently made major amendments to the Aviation Subelement of Miami-Dade County's Comprehensive Development Master Plan ("CDMP") through CDMP Application No. 14 of April 2007 (Ordinance 08-47 of April 24, 2008) and Application No. 2 of October 2008 Cycle (Ordinance 09-90 of October 8, 2009).

These revisions include, but are not limited to, the following:

- Removed Opa-Locka West Airport from the 2015 and 2025 Land Use Plan (LUP) map
- Revised economic impact-business forecast statistics due to a depressed economy and residual impact of 9/11 event on the aviation industry which has lost $42 billion in the past five years.
- Revised MDAD's Airport System maps to reflect runway protection zones, points of ingress and egress, and runway extensions/construction (where applicable).
- Created Airport Land Use Master Plan maps for Miami International Airport ("MIA"), Opa-locka Executive Airport ("OPF"), Kendall-Tamiami Executive Airport ("TMB") and Homestead General Aviation Airport ("X51") based upon their respective Airport Layout Plans ("ALP").
- Updated text to eliminate references to "airside and landside areas" and simplifying the Airport Land Use Master Plan maps by defining aviation, aviation-related and non-aviation uses.
- Included a list of MDAD's Capital Improvement Program ("CIP") which is an aggregation of projects managed by MDAD and implemented in the Airport System Master Plan.

Objective AV-1
Provide facilities necessary to accommodate forecast aviation demand and optimize level of service.

CDMP Monitoring Measure.

- Annual enplanement[2], cargo tonnage and operational[3] levels at air carrier facilities.
- Annual operational levels at general aviation airports.
- Facility improvements at air carrier facility(ies).
- Facility improvements at general aviation and training and transition facilities.

Objective Achievement Analysis. The MDAD consistently monitors the number of passengers, cargo tonnages, and operations for each of the County's aviation facilities. Of these facilities, the MIA is the County's primary aviation facility and International Gateway Hub. Table 2.2.3-1 below shows total recorded number of passengers, cargo tonnage, and operations per year for MIA since 2003. The table shows a yearly increase in number of passengers from 2003 to 2008 and a slight decrease in 2009, accounting for an approximate 14.5% increase in passenger volumes at an average annual growth rate of approximately 2.28% through the 6-year period.

Table 2.2.3-1 shows an approximate 4.88% decrease in cargo handled by MIA between the years 2003 and 2009, representing an average annual decline of approximately 0.83%. Cargo tonnages generally trended upward through 2007 with 2004 accounted for the highest year of increase (8.65%), but has sharply declined in 2008 and 2009 (6.04% and 13.80% respectively).

Table 2.2.3-1 also shows that the MIA experienced an approximate 15.81% decrease in operations through the 6-year period from 2003 to 2009, representing an annual decline of approximately 2.83%. However, operations in 2006 and 2007 experienced moderate growth of 0.75% and 0.41% respectively.

[2] Airplane boardings.
[3] Airplane take-offs and landings.

Table 2.2.3-1
Miami International Airport
Total Passenger, Cargo and Operations for Years 2003 to 2009

Year	Passengers	% Growth	Cargo (Tons)	% Growth	Operations	% Growth
2003	29,595,618	-1.55	1,805,158	0.8	417,423	-6.46
2004	30,165,197	1.92	1,961,304	8.65	400,864	-3.97
2005	31,008,453	2.80	1,934,546	-1.36	381,610	-4.80
2006	32,533,974	4.92	2,018,291	4.33	384,477	0.75
2007	33,740,416	3.71	2,120,159	5.05	386,058	0.41
2008	34,063,531	0.96	1,992,029	-6.04	371,519	-3.77
2009	33,886,025	-0.52	1,717,091	-13.80	351,417	-5.41

Source: Miami-Dade Aviation Department and Department of Planning and Zoning, January 2010.
Notes: % Growth indicates growth total passenger and operations in relation to the preceding year

Policy AV-1A presents Forecast Attainment Dates that are the years by which MDAD projects total passenger-enplanement level would reach 35 million, 39 million and 55 million respectively. Policy AV-1A also identifies the year 2009 as the preferred forecast attainment date for the MIA to reach the 35 million passenger-enplanement level. Based on the Table 2.2.3-1 above, the MIA saw over 34 million passengers in 2008, approaching 35 million by the 2009 preferred attainment date, but saw a decline in passenger volumes in 2009 to approximately 33.9 million. However, despite the 2009 decrease in passenger volumes, and general decreases in cargo and operation volumes over the reporting period, MDAD continues to improve the aviation system capacity through the development of facilities and operational improvements to make MIA more competitive and to meet future forecasts. The MDAD recently revised the passenger and operation forecast levels and adjusted the capital improvements schedule to meet the revised forecast levels of air carrier activities. For instance, the 39 million passenger-enplanement level for MIA, which was forecast to occur between 2010 and 2020, is now expected to occur between 2020 and 2030.

The County's general aviation (GA) airports are unique and cater to different sectors of the County's aviation business. Opa-locka Executive (OPF) and Kendall-Tamiami Executive (TMB) airports serve as MIA general aviation relievers as well as international corporate and business aviation jet centers. Homestead General Aviation Airport (X51) is the County's General Utility Airport and Miami-Dade Collier Training and Transition Airport (TNT) is used as a training facility for general aviation, commercial and military flight operations. Table 2.2.3-2 below shows the total number of operations at the County's general aviation airports. The County's general aviation airports experienced approximately a 1.33% decline in annual operations over the reporting period. The airports experienced annual increase in operations from 2006 to 2008 with 2007 accounting for the highest increase (17.71%) during the period. It should be noted that Opa-locka West Airport was decommissioned in 2006 and the operations usually handled by that airport generally shifted to the remaining general aviation airports.

Policy AV-1B presents Forecast Attainment Dates by which MDAD projects that the GA airports would reach 750,000 and 875,000 total annual operations. Policy AV-1B identifies the year 2012 as the most optimistic forecast attainment date and year 2025 as the most likely attainment date for 750,000 total annual operations. Based on the Table 2.2.3-2 below, the GA airports saw over 523,000 total operations in 2008, but saw a decline in 2009 to just under 400,000 operations.

MDAD has a large ongoing Capital Improvement Program (CIP) aimed at the renovation of existing and construction of new facilities to meet current and future forecasted passenger, cargo, and operations demands at County airports, especially the MIA. Miami-Dade County undertook significant improvements at the MIA as part of a $6.3 billion CIP. These improvements encompass all aspects of airport operations from terminals, including a

new North Terminal Development (NTD) program and a South Terminal Development (STD) program, to terminal access, ground transportation improvements including parking structures, people mover (MIA-Mover) to the Miami Intermodal Center, as well as infrastructure and roadway improvements for the cargo facilities and the airfield. The completed improvements are included in Table 2.2.3-3 below.

Table 2.2.3-2
General Aviation Airports
Total Operations for Years 2003 to 2009

Aviation facility	2003	2004	2005	2006	2007	2008	2009
Opa-locka Executive (OPF)	145,398	140,179	137,192	128,126	121,312	104,617	99,737
% Growth	-3.94%	-3.59%	-2.13%	-6.61%	-5.32%	-13.77%	-4.66%
Kendall-Tamiami Executive (TMB)	196,339	195,640	186,307	219,078	274,207	316,106	216,394
% Growth	12.71%	-0.36%	-4.77%	17.59%	25.16%	15.28%	-13.54%
Homestead General (X51)	79,634	79,862	73,621	70,105	82,668	75,667	64,040
% Growth	11.28%	0.29%	-7.82%	-4.78%	17.92%	-8.47%	-15.37%
Dade Collier Training & Transition (TNT)	9,156	11,214	6,188	2,906	16,456	27,552	17,170
% Growth	-8.37%	22.48%	-44.82%	-53.04%	466.28%	67.43%	-37.68%
Opa-locka West[1]	12,000[2]	12,000[2]	12,000[2]	5,000[2]			
% Growth	-14.28%	0%	0%	-50%			
Total Operations	430,527	426,895	403,308	420,215	494,643	523,942	397,341
% Growth	2.24%	-0.84%	-5.53%	4.19%	17.71%	5.92%	-24.16%

Source: Miami-Dade Aviation Department and Department of Planning and Zoning, January 2010
Notes: % Growth indicates growth in total operations in relation to the preceding year
[1] Opa-locka West Airport decommissioned in 2006
[2] MDAD's estimated operations for Opa-locka West Airport included for information purposes only and not included in Total Operations

Table 2.2.3-3
Capital Improvement Projects

Project	Completion
MIA	
Landside	
• New 1540-space parking garage - Parking capacity increased (Park 6)	Planned by 2015
• Various renovation and expansion projects for parking facilities including a new short term parking lot	Completed 2008
• Central revenue collection plaza for long-term parking garages	Completed 2005
• Upper and Lower Terminal Vehicular Drives extension	Completed 2007
• Expand curb from 2,100 LF to 3,300 LF	Completed 2007
• Additional lane at Arrival and Departure drives	Scheduled 2012
• New Central Collection plaza for all revenue parking areas	Completed 2005
• MIA Mover to Rental car facility and MIC	Scheduled 2012
• Cell phone lot	Completed 2005
• Future Central Boulevard widening and realignment	Scheduled 2012
• Taxi lot expansion	Completed 2004

Table 2.2.3-3 (continued)
Capital Improvement Projects

Project	Completion
Terminal improvements	
• South Terminal expansion	Completed 2007
• North Terminal expansion	Scheduled 2012
• APM for connectivity	Scheduled 2010
• Gate delivery bag system	Scheduled 2012
• In-Line EDS system	
○ South Terminal	Completed 2007
○ North Terminal	Scheduled 2012
• 3,600 Passenger/hour FIS	Scheduled 2012
• Modern concessions	Ongoing (242 of total 260)
• Central chiller plant expansion	Completed 2004
Airside Program	Completed 2003
• New fourth runway (8L-26R) and associated parallel taxiways	
• Reconstruction of mid-field area with a new mid-field dual taxiway system and high-speed exits	Completed 2005
• New Air-Traffic Control Tower ("ATCT")	Completed 2002
• Two new Aircraft Rescue and Fire Fighting ("ARFF") facilities	Completed 2002
• Runway 9-27 rehabilitation	Completed 2007
• Runway 8R-26L pavement rehabilitation	Scheduled 2010
GA Airports	
Airside	
• TMB- Planned Runway 9R-27L extension	Scheduled 2010
• OPF- Runway 12-30 improvements	Completed 2004
• X51-Planned Runway 18-36 extension	Planned 2015

Source: Miami-Dade Aviation Department, January 2010

In conclusion, this objective has been achieved, remains relevant and should be retained. Therefore, no change to the text of this objective is recommended. However, it is recommended that the fourth monitoring measure be revised to indicate that the referenced facility improvements are to airports rather than aviation facilities.

Policy Relevance. Policy AV-1A should be revised to make the policy specific to the passenger activity of the MIA and be further modified along with Policy AV-1B to reflect the new MDAD forecast horizons of 2020 and 2030. Policy AV-1C should be deleted as the heliports system plan was implemented as required by the policy. The remaining policies under this objective continue to be relevant and should be retained

Objective AV-2
Maintain and enhance the role of each airport in the aviation system.

CDMP Monitoring Measure. Consistency of implementation role with the roles defined in this Subelement for each airport in the aviation system.

Objective Achievement Analysis. The County has taken all the initiatives necessary to ensure its aviation facilities are developed consistent with and maintain the roles indicated in the policies under this objective. The MIA is the County's International Gateway Hub and commercial air service airport while the general aviation airports are unique and cater to different sectors of the County's aviation business. Opa-locka Executive and Kendall Tamiami Executive airports serve as MIA general aviation relievers as well as international corporate and business aviation jet centers. Homestead General Aviation Airport is the County's general utility airport and Miami-Dade Collier Training and Transition Airport (TNT) is used as a training facility for general aviation, commercial and military flight operations.

MDAD is preserving and enhancing MIA's role as an international gateway hub and commercial Air Service Airport. MIA is the third leading gateway to the USA and the largest gateway to the Latin American/Caribbean region with over 1,100 weekly departures to 62 destinations in the region. As outlined in the achievement analysis for Objective AV-1, MDAD has a large ongoing Capital Improvement Program (CIP) aimed at the renovation of existing and construction of new facilities to meet current and future forecasted passenger, cargo, and operations demands at County airports, especially the MIA. The MIA passenger traffic in 2009 made it the busiest airport in Florida and the second-leading airport in the U.S. for international passengers despite a full-year of economic recession worldwide. MIA was one of the few U.S. airports to maintain stable passenger traffic levels in 2009, serving 33.9 million passengers down only half a percentage point from 2008. The MIA currently ranks as the second-leading airport in the U.S. for international passengers after the John F. Kennedy International Airport. MIA continues to be Florida's leading international gateway, handling 69.5 percent of the state's arrivals from abroad and retained its domestic market serving 17.9 million domestic passengers in 2009, approximating to its market service share in 2008.

MDAD is seeking to enhance its general aviation airports to support and expand the economic activities of the surrounding communities while serving future growth in general and corporate aviation in Miami-Dade County. Both OPF and TMB are considered Transport Airports serving as MIA general aviation reliever as well as international corporate and business aviation jet centers. OPF is experiencing a modernization and transformation as a result of third-party and tenant development. There have been efforts to re-develop OPF into a modern, efficient and environmentally friendly international corporate facility. The replacement of old, vacant and obsolete facilities with modern aircraft facilities is helping to optimize revenue generation, and is generating aviation-related employment. TMB is a primary center for corporate aviation in southern Miami-Dade and Monroe counties with a planned runway extension and Public-Private Investment Partnerships (PPIP) efforts. The X51 with its planned runway extension maintains its designation as a General Utility Airport which includes general, corporate and business aviation, flight training, sport and recreation.

In conclusion, this objective has been achieved, remains relevant and should be retained. Therefore, no changes to the text of this objective are currently recommended.

Policy Relevance. Policies under this objective continue to be relevant and should be retained. However, Policy AV-2A should be revised to indicate that it applies only to the MIA. Policy AV-2C should be revised to reflect the current name of the Miami-Dade/Collier Training and Transition Airport (TNT) and to make the policy specific to this airport.

Objective AV-3
Minimize airspace interactions and obstructions to assure airspace safety for aviation users and operators and the residents of Miami-Dade County.

CDMP Monitoring Measure. Number of structures penetrating the County airports' navigable airspace permitted since the latest EAR.

Objective Achievement Analysis. MDAD staff has indicated that no structure has been erected since 2003 that penetrates the navigable airspace. The Federal Aviation Administration (FAA), Chapter 333, Florida Status, and the local airport zoning ordinances control airspace interactions and obstructions in and around airports. Furthermore, local airport height zoning ordinances were adopted by the County for Miami International, Opa-locka Executive, Kendall-Tamiami Executive and Homestead General Aviation airports, and are being implemented. Consistent with the adopted airport zoning Ordinances, MDAD's Planning Division has reviewed and recommended the denial of a several proposals for high rises that would have exceeded the maximum allowed heights. Building proposals are analyzed on a regular basis for compatibility with airport zoning ordinances, and permits are required to be withheld if proposals exceed height restrictions as defined in the pertinent zoning ordinance.

In conclusion, this objective has been achieved, remains relevant and should be retained. No changes to the text of this objective are currently recommended. However, with consideration of the fact that the County's airports are within and/or adjacent to several municipalities and building permit information is not readily available from all adjacent municipalities, it is recommended that the monitoring measure be amended to include a measure easily verifiable by the County.

Policy Relevance. All policies under this objective continue to be relevant, are ongoing and should be retained.

Objective AV-4
Optimize airport utilization by maintaining and operating existing facilities at 80 percent capacity before major capacity enhancements are implemented.

CDMP Monitoring Measure. Capacity enhancements at airports operating at demand to average service volume (ASV) ratios greater than 0.8.

Objective Achievement Analysis. As a result of implemented CIP projects, each airport within the County's system of airports is operating below the established threshold of 0.8 capacity, therefore, MDAD has not had to prepare for any major capacity enhancements. The construction of Runway 8L-26R at MIA and its opening in 2003 has increased the airport's airfield capacity. MDAD continues to use favorable cost-benefit considerations in airport improvement decisions, and has successfully expanded airfield capacity by enhancing aircraft movement efficiency and safety, reducing delays, and accommodating changes in aircraft fleets.

The Federal Aviation Authority (FAA) established the optimum per hour capacity benchmark for MIA at 116 to 121 flights/operations per hour (departures and arrivals). However, airport capacity is determined through the airport master planning process involving assessing airport capacity requirements after conducting an inventory of current facilities and forecasting (modeling) future aviation activity. This type of analysis is conducted in conjunction with aviation consultants, airlines and the aviation community addressing the short, mid and long term demand/capacity of the aviation system.

In conclusion, this objective has been achieved, remains relevant and should be retained with modifications. The modification should require the implementation of major airport improvements to be based on an airport master plan rather than a threshold of capacity utilization. The monitoring measure should also be revised accordingly.

Policy Relevance. Policies under this objective continue to be relevant, are ongoing and should be retained.

Objective AV-5
Seek to make capacity of airport access roadways and transit consistent with airport capacity.

CDMP Monitoring Measure:

- Constructed and programmed roadway improvements serving the County's aviation facilities since latest EAR.
- Levels of service of airport access roads at date of EAR contrasted with those since 2003.

Objective Achievement Analysis. Roadway capacity enhancement has become a critical issue in Miami-Dade County as vehicular traffic demand continues to grow faster than available funds to make the necessary improvements to meet existing and future traffic demand. In spite of this problem, the State of Florida, Miami-Dade County Public Works and Aviation Departments have made efforts to improve access to the County's major airports and primarily the MIA. The roadway improvement program at MIA proposes to improve ground access to the Airport, primarily by widening and relocating the Airport's perimeter roadway, extending the Terminal Building's upper and lower drives to accommodate the South Terminal expansion; and increasing parking capacity and centralizing and automating the parking revenue collection process. The re-routing of Perimeter Road is a significant project scheduled for completion in 2011. The

Perimeter Road project will secure the fuel tank farm area and allow for traffic to bypass the aviation fuel storage tanks and allow the tanks to be accessed only through airside. The benefits of this change in access are 1) increased security in an area storing highly-flammable material and 2) increased safety by removing fuel tanker trucks from the public roadways. Other programmed transportation improvement projects that will provide improved access to the MIA include the following:

- Central Boulevard: To accommodate forecasted growth, improvement programs include the widening of Central Boulevard, new service roads, wider bridges and improved access to parking facilities. The Miami-Dade Expressway Authority (MDX) has an interlocal agreement with MDAD in which MDX will use its funds to design and construct the project in conjunction with Florida Department of Transportation (FDOT) funding. This project is scheduled for completion in 2012.

- 25 Street Viaduct: Construction is currently underway on the East Segment of the NW 25 Viaduct Project. The limits for the East Segment of the project are from SR 826 to NW 67 Avenue. The FDOT project includes the reconstruction / widening of NW 25th Street and the construction of a viaduct from just east of SR 826 to NW 68 Avenue where it curves south terminating at NW 22 Street, adjacent to the MIA Westside cargo area. This project is scheduled for completion in 2012.

- MIA Mover: Construction is currently underway for the elevated train that will connect the MIA and the Miami Intermodal Center (MIC) also under construction by the FDOT. The MIA Mover will run through Central Boulevard. It will be a one-and-a-quarter-mile people mover system with the capacity to transport more than 3,000 passengers per hour between the airport and the MIC. This MIA Mover project is scheduled for completion in 2012.

- Metrorail Extension: In May 2009, ground was broken on a 2.4 mile Metrorail extension "Airport Link" from the Earlington Heights Station to the MIC located just east of the MIA. This Metrorail extension in addition to the MIA Mover that will connect the airport with the MIC will provide extraordinary transit service to the MIA. The Metrorail extension is scheduled for completion in 2012. In addition, the Miami-Dade Transit introduced Metrobus Route 150 which is an Express bus service from the MIA to Miami Beach with a stop at the at the Earlington Metrorail Heights Station. These mass transit service improvements and ongoing roadway projects mentioned above in addition to roadway improvements completed between 2003 and 2009 continue to provide improved access to the County's airports, primarily the MIA.

Additionally, Table 2.2.3-4 below lists the roadway improvements completed since 2003 in the vicinity of each County airport.

In keeping with the various planning efforts addressing off-airport access improvements, the MDAD continues to hold membership in the Metropolitan Planning Organization's (MPO's) Transportation Plan Technical Advisory Committee and the Transportation Planning Council. MDAD also provides input to the FDOT's 5-year work program and participates in various transportation working groups including the County's Long Range Transportation Plan.

Table 2.2.3-5 below shows the comparison of level of service for roadways in the vicinity of Miami-Dade's airport facilities. The table shows that, in general, the levels of service of major airports' access roadways have improved since 2003.

In conclusion, this objective has been achieved, remains relevant and should be retained. Therefore, no change to the text of this objective is recommended.

Policy Relevance. All policies under this objective continue to be relevant, are ongoing and should be retained.

Table 2.2.3-4
Roadway Improvements Completed In the Vicinity of County Airports Since 2003

Airport/Roadway	Project Location	Improvement
Miami International Airport		
Palmetto Expressway (SR 826)	Interchanges of SW 24 St /Coral Way & SR 90/SW 8 St	Add Lanes & Reconstruct
Palmetto Expressway	SW 2 St to SW 16 Street	Add Lanes & Reconstruct
Palmetto Expressway	at NW 36 Street	Reconstruction
Miami Intermodal Center (MIC)	LeJeune Rd at NW 21 St	Construct Major Interchange
MIC/MIA - LeJeune Rd	MIC/MIA Connector People Mover	Intermodal Hub Capacity
MIC Terminal LeJeune Road	MIC Terminal Access Roadways (Bridges 7 & 10)	Intermodal Hub Capacity
MIC - LeJeune Road	MIC LeJeune Rd C-D northbound	Add Thru Lane(s)
MIC - LeJeune Road	MIC C-D southbound	New Road Construction
MIC - LeJeune Road	NW 11 St to NW 25 St	Intermodal Hub Capacity Water Main installation on SR 953 NW 42 Ave.
SR 836 Extension	NW 137 Ave. to NW 107 Ave.	4-lane expressway extension
SR 836 Extension	NW 107 Ave. to NW 87 Ave.	New bi-directional mainline toll plaza
SR 836	SR 826/SR 836 Interchange to NW 72 Ave.	Eastbound shoulder Enhancements to allow for use as a travel lane
SR 836	East of NW 107 Ave. to HEFT	Additional lane from westbound SR 836 to southbound HEFT
SR 836	West of NW 57 Ave. to West of NW 72 Ave.	Add auxiliary westbound lane
SR 836	NW 87 Ave to NW 107 Ave.	NW 107 Ave. to NW 87 Ave. Improvements
HEFT	HEFT/SW 8 Street Interchange	New ramp from southbound HEFT to westbound SW 8 St.
HEFT	SR 836 to Okeechobee	Road widening
Okeechobee Road	Palm Avenue to E 7 Avenue	Road widening & bridge improvement
LeJeune Road	at Okeechobee Road	Construct Flyover
NW 97 Avenue	Bridge over SR 836	New 4-lane bridge & approaches
NW 97 Avenue	NW 25 Street to NW 41 Street	Widen road to 4 lanes
Opa-Locka Airport		
NW 17 Avenue	NW 119 Street to Opa-locka Blvd.	Widen road to 5 lanes
NW 62 Avenue	NW 105 Street to NW 138 Street	Widen from 2 to 3 lanes
Kendall-Tamiami Executive Airport		
Killian Parkway	at SW 104 Street	Intersection improvement
SW 137 Avenue	at SW 112 Street	Intersection improvement
SW 137 Avenue	SW 96 Street to SW 90 Street	Intersection improvements
SW 137 Avenue	at SW 120 Street	Add Lanes
SW 137 Avenue	SW 184 Street to SW 152 Street	Addition of two lanes
SW 117 Avenue	SW 184 Street to SW 152 Street	Widen to 4 lanes
SW 184 Street	SW 137 Ave. to SW 127 Ave.	Widen to 4 lanes
SR 874	SR 874 Toll Plaza	New north & southbound express lanes
SW 120 Street	Bridge over Black Creek Canal	New 4-lane bridge
HEFT	SW 184 St to SW 152 St	
Homestead Executive Airport		
Krome Avenue	at SW 288, 200, 184, 216 Streets	Add Turn Lanes

Source: Miami-Dade County Citizen's Transportation Improvement Program for Years 2003 to 2010.
Compiled by Miami-Dade County Department of Planning and Zoning, April 2010.

Table 2.2.3-5
Major Access Roads
2003-2009 Roadway LOS Comparison by Airport

Airport/Roadway	2010 Conditions	2010 TIP*
Miami International		
SR 948/NW 36 Street	Deteriorated**	None
NW 25 Street	Improved	Road widening and reconstruction
NW 25 Street Viaduct	N/A	New road construction
NW 42 Court	N/A	Roadway Extension; Intermodal Hub Capacity
Perimeter Road	No change	Rerouting for Intermodal Hub Capacity
SR 836/Dolphin Expwy.	No change	Add east bound auxiliary lane
SR 836/SR 826	No change	New 4-lane divided express lanes & Interchange modification
SR 826/Palmetto Expwy.	Deteriorated	Add auxiliary lanes
SR 112/Airport Expwy.	Deteriorated**	Interconnector with SR 836
SR 953/NW 42 Avenue	Deteriorated**	None
NW 57 Avenue	Improved	None
SR 969/NW 72 Avenue	Improved	Widen 2 to 4 lanes and const. bridge
SR 25/Okeechobee Road	Improved	None
Opa-Locka Executive		
SR 823/NW 57 Avenue	No change	None
NW 138 Street	Improved	None
SR 924/Gratigny Parkway	Improved	Toll system conversion & roadway reconstruction
SR 924/Gratigny Parkway	Improved	Extension to HEFT & I-95; PD&E
SR 826/Palmetto Expwy.	Deteriorated**	None
NW 42/37 Avenue	Improved	None
NW 27 Avenue	Improved	None
Kendall-Tamiami Executive		
SR 825/SW 137 Avenue	Improved	None
SR 821/HEFT	No change	None
SR 94/SW 88 Street	Improved	None
SW 104 Street	Deteriorated**	None
SW 120 Street	No change	Widen 2 to 4 lanes
SW 136 Street	No change	Widen 2 to 4 lanes
SW 152 Street	No change	None
Homestead General		
Krome Avenue	Deteriorated**	Road widening and reconstruction
Homestead Air Reserve Base		
HEFT	No change	None
SW 137 Avenue	No change	Construct continuous 2-lanes
SW 112 Avenue	Deteriorated**	Road widening and resurfacing
SW 268 Street	Deteriorated**	None
SW 288 Street	Deteriorated**	None

Sources: Miami-Dade Public Works Department level of Service Tables, April 2010.
2010 Transportation Improvement Program, May 2009.
Note: *** Deteriorated roadway operates within adopted level of service (LOS) standards

Objective AV-6
Maximize compatibility of aviation facilities and operations with the natural environment.

CDMP Monitoring Measure:

- Airport capacity enhancements at locations consistent with the Conservation and Coastal Management Elements of the Comprehensive Development Master Plan.
- Approved Environmental Impact Assessment reports/DRIs required for major facilities and improvements

Objective Achievement Analysis. Ensuring compatibility between aviation facilities/activities and the environment is an on-going commitment of Miami-Dade County. The need to balance airport development and expansion with Federal, State, regional and local environmental objectives and policies is considered when evaluating the feasibility of projects. Those projects considered environmentally sensitive undergo environmental reviews by Federal, State, regional and local agencies before approval permits are issued. For instance, Federal Aviation Authority (FAA) issued Record of Decision (ROD) and Finding of no Significant Impact (FONSI) consistent with the National Environmental Policy Act (NEPA) of 1969 for several County airport projects listed below:

- MIA Runway 27 Landing Threshold Relocation; FONSI issued in February 2005
- MIA Operational Noise Mitigation Procedures; FONSI issued in May 2006
- TMB Runway 9R-27L Extension; FONSI issued in January 2007
- OPF Airport Traffic Control Tower Construction; FONSI issued in February 2007

In addition to the above FAA issued FONSIs, the Miami-Dade Board of County Commissioners (BCC) in November 2007 approved the extension of the buildout date of the MIA Development of Regional Impact (DRI) from December 2005 to December 2010 through Resolution Z-54-07, pursuant to Section 380.06 Florida Statutes. The extension to the DRI buildout date was based on clear and convincing evidence demonstrating that construction delays and costs escalation impacted the MIA Capital Improvement Plan construction schedule warranting the extension.

Environmental concerns associated with the Everglades and the use of the TNT resulted in the negotiation of the Everglades Jetport Pact, which is a multi-party agreement between Miami-Dade County, the State of Florida, and the Federal Government through the US Secretary of Transportation and the US Secretary of the Interior. The Everglades Jetport Pact restricts the development of TNT to a single runway until a mutually agreeable alternate site is made available to the County and equipped with facilities equal to those at the existing site without cost to the County. The selection of an alternate site has not occurred as of this date, and the undeveloped property of TNT is managed and operated by the Florida Game and Freshwater Fish Commission.

Additionally, the decommissioning of the Opa-locka West Airport and subsequent amendment to the CDMP Land Use Plan (LUP) map that changed the future land use designation of the airport site from "Terminals" to "Open Lands" has facilitated the use of this MDAD facility consistent with the adjacent areas and related Comprehensive Everglades Restoration Plan (CERP). The airport site is within the northwestern portion of the County known as the lake belt area and identified by the Florida legislature as an area of critical importance containing some of the largest deposits of accessible limestone rock in the state. The lake belt area also contains the wells in the Northwest Wellfield that supply most of the potable water to the residents of North Miami-Dade County. The Miami-Dade County Lake Belt Plan seeks to balance limestone-mining interests with environmental concerns related to CERP.

MDAD began reinventing how it measured its environmental footprint by using the certification process under International Organization for Standardization (ISO) 14001 standards for the implementation of Environmental Management Systems (EMS). The ISO 14001 certification is an indicator that an organization has taken a concentrated, quality-based approach to its environmental management responsibilities. MDAD

has achieved the prestigious ISO 14001 certification for the following areas at MIA: Fuel Facility; Civil Environmental Engineering; Facilities Maintenance; and Commodities.

In conclusion, this objective has been achieved, remains relevant and should be retained. No change to this objective is recommended.

Policy Relevance. The sole policy under this objective is relevant and should be retained. However, the policy directs how aviation facility expansions shall occur and should be revised to condition the expansion of aviation facilities.

Objective AV-7
Maximize compatibility between airports and surrounding communities.

CDMP Monitoring Measure:

- Establishment or update of airport zoning ordinances for all Miami-Dade County Aviation Departmental facilities by year 2008.
- Capacity enhancements or operational changes at airports that do not substantially increase the area of residential and institutional use designation on the Land Use Element of the Comprehensive Development Master Plan that are within the calculated day-night average sound level (DNL) 75 noise area.

Objective Achievement Analysis. Compatibility of Miami-Dade County airports with surrounding communities is an issue of major significance for the County, particularly as most of the County's aviation facilities are located within the urbanized area. Community relations, land use planning, flight track evaluations and zoning are issues which are constantly evaluated in the County's efforts to maintain and improve, wherever possible, compatibility between airports and communities.

The County continues to implement its "Good Neighbor Policy" throughout the aviation system aimed at taking responsibility for aircraft-generated noise in the community and working with the Federal Aviation Administration (FAA) to reduce it. Additionally, MDAD has had meetings with municipalities impacted by airport operations and participated in public outreach forums to educate the public about airport zoning. MDAD Planning Staff prepares and delivers a presentation annually to the School Board's charter school workshop to ensure that prospective charter school operators are made aware of airport zoning requirements so that future charter schools are properly sited and do not impact airport operations.

Complementing the "Good Neighbor Policy" is the establishment in October 2008 of the MIA Neighborhood Relations Committee (NRC) and the MIA Aircraft Noise Abatement Advisory Board (NAAB) through BCC adopted Ordinance 08-115 and Ordinance 08-116, respectively. The purpose of NAAB is to make recommendations to the BCC on ways to reduce or mitigate aircraft noise impacts to areas surrounding the MIA. The purpose of the MIA NRC is to recommend to the commissioners of District 6 and 12 measures to reduce or mitigate adverse impacts of airport related activities on the areas immediately adjacent to the MIA and to promote positive relations between these communities and the MIA.

Furthermore, capacity enhancements and operational changes at the County's airports have not increased areas within the County that are within the 75DNL noise contours. The 75DNL noise contours for County airports have not been substantially changed throughout the reporting period (2003-2009) and remain generally consistent with contours depicted on the airport zoning maps for each of the County's airports.

In July 2007, the BCC approved an updated airport zoning ordinance for the MIA and the Planning and Zoning Department is working with MDAD to finalize, for BCC adoption, updated zoning ordinances for TMB, OPF, and X51.

In conclusion, this objective has been generally achieved, remains relevant and should be retained. However, the objective should be a modified to specifically identify land use and air space compatibility. Additionally, the first of the two monitoring measures for this objective should be modified to change the year by which the required

zoning ordinances are to be established, and it is recommended that the second measure be deleted because its language is not clear.

Policy Relevance. All policies under this objective continue to be relevant, are ongoing and should be retained. However, Policies AV-7B and AV-7E should be modified to make general reference to applicable state and federal guidelines concerning airport land use and airspace compatibility rather than specific documents that may not be applicable. Policy AV-7F should be revised to include all municipalities that are impacted by airport zoning.

Objective AV-8
Maximize support of local and regional economic growth.

CDMP Monitoring Measure:

- Annual airport employment figures.
- Annual aviation-related business employment figures.
- Employment figures in the vicinity of airports at date of EAR contrasted with 2003 by TAZ.

Objective Achievement Analysis. MDAD's Airport System continues to be a significant economic generator for Miami-Dade County. MDAD maintains biennial aviation-related employment figures to monitor the status of the aviation industry as well as its regional impact. The biennial airport employment figures indicate that activity at MDAD's Airport System supported approximately 272,376 direct, induced and indirect jobs in 2006 and approximately 282,043 jobs in 2008. The level of employment is equivalent to one out of 4.1 jobs in the local economy. In addition to the jobs generated, airport passenger and air cargo activities also generated approximately $10.2 billion of direct, induced and indirect personal income, approximately $26.7 billion of business revenue, approximately $1.0 billion of state and local taxes, and approximately $654.9 million of federal aviation specific taxes. Table 2.2.3-6 below presents the airport employment and aviation-related business employment (indirect jobs) generated by the County's aviation system from 2003 to 2009. The table shows fluctuations in employment over the EAR reporting period with an overall increase in employment of approximately 0.7%. It should be noted that the table does not account for airport/aviation induced jobs.

Table 2.2.3-6
MIA and General Aviation Airport Employment

Year	Airport Employment	Aviation-related Employment	Total Employment
2003	37,700	23,598	61,298
2004	39,495	24,913	64,408
2005	---	---	---
2006	36,609	23,245	59,854
2007	---	---	---
2008	37,886	23,835	61,721
2009	---	---	---

Source: Miami-Dade Aviation Department, October 2009
Note: MDAD reports of employment are prepared and published every two years

Table 2.2.3-7 below shows employment in and around the County's major airports by Traffic Analysis Zones (TAZs), and indicates that employment around each airport has increased since 2003. It should be noted that the TAZs utilized in Table 2.2.3-7 are the TAZs that encompass each airport and those that abut each airport.

Table 2.2.3-7
Employment by Traffic Analysis Zones (TAZ)

Facility	2000 TAZ	2009 TAZ	% Change
Miami International Airport	62,207	74,902	20.41%
Opa-Locka Airport	26,442	29,424	11.28%
Kendall-Tamiami Executive Airport	9,366	12,970	38.48%
Homestead General Airport	1,074	1,103	2.70%
Homestead Air Reserve Base	1,812	2,397	32.28%

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

In conclusion, this objective has been achieved, remains relevant and should be retained. No change is recommended to this objective.

Policy Relevance. Both policies under this objective are ongoing, relevant and should be retained.

Objective AV-9
Maximize flexibility in the operation and expansion of the aviation system.

CDMP Monitoring Measure. Report number of projects at the County's aviation facilities, which expand flexibility of landside and airside facilities and operations.

Objective Achievement Analysis. Providing flexibility to accommodate the variations in aviation service demand and to take advantage of opportunities that may arise is crucial in airport planning, development and management. As reported under Objective AV-1 and listed in Table 2.2.3-3, Capital Improvement Projects, the County has completed a myriad of projects that expanded the flexibility of airport landside and airside facilities/operations, and has approximately 10 ongoing projects scheduled for completion by year 2012 at the various County airports.

Further to the projects referenced above, it should be noted that flexibility is becoming more difficult at the MIA as airport activities are implemented and new facilities constructed on a site that is constrained by its size, airspace, and possible environmental/community constraints. However, the County's airports are operating below 80% of capacity, as discussed in Objective AV-4, resulting in adjustments to the CIP deferring some projects. This in addition with the expanded roles of the OPF and TMB, as reliever airports to the MIA, has served to adequately address any constraints existing at the MIA. The expanded roles of the OPF and TMB were incorporated into the CDMP through an amendment adopted in April 2008. The County's aviation system as a whole is being managed and developed to offer the most convenient and efficient service possible. To this end, the MDAD has embarked on an MDAD Strategic Master Plan for the County's system of airports in order to begin identifying and assessing the future air transportation needs of the County through a four year, multi-phase approach aligning with established studies and objectives.

The MDAD Strategic Master Plan will establish a roadmap for the future, taking into consideration the airport-system expansion and enhancements presently being provided by the ongoing CIP. The study will also balance the needs related to infrastructure, facility preservation and modernization, capacity needs, customer-service enhancements with financial affordability, cost control, and environmental stewardship. The MDAD Strategic Master Plan will culminate in the development of a long-range plan, the Strategic Master Plan 2015-2050 (SMP 2015-2050), for the MIA and the County's general aviation airports. The SMP 2015-2050 will focus on airport roles and positioning in order to capture existing or anticipated opportunities in the aviation industry and the South Florida market, while also responding to the future operational requirements expected by users of the County's airport system.

In conclusion, this objective has been achieved, remains relevant and should be retained. No change is recommended to this objective.

Policy Relevance. All policies under this objective are ongoing, relevant and should be retained. However, Policy AV-9A should be revised to reflect the 2030 planning horizon. Policy AV-9B should be revised to acknowledge other New Larger Aircrafts (NLA) other than the airbus 380. Policy AV-9D should to be revised to indicate that system capacity enhancements that provide air traffic control systems such as dual arrival and departure streams are under the purview of the Federal Aviation Administration (FAA).

2.2.4 Port of Miami River Subelement

The material presented in this section of the EAR is focused on the marine industrial businesses including but not limited to shipping facilities, boatyards, tug boat basins, commercial fishing, marinas, etc., found along the Miami River in central Miami-Dade County and on the continued maritime business and traditional marine-related shoreline uses, as well as the protection of environmental resources on the Miami River. The shipping terminals, that primarily serve shallow draft vessels, were together formally designated as the Port of Miami River in 1986 to meet the regulations of the United States Coast Guard. The terminals are located along the Miami River in both unincorporated Miami-Dade County and in the City of Miami. The adopted components of the Port of Miami Subelement include the goal, objectives, policies and monitoring program.

Objective PMR-1
Maintain and promote marine activity on the Miami River and protect these activities from encroachment or displacement by incompatible land uses.

CDMP Monitoring Measures.

- Indices showing the growth or shrinkage of the amount of river frontage devoted to marine related/dependent business activity shall be prepared biennially.
- Records of land use changes in the vicinity of the Miami River in unincorporated Miami-Dade County since 2003.
- Records of zoning changes in the vicinity of the Miami River in unincorporated Miami-Dade County since 2003.

Objective Achievement Analysis. No biennial report of indices showing the growth or shrinkage of the amount of river frontage devoted to marine related/dependent business has been prepared since 1995. However, County records show that no CDMP amendments for land use changes and no zoning changes along the unincorporated areas of the Miami River (west of NW 27 Avenue) have been approved since 1995. Periodic data of various sorts has been collected by the marine industry's port cooperative (Miami River Marine Group) showing shrinkage of river frontage devoted to water dependent business since 2003, these sites are all located within the City of Miami boundaries.

In evaluating this objective, it would help to understand the genesis and mission of the Miami River Commission (MRC), the official clearinghouse for all public policy and projects related to the Miami River. In 1997, the Florida legislature created the Miami River Study Commission to identify the main issues impacting the Miami River and to report back recommendations for improving the management of the river. In 1998, the Legislature created the Miami River Commission (MRC) to coordinate state, regional and local activities affecting the River. In April 2000, the Legislature authorized the MRC, the City of Miami and Miami-Dade County to use the recently adopted urban infill statute in the preparation of a multi-jurisdictional plan for the entire Miami River Corridor. Later in 2000, Miami Dade County entered into a Joint Planning Agreement with the City of Miami for the purpose of designating an urban infill and redevelopment area for the river from the mouth at Biscayne Bay to the Salinity Dam, west of Le Juene Road. The local governments sought assistance from the MRC to help prepare a plan, the Miami River Corridor Urban Infill Plan (Plan). The Plan was prepared by Kimley-Horn & Associates in June 2002, and was adopted by the Miami River Commission as its Strategic Plan in September 2002. Although the Plan was not officially adopted by the City or the County, both local Governments have been working to implement some of its recommendations. There were approximately 64 specific plan proposals to improve river neighborhoods, reduce pollution and promote jobs. Many of the recommended improvements including dredging, cleanup vessels, large tree canopy spaces have been implemented since 2002. The MRC has continued to prepare and adopt reports updating the original report, three report updates have been conducted, in 2003, 2005 and 2006. These reports provide updates on implementation steps and actions that have been completed in addressing the 64 specific recommendations. Since the last report in 2006, several sections of the Miami River Greenway broke ground; this has been accomplished through a partnership with the Trust for Public Land, the

Florida Department of Transportation, Florida Inland Navigation District, the city, county and riverfront developers. The publicly accessible pedestrian and bicycle path will feature landscaping, decorative lighting, historical markers, wayfinding signage and other amenities. Also in 2005 three new international shipping terminals located within the County, and two new recreation boatyards located within the City opened on the Miami River generating new local jobs and tax revenue.

One of the recommendations of the Plan addresses the requirements of Policy PMR-1A of the Port of Miami River Subelement, which calls for the establishment of a marine industrial/commercial zoning district along the banks of the Miami River west of NW 27th Avenue. In 2006, Miami-Dade County Department of Planning and Zoning prepared an Ordinance to be presented to the Infrastructure and Land Use Committee of Miami-Dade County. The Ordinance proposed an Industrial Marine District for marine industrial and commercial uses on riverfront areas along the Miami River between NW 27 Avenue and NW 36 Street and also lying on the north bank of the Tamiami Canal. The district was proposed to promote the protection inclusion of water-dependent uses as cargo shipping terminals and boar repair yards and such water related uses as ship chandlers and limited sales of seafood products. The ordinance was deferred and not acted upon.

Two key factors for continuation of the economic health of the maritime industry along the Miami River are 1) unimpeded access along the waterfront to the mouth of the river and 2) protection from encroachment or displacement by incompatible uses. As the dredging is completed, and the uses west of 27 Avenue are primarily marine industrial, it is being recommended that this policy be revised for the County continuing to promote marine industrial activities along the banks of the Miami River.

The Miami River Corridor Urban Infill Plan and Policy PMR-1C of the Port of Miami River Subelement addresses the issue of economic vitality of the Miami River. Towards that end, the City of Miami commissioned a supplemental economic analysis and a market study of the Miami River corridor to identify commercial activities, appropriate redevelopment strategies, infrastructure needs and funding sources for the Miami River corridor to be incorporated into future Capital Improvement Plans. The study conducted by Innovative Economic Developments\Resources was completed in October 2004. The City did not accept the study's conclusions. While the County has no jurisdiction over the City of Miami to determine land use, the County has commented on City of Miami land use amendments along the Miami River when marine related uses are amended to residential uses. These actions have increased pressure on the County to preserve and maintain marine industrial uses on the Miami River.

In 2007, three Third District Court of Appeal decisions determined that the City of Miami's efforts to redevelop the Miami River waterfront were contrary to the goals and objectives of the City of Miami's comprehensive plan. Thereafter, in 2008, the City of Miami transmitted text amendments to the City's comprehensive plan, including the deletion of the term "Port" in the subelement which alters the title and the City's commitment to maintaining and enhancing the maritime activities along the river. The County expressed concerns with the policies being amended, which had previously mirrored those of the County and were developed with the realization that the maritime industry along the river be preserved from encroachment or displacement by incompatible land uses. The South Florida Regional Planning Council and Department of Community Affairs (DCA) concurred with the County. The State rejected the revisions which prompted the litigation from the State. The City, the State and Miami River Marine group met in late 2009 for mediation. As of today these matters are pending, though there has been progress towards resolving these issues and preserving working waterfront uses along the river. The City Commission directed their staff to reach a compromise with the Miami River Marine Group, regarding proposed language as requested by DCA. Revised amendment language has been forwarded to DCA for acceptance. The City of Miami and the DCA entered into a Stipulated Settlement Agreement on July 30, 2010 that resolves the amendments in question. Since 2000 over 7,000 new residential units have been constructed and an additional 7,000 residential units have been planned

along the mixed use Miami River. These units are located in the lower and middle areas of the river, and all are located within the boundary of the City of Miami.

Several other additional economic studies have been conducted since the last EAR. These studies have been commissioned by various groups. In October 2003, a study titled "Recent Growth, Current Activity, and Economic Impacts of Mega Yachts in South Florida 1997-2002," prepared by Thomas J. Murray & Associates., on behalf Marine Industries Association of South Florida & the Broward Alliance. The report determined that the Tri-County region's position of prominence in the mega yacht sector is widely recognized and apparent. As the most important participant in the U.S. mega yacht sector, the Tri-County region must continue to strive to enhance its position. Noting this effort will require strong partnership commitment and cooperative effort between the Tri-County mega yacht industry and community. Such issues, as the growing relative scarcity of qualified labor, relatively unfavorable tax and regulatory structures, need for dredging, additional dockage facilities, etc., must be addressed in order for the region to maintain its current advantage, in a world of increasingly acute competition for the mega yacht related economic base. The information provided by those in the industry will prove useful in evaluation of important trends and public policy issues that impact the future of the region's mega yacht industry.

In 2007, Miami-Dade County entered into an agreement for conveyance of land with Merrill Stevens Dry Dock Co. and Merrill Stevens Training Institute, Inc., for the Marine Redevelopment Project. Though the site is located within the City of Miami, its redevelopment project provides benefits for the entire County. Founded in 1885, Merrill Stevens specializes in marine services to the yacht and mega-yacht industry, it began operating on the Miami River in 1923. Merrill Stevens is embarking on a comprehensive expansion project to serve the growing needs of its customers for repair and retrofitting of larger mega-yachts, incorporating the latest systems. Section 125.045, Florida Statute, authorizes the County to lease or convey real property to private enterprises for the expansion of businesses existing in the community. The Merrill Stevens project will provide numerous benefits: affordable housing; two scenic River Walk pedestrian paths along the river; landscaping of the project site; retention of 150 jobs and creation of 350 new jobs; creation of sustainable, high paying marine trade jobs and a marine vocational apprentice program and training center; marine law enforcement facility for both County and City marine law enforcement agencies; landscaping of the Robert King High and Haley Sofge Towers which are located across the river from Merrill Stevens; and a public Miami River Maritime Trades Exhibit.

In 2008, Miami-Dade County approved a Class 1 Permit for the excavation of upland at Sewell Park on the Miami River to create a public kayak launch. The site is a public park located within the City of Miami along the river. The project is located within an area identified by the Miami-Dade County Manatee Protection Plan as essential manatee habitat, and the launch ramp is used exclusively for non-motorized vessels such as kayaks and canoes. The ramp is not to be used by motorized vessels therefore will not increase the amount of motorized vessel traffic on the Miami River. This use is in compliance with plans for the Miami River.

Two additional studies regarding economics on the river were completed in 2008. The first study titled "Final Report an Economic Analysis of the Miami River Industry", prepared by Florida Atlantic University for the Miami River Commission. The study focused on review of economic studies published since 1990; a brief history of the economic activities on the river; and a description of the three areas of the upper river which is located in the county, and middle and lower river which are located in the City of Miami. The analysis noted there is evidence that industries that create the largest number of jobs, which included fishing and retail activities were associated with relatively low earnings per job, while industries that yielded lower numbers of jobs were associated with higher average earnings, water transportation and, ship building/repair. The largest land use in the upper river is industrial, reflecting the significant shipping/marine industry. The middle river is largely residential, with significant industrial and commercial properties, including marine industry.

The lower river contains numerous commercial properties, mixed use projects, having a high density residential component, and some industrial lands.

The second study titled "Miami River Demand and Market Assessment Waterfront Industrial Parcels," issued in 2008, prepared by Lambert Advisory, LLC, for the City of Miami. The assessment focused on the analysis of the relative market based redevelopment and/or reuse impacts of changing the allowable uses of the Miami River adjacent waterfront industrial parcels to include non-working waterfront uses. This assessment was conducted on properties located in the areas known as the middle and lower river. The analysis determined recreational marina activity in the City as the principal working waterfront industry for which there is demand today and in the future. It also noted several potential strategies the City can put in place to retain and encourage the development of recreation marina and related services along the river.

In 2009 Miami-Dade County Department of Planning and Zoning commenced a series of steering committee meetings leading to the Palmer Lake Charrette. The charrette area planning process will involve extensive community participation to develop a shared long-term vision for the area. On June 02, 2009, the Board of County Commissioners (BCC) passed resolution No. R-728-09 requesting a charrette area plan study for the area bounded by the Miami River to the North and East, NW 37th Ave to the West and the Tamiami Canal to the South. The primary reasons the BCC requested a study for this area is: close proximity to Miami International Airport (MIA), Miami Intermodal Center (MIC) and Miami River; designation as a Metropolitan Urban Center (MUC); and current zoning, existing land use and future land use designations. The process began with the formation of a steering committee. This is a group of local stakeholders, whose role is to guide the process of urban planning by identifying issues and opportunities. The charrette is a weeklong design workshop where residents, business/property owners and stakeholders are invited to join the design team consisting of urban designers and planners to work together to establish a framework for the future. The design team will take the suggestions resulting from the steering committee meetings and charrette workshop to produce a final document which will describe the long-range community vision, identify/prioritize infrastructure improvements and illustrate design guidelines all of which may have some type of impact on the river.

In 2008 Florida voters approved a state constitutional amendment aimed at keeping the rising property assessments from forcing marine businesses to close down around the state due to ever increasing property taxes. The amendment provides for working waterfront properties to be taxed on their current use. This tax protection applied only to businesses such as marinas, commercial fisheries and marine manufacturing, it left out some of the businesses such as shipping terminals and tugs which are located on the Miami River. In the 2009 legislation session an amendment was proposed to include shipping terminals and tugs, however, the legislature did not address the proposed legislation.

In addition, in 2008, there were revisions to recreational and commercial working waterfronts definition, an ad valorem tax deferral for recreational and commercial working waterfront properties and the creation of the Stan Mayfield Working Waterfronts Program. The revisions to the recreational and commercial working waterfront definitions were recommended as the legislature recognized that there is an important state interest in facilitating boating and other recreational access to the state's navigable waters. This access is vital for tourism, recreational users and the marine industry. The waterways are important for engaging in commerce and transporting of goods and people, and such commerce and transportation is not feasible unless there is access to and from the navigable waters of the state through recreational and commercial working waterfronts. The ad valorem tax deferral allows a local jurisdiction to adopt by ordinance the deferral of ad valorem taxation and non-ad valorem assessments for recreational and commercial working waterfront properties. The ad valorem tax deferral only applies if the owners are engaging in the operation, rehabilitation, or renovation of such properties in accordance with the statute. The Stan Mayfield

Working Waterfronts Program is a grant program. Grants funds are used to acquire a parcel or parcels of land directly used for the purpose of the commercial harvest of marine organisms or saltwater products by state-licensed commercial fisherman, aquaculturists, or business entities, including piers, wharves, docks or other facilities operated to provide waterfront access to licensed commercial fishermen, aquaculturists or business entities. Funds may also be used to acquire parcel or parcels for exhibition, demonstrations, education, civic and other purposes that promote and educate the public about economic, cultural and historic heritage of Florida's working waterfronts, including the marketing of seafood and aquaculture industries. This program is administered by the Florida Communities Trust.

The policies under this objective seek to maintain and promote marine activity on the Miami River and protect these activities from encroachment or displacement by incompatible land use. These policies were developed with the realization that the maritime industry along the river is unique and susceptible to encroachment from competing non-water dependent use.

In conclusion, this objective remains relevant and some progress has been made in achieving it. Therefore, the objective should be retained and no changes to the language of this objective are presently recommended.

Policy Relevance. Policies under this objective continue to be relevant and are also consistent with the recommendations made in the Miami River Corridor Urban Infill Plan. The following policy should be considered for modification.

PMR-1A This policy should be revised for the County to promote actions which maintain and enhance marine industrial activities along the banks of the entire Miami River and not just a marine/industrial district.

Objective PMR-2
Actions shall be taken to improve linkages between the shipping terminals on the Miami River and surface transportation routes and modes.

CDMP Monitoring Measures.

- The number of ships, tonnage, types of cargo, and the value of cargo handled shall be reported. Numbers of full-time and part time employment at these shipping terminals, and an estimate of the annual payroll for each category, shall also be reported. These data shall be sought from the Miami River Commission and the Miami River Marine Group.
- The Department of Planning and Zoning in conjunction with the Florida Department of Transportation, the Metropolitan Planning organization, the Miami River Commission and the Miami River Marine Group will prepare transportation improvements updates listing completed, underway, programmed and planned transportation improvements of significant repercussion to the Port of Miami River.

Objective Achievement Analysis. The text of this objective is strictly related to surface transportation in the vicinity of the Port of Miami River. As shown above, this objective has two monitoring measures of which the second one directly relates to the objective and it has been difficult to obtain much information on the first monitoring measure. Therefore, this achievement analysis will be based primarily on the second monitoring measure.

The cargo terminals along the Miami River continue to be accessible by roadway, and in one area, by railroad along the Northwest North River Drive from NW 23rd Street to NW 36th Street. Northwest North River Drive and Northwest South River Drive are the main thoroughfares directly serving the cargo terminals. A series of roadway and bridge improvements have taken place in the vicinity of the Port of Miami River since 1995. The adopted 2003 EAR for Port of Miami River Subelement identified a series of programmed roadway improvements. Table 2.2.4-1 below lists those roadway improvements and the current status.

Table 2.2.4-1
Port of Miami River
2003-2008 Programmed Roadway Improvements

Roadway	From	To	Improvement	Status
SR 836 (EB)	East Bound	Toll Plaza	New toll plaza	Completed
NW 17 Avenue	Miami River	Bridge	Refurbishing	Completed
Okeechobee Rd.	SR 826	Le Jeune Road	Corridor Improvement	Completed
Okeechobee Rd.	SR 826	W. 19 Street	Widen	Completed
NW 27 Avenue	NW 11 Street	Intersection	Intersection Improve	Completed
Le Jeune Road	NW 7 Street	SW 8 Street	Access Improvement	Completed
NW 12 Avenue	NW 16 Street	NW 26 Street	Resurfacing	Completed
NW 12 Avenue	Miami River	Bridge	Replacement	Completed
NW 27 Avenue	NW 20 Street	NW 215 Street	Resurfacing	Completed
SR 112 (WB)	West Bound	Okeechobee Road	New Ramp	Completed
Interconnector	MIA	SR-112	Interchange & ramps	Completed
SR 836/Intercon.	SR-836	Central Boulevard	Major improvement	Completed
SR836Express Ln	MIC Le Jeune	HEFT	New express lane	Completed

Source: Miami-Dade County Department of Planning and Zoning; 2009 TIP, Miami-Dade Metropolitan Planning Organization.

The following table, Table 2.2.4-2, contains projects impacting the Miami River which are programmed in the 2009-2013 Transportation Improvement Program.

Table 2.2.4-2
Port of Miami River
2009-2013 Programmed Roadway and Greenway Improvements

Location	From	To	Improvement	Year
NW 27 Av	NW 11 St	NW 43 Terr	Resurfacing	2010-11
SR 836 Interchange	I-95	NW 12 Av	Modify Interchange	2012-13
S. River Dr	5 St	NW 12 Av	Bike Path/Trail	2010-11

Source: Miami-Dade County Department of Planning and Zoning; 2009 TIP, Miami-Dade Metropolitan Planning Organization.

Since the last EAR, several improvements and/or replacements have been made to road bridges crossing the river. The NW 5th Street Bridge, a 1929 bascule bridge that has been a hazard to navigation for years, was recently replaced. The NW 12th Avenue Bridge replacement from 4 to 6 lanes was completed in Spring 2009. The NW 17 Avenue Bridge has undergone major repairs and reopened in March 2008. The SW First Street Bridge was also repaired in 2008 and about to commence a PD&E Study for replacement. The Tamiami Bridge over the Tamiami Canal just west of NW 27 Avenue has been earmarked for replacement in 2013.

The Miami River Multi-modal Transportation Plan commissioned by the MRC and Metropolitan Planning Organization was completed in August 2007. The Plan incorporates multiple modes of transportation along the Miami River including pedestrian, bicycle, mass transit and roadway improvements. The plan addresses means to increase safety and mobility of freight, pedestrians, transit and vehicular traffic, while trying to reduce congestion. Existing transportation services, such as transit, pedestrian, bicycle and water services were examined to define the existing conditions. Based on the existing conditions, transportation needs and deficiencies were identified for the various modes of transportation. The transportation improvements were detailed by the location on the river, the lower, middle and upper river segments of the river, summarizing planned improvements from various sources, such as the Miami Downtown Transportation Master Plan, the Miami River Greenway Action Plan, Bicycle Safety Program Plan Report, Freight Transportation – Short Sea Shipping, and Miami River Corridor Urban Infill Plan. The Miami River Multi-modal Transportation Plan incorporates the Miami River Greenway Action Plan and details the relationship between the existing/proposed Greenway sections and multiple modes of transportation along the corridor, including pedestrian, bicycle, transit and roadway improvements. Implementing the Miami River Multi-modal Transportation Plan recommendations is critical to providing the necessary multi-modal transportation infrastructure to accommodate the increase of population, commerce and local employment being generated by the Miami River revitalization. In addition, the Miami River Multi-modal Transportation Plan recommends that corridor should be examined periodically to assess the status of the implementation of the improvements identified.

In November of 2004, voters in Miami-Dade County approved eight referendum questions funding more than 300 capital projects throughout the county for over a period of 15 to 20 years. Resolution No. R-914-04, authorized the referendum to construct and improve walkways, bikeways, bridges and neighborhood infrastructure improvements, eligible for funding from the Building Better Communities General Obligation Bond Program (GOB). One of the projects included in this bond program is the Miami River Greenway. The Board of County Commissioners adopted the Miami River Greenway Action Plan in 2001. The project consists of construction County-owned parcels which will provide continuity to the Miami River Greenway Network. The project includes the construction of a 25' wide pedestrian/bicycle shared use riverwalk including lighting, landscaping and hardscape elements such as benches and trash receptacles. The scope of the work includes, but is not limited to: seawall design, drainage, lighting, landscape and architecture details and all necessary incidental items for a complete project. The implementing agency for this project is Miami-Dade County Public Works Department. Currently, the design for this project is 90% complete. Public Works is proceeding to complete the design and then to permitting. The County's Office of Capital Improvements anticipates this project to be funded in the next GOB sales to be presented to the Board of County Commissioners in the summer 2010.

A major multi-modal transportation facility, the Miami Intermodal Center (MIC), was discussed in the 2003 EAR, and broke ground in 2001. The MIC, to be located south of Northwest South River Drive, east of LeJuene Road, north of Central Boulevard and west of NW 37th Avenue, will serve as a transportation hub for different modes of transportation systems including Tri-Rail, Metrorail, Metrobus and other modes serving Miami International Airport. As result of this facility, a number of roadway improvements are programmed to help alleviate traffic congestion in and around MIA and the river. These improvements shall also benefit traffic circulation and connectivity of the unincorporated area of the Port of Miami River. The MIC Program consists of major roadway improvements which were completed in May 2008. The MIC will provide *connectivity* for residents and visitors of Miami-Dade County and the South Florida region, between the transportation systems in the Palm Beaches, Fort Lauderdale, Miami, and the Florida Keys, where none existed, and *decongest* the streets in and around the busy airport. The Rental Car Center construction began in 2007 and is scheduled to be completed in April 2010. The MIA Mover is scheduled to be

operational in September 2011 and the Miami Central Station is scheduled to be completed in Spring of 2012. A Joint Development component is currently being explored.

In conclusion, this objective has been achieved, remains relevant and should be retained. No changes to the language of this objective are presently recommended.

Policy Relevance. The policies under this objective continue to be relevant and should be retained. Policy requiring change is discussed below.

PMR-2A This policy should be modified to acknowledge the existence of a multi-modal transportation plan and focus on implementation of the multi-modal transportation plan, which also incorporates the Miami River Greenway Action Plan and the relationship between the existing/proposed Greenway sections and multiple modes of transportation along the corridor.

Objective PMR-3
The Port of Miami River shall be operated in a manner which minimizes impacts to estuarine water quality and marine resources and adjacent land uses.

CDMP Monitoring Measures.

- The County's Department of Environmental Resources Management (DERM) shall list progress on shoreline stabilization, stormwater runoff, outfall removal/refitting and overall water quality along the navigable portion of the Miami River.
- Additional Monitoring measures included in the Coastal Management Element regarding water quality and protection of natural resources, as related to the Miami River west of N.W. 27th Avenue, are adopted by reference.

Objective Achievement Analysis. Miami-Dade County has been working on several areas addressed by this objective and its monitoring measures. Regarding shoreline stabilization along the river, a review of the records of the Miami-Dade County Department of Environmental Resources Management (DERM) revealed in 2010 there are a total of 65 Marine Facility Operating Permits along the Miami River; these include permits for large shipping facilities, marinas and other types of water-dependent facilities.

Through the Stormwater Utility and Capital Improvement Project Program, Miami-Dade County continues to retrofit storm drainage systems to maximize flood protection and minimize water quality impacts of stormwater runoff in unincorporated areas and on County roads. A series of Stormwater Utility Capital Improvement Projects are currently under design or construction which, along with numerous local drainage projects, to enhance the capacity of the existing drainage system in routing stormwater to appropriate channels, after achieving compliance with water quality regulations. With regard to stormwater runoff and outfall removal/retrofitting, Basins 21 and 23 have been completed and the Miami Dade County Public Works Department has identified several arterial roadways which need drainage infrastructure improvement in order to provide the required level of service in regards to flood protection and water quality. Currently for arterial drainage retrofits the County has allocated $1,000,000 in each Fiscal Year using Stormwater Utility funds.

Improving water quality in the navigable portion of the Miami River has been another major objective of Miami River advocates and state and local programs. Pollution in the River is associated with old drainage and sewer systems as well as the intense industrial and urban development in the vicinity of the River. Modern drainage systems provide on-site retention and treatment for most stormwater runoff to prevent pollutants from reaching the River. Old systems are gradually being replaced through redevelopment and, as previously stated, County/municipal drainage improvement projects. In 1996, the former Miami River Coordinating Committee adopted the Upper Wagner Creek Water Quality Improvement Plan. The water quality in the Upper Wagner Creek area of the Miami River has been considered to be among the worst in the State of Florida. Currently, less than half of the plan has been implemented; however, significant success has been documented.

Today water quality in the Wagner Creek area has improved but more work is necessary. In February 2002, the Stormwater Subcommittee of the Miami River Commission issued its Miami River Basin Water Quality Improvement Report, building upon experience gained in the Wagner Creek project. This Report identifies the following working areas where improvements are needed: stormwater, wastewater, enforcement/compliance, water monitoring and research, management, and land planning. The total cost of these improvements is estimated to be in the vicinity of $18,000,000. The Melrose Canal dredging was completed in June 2004, at a total cost of $2,054,685. The Office of Community and Economic Development built the Melrose Street Project which consisted of the construction of various full on-site French drain systems. The project contributed to reduce the direct discharges of stormwater runoff to the Miami River.

The Wagner Creek Total Maximum Daily Load (TMDL) for fecal coliforms was adopted in June 2006, requiring 86% reduction of fecal coliform in-stream concentration in order to meet designated uses. Additionally, in 2010 Miami-Dade DERM participated in a "Walk the WBID field reconnaissance" for the Wagner Creek to identify and map the likely contributing sources to the water quality problems in the Wagner Creek, with the objective to gain a better understanding of the hydrology of the creek and its branches, infrastructure (sewer and stormwater) location, identifying potential sources of bacteria. This activity is a cost effective tool for impaired waters in which the source(s) of the fecal coliform loading are not readily apparent. This event is a low cost and effective way to begin addressing the remaining water quality problem in Wagner Creek and making progress toward achieving the TMDL rule requirements. The study is still ongoing and will take approximately a year to complete and identify all sources polluting Wagner Creek.

The number one priority of the MRC has been the dredging of the entire Miami River. The federal channel of the Miami River had not been dredged since its original construction in the early 1930s. In 2004, the dredging of the Miami River began. It was estimated that by removing 1 million tons of contaminated sediment, the river would be restored to its federally designated 15-foot depth. Approximately 750,000 cubic yards of sediment was removed, and pollutants that had long threatened the health of the river were isolated and disposed of safely. Funding pressures forced suspension of the dredging in late 2005. After two and one-half year demobilization, the dredging resumed in February 2008 and was completed in October 2008. This project restored authorized depth and width to the navigation channel of the Miami River, Florida's 4th largest port. This restoration allows vessels to move at full capacity regardless of the tide through the river channel, resulting in more efficient shipping terminals, thereby promoting trade and employment. Vessels and rainfall cause the contaminated river sediments to stir into the water column and flow into Biscayne Bay. These contaminated sediments adversely affect water quality, degrade wildlife and fisheries habitat in Biscayne Bay and limit aesthetic and recreational values. The total budget for the dredging was approximately $89 million, funding came from the Federal Government, Florida Legislature, Florida Inland Navigational District, South Florida Water Management District, Miami-Dade County and the City of Miami. Focus is now on the dredging and cleaning of all Miami River tributaries, starting with two extremely polluted waters, the Wagner Creek and Seybold Canal, then followed by Tamiami Canal, North Fork, South Fork and the Lawrence Canal.

In conclusion, this objective has been achieved and remains relevant. Therefore, the objective will be retained and no changes to the language of this objective are presently recommended.

Policy Relevance. The policies under this objective continue to be relevant and will be retained. Policy requiring change is discussed below.

PMR-3A It is recommended that this policy be modified to include the dredging of the tributaries which impact the quality of the water in Miami River.

Objective 3 Monitoring Measures. The first monitoring measures should be revised to include the tributaries of the Miami River.

Objective PMR-4.
The Port of Miami River, through the owners and operators of its international shipping terminal facilities regulated by the Maritime Transportation Security Act, with assistance from the Miami River Commission (MRC) and Miami River Marine Group (MRMG), shall recognize local, State and Federal security needs in all port operations, expansion and new construction.

CDMP Monitoring Measure.

- Compliance with applicable security requirements, Maritime Transportation Security Act and the Miami River Port Security Plan.

This objective was added during the EAR based amendment process in 2004 based on the Maritime Transportation Security Act requirements for all ports. Public Law 107-295 created the Maritime Transportation Security Act of 2002, amending the Merchant Marine Act of 1938, in order to establish a program ensuring greater security for United States Ports. Title 46, of the United States Code was amended to include Chapter 701 Port Security. The Maritime Transportation Security Act designated the U.S. Coast Guard as the leading federal agency for Maritime Homeland Security. Since the Miami River is considered a port, the Coast Guard required a comprehensive port security plan for the Port of Miami River. The Port Security Plan is primarily a communication and coordination document. It was develop from port security assessments conducted by the City of Miami and Miami-Dade County police departments, in conjunction with other local, state and federal agencies.

In 2003-2004, Miami River Marine Group (MRMG), a consortium of private shipping-related industries on the river, was awarded more than $2 million in Department of Homeland Security grants to help bring the river's private terminals into compliance with national Homeland Security laws. The Federal Maritime Security Act required all international ports to adopt a security plan by December 31, 2003, and implement it by July 1, 2004. The river's terminals and businesses met this requirement. The funding was spread among several terminals, with cameras strategically located up and down the river and in terminals. The Department of Homeland Security, Drug Enforcement Administration, City of Miami Police, Miami-Dade County Policy, Coast Guard, Customs, Border Patrol and Florida Department of Fish and Wildlife can tap into these cameras from remote locations. Additional security improvements included fencing, lighting, ID system, 24/7 security guards and searching of all boats. Three days before a vessel's arrival all law enforcement agencies are informed of which vessels are arriving, what and who will be on the vessel, and the destination terminal of each vessel.

In 2005, the MRMG collaborated with the city and county marine patrols and received a $1.6 million grant from the Department of Homeland Security to buy tow patrol boards and a mobile diving unit, for use on the Miami River. The Miami River's Coast Guard-certified shipping terminals have participated in quarterly drills to measure compliance with the Maritime Transportation Security Act. In 2006, the United States Coast Guard appointed the executive director of the MRMG to the Regional Maritime Security Committee to coordinate security efforts on the Miami River in cooperation with other ports. The Miami River's 24 international certified shipping are frequently inspected by the Coast Guard to ensure compliance with the federal Maritime Security Act. In 2007, the Coast Guard shipping terminals implemented the Transportation Workers Identification Care which requires a thorough background check of all employees of the shipping terminal.

In 2008, the ports Security Grants Program set aside approximately $3 million for the Port of Miami and the Port of Miami River to develop a risk mitigation and business continuity plan, as well as to commence implementing recommendations in the plan to improve port security. This plan, the Miami Area Risk Mitigation and Business Continuity Plan (the Plan) was completed in December of 2009. A major purpose of the Plan is to identify port security gaps so that they may be addressed in current and future Port Security Grant Program awards. Successive awards of approximately $3 million were granted in 2009 and approximately $2 million in 2010, to continue addressing security matters as directed by the Plan. The Fiduciary

Agent for administering these funds in the Plan is the Miami River Marine Group.

In conclusion, this objective has been achieved, remains relevant and should be retained. No changes to the language of this objective are presently recommended.

Policy Relevance. The policies under this objective continue to be relevant and should be retained. No changes to the text of the policies are recommended.

Future Land Use Map, Figure 1-Future Land Uses, Secondary Unincorporated Port of Miami River Area, should be modified to reflect changes in existing and future conditions.

2.2.5 THE PORT OF MIAMI MASTER PLAN SUBELEMENT

Goal 1. The Port of Miami shall endeavor to retain its position as the top-ranking cruise port of the world while expanding its share of the cruise market, and continue to expand its role as one of the leading container ports in the nation.

Objective Achievement Analysis. This goal has been achieved in that the Port of Miami (Port) has retained its position as the number 1 cruise port in the world. It has also expanded its share of the cruise market, by capturing nearly 40% of the Florida market. One out of seven Cruise Line International Association passengers worldwide travels through the Port of Miami. The Port of Miami continues to expand its role as one of the nation's leading container ports by being the number 1 container port in Florida and number 11 in the United States in 2009. The Port continually works toward this goal. The baseline conditions in the last Evaluation and Appraisal Report (EAR) update were one of the highest in history as the economy was soaring and the cruise and cargo markets were growing. Since the last EAR update the economy has taken a downturn and the cruise and cargo markets have declined worldwide, yet, the Port of Miami has been able to achieve its goal, mainly because it has contracted tenant leases with the largest carrier in Florida and two of the top three carriers in the world, allowing the Port to maintain its position in the industry.

Goal Relevance. This goal remains relevant and ongoing as its vision is to allow the Port to grow. Yet, it needs to be reworded to include goal 2, which explains how the Port will achieve this goal. The goal has been effective, yet it needs to expand on how it will accomplish what it outlines.

Goal II. In carrying out its day-to-day operations and its long-term expansion program, the port of Miami shall minimize any detrimental effects on the environment, the community, and supporting infrastructure and shall continue to coordinate its operation and expansion activities with federal, state, and regional agencies other Miami-Dade County departments, neighboring municipalities, and surrounding communities as appropriate.

Recommendation. It is recommended that the two goals in the Port of Miami Master Plan Subelement be consolidated into one. Objectives PM-4 and PM-5 that address environmental issues are also recommended to be consolidated. It is also recommended that the objectives be reordered to create a better structured subelement. The recommended reordering of the subelement is as follows:

Current Objective	Recommended Change
PM-1	PM-1 (No Change)
PM-2	PM-2 (No Change)
PM-3	PM-4
PM-4 & PM-5	PM-8 (Merged PM-4 & PM-5)
PM-6	PM-9
PM-7	PM-6
PM-8	PM-5
PM-9	PM-3
PM-10	PM-7
PM-11	PM-10

The above recommended restructuring of the subelement is not shown in the analysis that follows, except for the recommended combining of Objectives PM-4 and PM-5.

Objective PM-1
The port shall maintain and renovate existing passenger facilities and complete the construction of new passenger facilities required by the year 2015 to accommodate the projected numbers of cruise and ferry passengers and ships.

CDMP Monitoring Measure.

- Number of passengers on an annual basis.
- Cruise related improvements made at the Port of Miami since 2003.
- Cruise related infrastructure improvements made since 2003.

Objective Achievement Analysis. The Port of Miami monitors the number of cruise passenger arrivals on an annual basis. Table 2.2.5-1 below shows the recorded cruise passenger volumes per year from 2003 to 2009.

Table 2.2.5-1
Cruise Passenger Volumes, 2003 to 2009

Year	Cruise Passengers
2003	3,960,614
2004	3,499,584
2005	3,605,201
2006	3,731,459
2007	3,787,410
2008	4,137,831
2009	4,100,100

Source: Port of Miami, January 2010.

As the table above indicates, the Port of Miami (the Port) accommodated approximately 3.96 million cruise passengers in 2003 and a slightly higher passenger volume of just over 4.1 million in 2009, an increase of approximately 3.52%. The Port saw an approximate 11.64% fall in cruise passenger arrivals between 2003 and 2004, but then averaged an annual growth in its cruise passenger volumes of approximately 4.28% between 2004 and 2008. From 2008 to 2009 the cruise passenger volumes again declined at a rate of 0.91%.

During the 2003 EAR reporting period the market for cruise related business experienced consistent growth (5% world growth and a 1% to 2% Caribbean growth). Projections showed even more growth, and the cruise industry was preparing for the projected growth by ordering additional ships. Since then however, as a result of market fluctuations and economic conditions, the cruise industry's growth projections were revised downward. Although the industry as a whole has experienced a downturn in per passenger yield, the Port's market share has not decreased. Furthermore, new analyses and studies are once again forecasting increased growth for the industry and future projections for the Port show a steady increase in cruise related business. Accordingly, the Port has and continues to implement the intent of this objective through, but not limited to, the construction of new cruise terminals (projected for 2018), parking garages, roadways, and terminal improvements. Table 2.2.5-2 below lists Port infrastructure and capacity improvement projects implemented over the EAR reporting period.

In conclusion, this objective was achieved, remains relevant and should be retained. However, the objective's specific time frame should be updated from 2015 to 2025. Additionally, the time frame in the objective's monitoring measures should be replaced with text that indicates since the latest EAR.

Policy Relevance. Policy PM-1A requires the Port to construct berths and terminals both on and off island and requires any such expansion into existing and planned public parkland to promote public access to the waterfront and park and recreation opportunities. However, consistent with the Port's draft 2035 Master Plan, the Port is no longer considering expansion into existing or planned public parkland. Therefore, it is recommended that Policy PM-1A be revised to remove references to the expansion into public parkland, if the draft 2035 Master Plan is approved (anticipated approval by December 2010). All other policies under this objective are directive in nature, continue to be relevant and should be retained.

Table 2.2.5-2
Port of Miami Cruise Related
Infrastructure and Capacity Improvement Projects, 2003-2009

Description	Project Completion Date	Project Type
Gangway Relocations	11/14/2003	Capacity
Demo Terminal 1	5/5/2004	Capacity
Parking Garage, Terminals 8,9 & 11	10/14/2003	Capacity
Intermodals, Terminals 8 & 9	4/9/2004	Capacity
Parking Controls System	5/31/2008	Capacity
Surface Lots	7/26/2004	Capacity
New Cruise Terminal D (10)	8/3/2007	Capacity
New Cruise Terminal E (11)	8/3/2007	Capacity
Parking Garage D Site Demolition	10/27/2008	Capacity
Cruise Provisions Inspection Facilities (CPIF) West Revisions (Round 3 Grants)	6/11/2009	Capacity
Cruise Terminal (CT) D Removal of Old Gangway @ CT 10	4/19/2009	Capacity
Electric Utilities Relocations @ CT D&E	11/19/2004	Infrastructure
CT B&C Sidewalk Replacement	12/8/2008	Infrastructure
Padeye Plate Installation - Cruise Berthing Area	9/23/2008	Infrastructure
Cruise Fence Bollards and Fence Hardening	6/15/2008	Infrastructure
CT B&C Asphalt Resurface & Re-stripe Existing Front Intermodal	11/13/2008	Infrastructure
Various projects for CT B&C Remodeling	12/30/2009	Capacity

Source: Port of Miami, February 2010

Objective PM-2
The port shall expand its cargo-handling and related intermodal facilities to the optimum extent possible by the year 2015 to accommodate the projected cargo tonnages.

CDMP Monitoring Measure.

- Cargo tonnage on an annual basis.
- Cargo related improvements made at the Port of Miami since 2003.
- Cargo related infrastructure improvements made since 2003.

Objective Achievement Analysis. This objective is continually being achieved as the Port works towards the highest and best use of its cargo yards and facilities. Since 2003, the Port has renewed its leases and/or contracted new leases with some of the world's top cargo shipping lines/terminal operators and is in the process of negotiating additional contracts for cargo. The Port also started construction on the Port Tunnel (further discussed under Objective PM-9) which will directly connect the Port to the interstate highway system. It is also in the process of purchasing two new super-post-panamax cranes and completing cargo yard improvements. The Port's draft 2035 Master Plan outlines a phased development to occur over the next 15 years which will consolidate Port land resources for cargo uses as well as increase the productivity of all the Port's cargo yards.

The Port is considered as a cargo container port, primarily because about 95% of the cargo it handles is shipped in containers, while only about 5% of the cargo it handles (items such as vehicles) is considered bulk cargo that is not shipped in containers. The Port monitors the amount and/or volume of cargo it handles on an annual basis by tonnage, primarily for bulk cargo, and by the number of standard shipment containers referred to as TEUs (twenty-foot equivalent units). It should be noted that the Port obtains cargo tonnages from each ship's manifest for each TEU it handles. However, the tonnage data from each ship's manifest is not verified by the Port. The use of TEUs is the industry standard and is considered the more accurate measure of cargo volumes handled by the Port. It should also be noted that cargo tonnage is not directly proportional to number of TEUs handled as containers may be partially or fully loaded with goods of different types and varying weights. Therefore, as the objective and relevant monitoring measure requires evaluation of cargo tonnages, the information presented is TEUs of cargo. Table 2.2.5-3 below shows the total TEUs of cargo handled by the Port per year from 2003 to 2009.

Table 2.2.5-3
General Cargo - Years 2003-2009

Year	TEUs
2003	1,041,483
2004	1,009,500
2005	1,054,462
2006	976,514
2007	879,398
2008	828,349
2009	807,069

TEU means twenty-foot equivalent units of cargo transited
Source: Port of Miami, December 2009.

Cargo activity at the Port has generally trended downward from 2003 to 2009 accounting for a 22.5% decrease in activity at an average 4.16% annual rate of decline, reflective of market fluctuations and competitive challenge. The Port fared well in 2009 compared to other US ports that dropped activity by 15% - 20% on average vs. the Port of Miami's 2.5%. Despite the general decline in cargo activity during the 2003 to 2009 EAR reporting period, the Port has implemented several infrastructure and cargo handling capacity improvement projects, consistent with the intent of the objective. These projects are listed in Table 2.2.5-4 below.

In conclusion, this objective was achieved, remains relevant and should be retained. The objective's specific time frame should be updated from 2015 to 2025 and the reference to cargo tonnages should be revised to reflect cargo volumes. Accordingly, the first monitoring measure should be revised to reference TEUs of cargo rather than cargo tonnages consistent with the Port's use and maintenance of TEU data, which is considered a more accurate reflection of cargo volumes than cargo tonnages. Additionally, the time frame in the

second and third monitoring measures should be replaced with text that indicates since the latest EAR.

Table 2.2.5-4
Port of Miami Cargo Related
Infrastructure and Capacity Improvement Projects, 2003-2009

Project Description	Project Completion Date	Project Type
Bulkhead Realignment, Berth 19	1/24/2003	Infrastructure
Demolish Shed D - Phase 1	3/21/2003	Capacity
Demolish Shed D - Phase 2	3/21/2003	Capacity
Signage & Pavement Markings – Cruise Terminal (CT) 8 & 9	7/31/2003	Infrastructure
Demolish Shed A	12/23/2003	Capacity
Relocate Rail (emergency work only)	6/11/2004	Infrastructure
Wharf 6 and 30% of Wharf 7 (MARINE)	8/9/2004	Infrastructure
Relocate Fire Department	9/10/2004	Infrastructure
Sewer Main & Utility Improvement - Ph 1	1/27/2005	Infrastructure
Container Yard Improvements: Wharves 6 & 7 - Civil	2/25/2005	Infrastructure
Container Yard Improvements: Wharves 6 & 7 - Electrical	2/25/2005	Infrastructure
Sewer Main & Utility Improvement - Phase 2	4/20/2005	Infrastructure
Marine & Mooring Improvements	11/22/2005	Infrastructure
Gantry Crane Electrification – Phase 1	11/22/2005	Infrastructure
Phase II Dredge to 42 feet	01/30/2006	Capacity
Eastern Port Boulevard	2/17/2006	Infrastructure
Container Yard Improvements: Wharves 6 & 7 Backlands	4/12/2006	Infrastructure
Roadway for Sheds A & B	12/21/2006	Infrastructure
Western Blvd., Flyover & Port Signage	12/21/2006	Infrastructure
Cargo Gate Facility	7/31/2007	Capacity
East Port Blvd (North Spur)	3/25/2008	Infrastructure
South Cargo Wharf Rehabilitation @ Bert 165 to 177	6/1/2008	Infrastructure
Seaboard Dock damage bay 144	12/24/2008	Infrastructure
Seaboard - Demolition of Buildings - 1610 - 1600 - 1588 - 1901	3/25/2009	Capacity

Source: Port of Miami, February 2010

Policy Relevance. Policy PM-2C requires the Port to construct intermodal logistics transfer facilities and other access improvements necessary for the efficient, competitive and rapid movement of cargo. It is recommended that this policy be reworded to indicate that intermodal logistics transfer facilities be constructed both on-island and off-island. This highlights the fact that the Port is limited in size and that off-island intermodal logistics transfer facilities could significantly increase the Port's cargo handling capacity. All other policies under this objective are directive in nature, continue to be relevant and should be retained.

Objective PM-3

The port shall maintain and improve existing facilities and support infrastructure to extend their service life and maximize efficiency so as to minimize the requirements for new facilities, and keep pace with evolving industry trends and technology.

CDMP Monitoring Measure. Number and type of facility maintenance and efficiency improvements made since 2003.

Objective Achievement Analysis. Since its inception, the Port has consistently maintained its facilities in order to provide the required infrastructure for its daily operations. The Port continues to monitor the maintenance of Port facilities and address financial capabilities to meet the required schedule of Port facilities maintenance. In addition to the numerous cruise and cargo projects implemented over the EAR reporting period, the Port has completed a number of maintenance and efficiency improvements to its facilities. These projects are included in Table 2.2.5-5 below.

In conclusion, this objective has been achieved, continues to be relevant and should be retained. No change to the text of this objective is recommended. However, the time frame in the objective's monitoring measure should be replaced with text that indicates since the latest EAR.

Policy Relevance. All policies (PM-3A through PM-3D) under this objective are directive in nature, continue to be relevant and should be retained. These policies require the Port to provide adequate facilities and personnel to implement its updated preventative maintenance program, to improve technologies, equipment, and facilities necessary for existing and expanded operations, and to encourage its users to be more efficient in their operations and use of land. Therefore, pursuant to the stated policy requirements, it is recommended that a new policy be added under this objective that directs the appropriate allocation of Port revenues into the continued implementation of the Port's preventative maintenance program and the continued improvement of necessary technologies, equipment and Port facilities.

Table 2.2.5-5
Port of Miami Maintenance Projects, 2003-2009

Project Name	Notice Date
Installation of Security Gates	3/15/2003
Fence & Gate Repair	2/9/2004
Security Fencing, Phase One	10/7/2004
Security Fencing Phase Two	10/7/2004
Roof Repairs/Dry-In Rccl1050 Building- Hurricane Katrina	8/30/2005
Security Fence Repair For U.S. Customs Facility	8/30/2005
Re-Roof @ T-8 West Boarding Hall-Hurricane Katrina	8/31/2005
Rccl Parking Lots Emergency Pavement & Curb Repairs-Hurricane Katrina	8/31/2005
Shed G Overhead Door #6 Replacement-Hurricane Katrina	9/1/2005
Rccl 1015 Building Glass Replacement-Hurricane Katrina	9/12/2005
Wash-Out Repair @ High Mast Light 49	9/21/2005
Glass replacement @ 1050 Building skylights	9/27/2005
Perimeter security fence repair @ Terminal 2	10/31/2005
Perimeter security fence repair @ Terminal 10	10/31/2005
Security fence repair at Hi-Way draw bridge control tower	10/31/2005
Security fence repair at U.S. Customs, Shed E	10/31/2005
U.S. Customs 1500 Building Fence Repair- Hurricane Wilma	11/1/2005
Roof repairs/temporary dry-in of hurricane damaged roofs-various locations	11/1/2005
Glass replacement at Terminal 12 - Hurricane Wilma	11/3/2005
Damaged glass replacement and emergency board-up @ RCCL 1050 Building	11/3/2005
RCCL 1050 & 1080 Bldgs. parking lots pavement and curbing repairs	11/3/2005
Electrical survey & repairs to feeder services- Hurricane Wilma	11/4/2005
Roof repairs @ Terminal B-C due to Hurricane Wilma	11/9/2005
Draw Bridge Tower Windows Replacement- Hurricane Wilma	11/18/2005
Cruise Terminal 5 acoustical ceiling repairs/replacement-Hurricane Wilma	11/30/2005
1007 Building exterior stucco soffit repair/replacement-Hurricane Wilma	11/30/2005
Repair of security fence - Fumigation Lot	2/23/2006
Additional Roof Repairs @ Cruise Terminal C, Hurricane Wilma	4/3/2006
Temporary emergency roof repairs @ multiple Seaport locations	5/18/2006
Replacement of security gates and posts at Cruise Terminal B	12/11/2006
Repair of damaged Port Security Fence & Gate @ Berth 55	12/20/2006
Replacement of damaged security gate @ Berth 55	2/14/2007
Port Wide Drainage Well Redevelopment & Drainage System Cleanout	4/24/2007
Fence and Gate installation @ Port Security Gate	7/6/2007
Replacement of fire pump @ Cruise Terminal D	12/6/2007
Repairs to Two Port Security Gates	12/12/2007
Fence installation @ Cruise Terminals D & E	1/22/2008
Security Fence Repairs and Modifications @ MSRC Building	2/22/2008
Roof Repairs @ Seaport Administration Building	2/25/2008
APM Cargo Yard Pavement Improvements	8/5/2008
Re-sealing of window leaks at the RCCL 1050 & 1080 Office Buildings	10/2/2008
Repairs of Port Boulevard Security Fence	1/7/2009
Replacement of window glass and broken restroom mirrors	4/9/2009
Wharf I Emergency Repairs	7/31/2009
Installation of Security Fencing at the Port USDA Fumigation Yard	8/19/2009
Fence removal and reinstallation for Taxi Staging Area	11/4/2009
Replacement of wood flooring and VCT in MDFR Marine Unit Trailer	12/15/2009
Gate and Fence Repairs @ CBP Warehouse, Shed E	12/29/2009

Source: Port of Miami, February 2010

Objective PM-4
The port shall promote sound environmental practices in its day-to-day operations and long-term maintenance and expansion plans, consistent with the unique role and responsibilities of deep-water port facilities.

CDMP Monitoring Measure. Assessment of the Port of Miami's environmental accomplishments and practices during the EAR reporting period.

Objective Achievement Analysis. During the EAR reporting period, the Port has maintained sound environmental practices thereby avoiding violations and fulfilling one of the Port objectives of being an environmentally responsible agency. The Port works closely with environmental groups and agencies to verify that permit requirements are met and that the Port continually operates within required environmental regulations. Actions taken to achieve this objective include the January 2010 completion of a mitigation project at the Oleta River State Park to resolve a dredging violation (Notice of Violation issued in 1999) and the associated Consent Order with FDEP executed in 2002. Consistent with the Port's environmental responsibilities as a deep-water port facility, the Port maintains active membership in the Florida Seaport Environmental Management Committee and in the American Association of Port Authorities (AAPA) Harbor's Navigation and Environmental Committee. Involvement in these committees allows the Port to share information and learn from other ports' environmental practices that are applicable in achieving a sustainable Port of Miami. Among the Port's environmental efforts are the following:

- The Port evaluates its environmental practices in response to new information and community issues. Environmental training to tenants and Port staff continues to be offered on an annual basis toward implementation of best management practices and required mitigation, including, but not limited to, creation of artificial reefs and habitat restoration and enhancement activities in Biscayne Bay. Additionally, stormwater pollution prevention plans designed to protect the Bay are maintained for all applicable construction projects in addition to the performance of annual environmental

audits at Port facilities to evaluate the Port's environmental practices.

- Appropriate environmental agency approvals are being obtained for port expansion activities, including Miami-Dade Department of Environmental Resources Management (DERM) Class I and Class II permits, Florida Department of Environmental Protection (FDEP) Environmental Resource permits (ERPs), and Department of the Army (DOA) permits. Furthermore, the Port continues to annually update the CDMP Capital Improvements Element (CIE) in accordance with its capital improvement plan (CIP) and obtains all environmental regulatory approvals. Also where necessitated by the environmental permitting process, the Port convenes appropriate public (community) involvement meetings and/or notices the public of pending actions and projects.
- The Port's Dredge Materials Management Plan was completed in 2004 as part of the General Reevaluation Report for the Phase 3 dredge program, which addresses long-term needs for spoil disposal and beneficial use of dredged material. The Port, in partnership with the United States Army Corps of Engineers (USACE), will prepare an Environmental Impact Statement (EIS) Supplement for the Ocean Dredged Material Disposal Site (ODMDS) to ensure adequate disposal measures are taken for the Phase 3 dredge program, if modeling (currently underway) warrants the change. The Port and the USACE have committed to beneficially reuse over 20% of the dredge material from the future Phase 3 dredge program for sea grass restoration and the creation of artificial reefs. The Phase 3 dredge program is currently under design and dredging activities are scheduled to begin in 2012.

In conclusion, this objective has been achieved, remains relevant and should be retained. It is recommended that this objective be combined with Objective PM-5 considering both objectives address environmental issues.

Policy Relevance. Policy PM-4C required the Port to explore the feasibility of mitigation banking as a long-range option for natural resource planning by 2006. A feasibility study was conducted that deemed coastal mitigation banking unfeasible at this time. Therefore, Policy PM-4C should be revised to make exploration of mitigation banking an ongoing effort. Additionally, Policy PM-4D required the development of a Dredged Materials Management Plan, which was completed in 2004. Therefore, PM-4D is no longer relevant but should be replaced with a new policy that requires implementation of the plan as amended from time to time. Add a new policy or include policy amendments to support and implement the Port dredging project as approved by the Port Master Plan. The remaining policies under this objective continue to be relevant and should be retained.

Objective PM-5
The port shall maintain its policy of cooperation with all levels of government and the community in the resolution of environmental issues.

CDMP Monitoring Measure. Assessment of the Port of Miami's environmental accomplishments and practices during the EAR reporting period.

Objective Achievement Analysis. During the EAR reporting period, the Port has maintained sound environmental practices thereby avoiding violations and fulfilling one of the Port objectives of being an environmentally responsible agency. The Port works closely with environmental groups and agencies to verify that permit requirements are met and that the Port continually operates within required environmental regulations. Actions taken to achieve this objective include the January 2010 completion of a mitigation project at the Oleta River State Park to resolve a dredging violation (Notice of Violation issued in 1999) and the associated Consent Order with FDEP executed in 2002. Consistent with the Port's environmental responsibilities as a deep-water port facility, the Port maintains active membership in the Florida Seaport Environmental Management Committee and in the American Association of Port Authorities (AAPA) Harbor's Navigation and Environmental Committee to share information and learn from other port's environmental practices that are applicable in achieving a sustainable Port of Miami. Among the Port's environmental efforts are the following:

- The Port is evaluating the potential of utilizing cold ironing for ships docked at the Port. Cold ironing is essentially allowing docked ships to plug into an on-shore electrical power source so they do not have to run their engines, which would minimize fuel consumption and reduce greenhouse gas emissions. Further investigation into the feasibility of utilizing cold ironing is underway with one of the Port's cargo tenants.
- Disposal receipts from spoil disposal and trucking tickets are recorded for applicable Port projects as a means of ensuring that all spoils not utilized as fill at the Port are disposed of in accordance with all applicable rules and regulations.
- In 2009, riprap was used to stabilize the shoreline in two areas on Dodge Island damaged during Hurricane Wilma. Plans are underway to enhance the riprap at the Pilot Station on the eastern tip of Lummus Island as well as a new bulkhead along a damaged riprap section on Dodge Island. Studies are underway to evaluate the Port's existing bulkhead integrity as well as to strengthen the bulkheads along the gantry wharf. Turbidity controls are utilized as appropriate in all maintenance dredging and coastal construction activities.

In conclusion, this objective has been achieved, remains relevant and should be retained. It is recommended that this objective be combined with Objective PM-4 considering both objectives address environmental issues.

Policy Relevance. All policies under this objective are directive in nature, continue to be relevant and should be retained. A new policy is recommended under this objective to direct the Port to explore sustainable projects both on-island and off-island consistent with County Ordinance 07-65 which promotes green design, construction and operation of buildings that are developed, constructed, and managed by the County.

Objective PM-6
The port shall coordinate off-island expansion activities with affected communities.

CDMP Monitoring Measure. Number and condition of the Port of Miami off-island expansion and related coordination activities.

Objective Achievement Analysis. The Port's planned off-island projects included a maritime park mixed-use cruise facility and an intermodal logistics transfer facility for cargo storage and facilitation of cargo movement (identified as the Intermodal and Inland Distribution Center). Activities undertaken for these projects during the planning phases were coordinated, through the public involvement process, with the communities that would have been affected by the implementation of the planned projects. Due to prevailing market conditions, among other reasons, the projects were not implemented. Consequently, the Port has not expanded its operations and facilities off-island and does not have a project to report. However, the Port is currently conducting analyses for a new off-island expansion project (an intermodal logistics transfer facility) and continues to coordinate these off-island expansion activities (analyses) with the MPO, DDA, City of Miami and the public from the communities that would be affected by the new project.

Policy PM-6B calls for the Port to integrate expansion activities into the physical, social and economic fabric of the surrounding communities. The Port is considered as the cargo gateway of the Americas and the top-ranking cruise port in the world, and is a vital contributor to the local, state and national economies. The cruise activities at the Port support the area's tourism and combined with cargo operations support approximately 176,000 jobs in the local and regional economy. The Port's commitment to the coordination of its activities with affected communities is exemplified in the currently underway Port of Miami Tunnel project aimed at relieving traffic congestion on local roadways in the downtown Miami area (further detailed under Objective PM-9) and its coordination with the City of Miami in the implementation of local plans including the Miami Downtown Transportation Master Plan (mentioned in the Policy Relevance section under Objective PM-9). Port staff has indicated that this policy will be further implemented once a new site is identified for off-island expansion.

In conclusion, and although the Port's planned off-island projects were not implemented, the objective was achieved, continues to be relevant and should be retained. No change is recommended to this objective.

Policy Relevance. Policy PM-6C calls for the Port to "…provide public access to the waterfront when appropriate and not in conflict with safety and operation practices. Expansion into parkland shall be consistent with Policy PM-1A." PM-1A requires any construction of new Port berths and cruise terminal facilities into existing and planned public parkland be designed to promote public access to the waterfront and the existing and planned parks. As discussed in the Policy Relevance section under Objective PM-1, Policy PM-1A is recommended for revision to remove references to the expansion of Port facilities into public parkland, as the Port is no longer considering such expansion into public parkland (pursuant to its draft 2035 Master Plan). Therefore, Policy PM-6C should also be revised to remove references to expansion into public parkland, consistent with the recommended revision to Policy PM-1A, if the draft 2035 Master Plan is approved. The remaining polices under this objective are directive in nature, continue to be relevant and should be retained.

Objective PM-7

The port shall continue to identify and obtain in a timely manner all required permits, leases, development approvals or land acquisition needed to implement its Master Development Plan; to construct and operate its facilities in cooperation with the appropriate federal, state, and local agencies, and in conformance with the Miami-Dade County Comprehensive Development Master Plan (CDMP).

CDMP Monitoring Measure. Types of environmental permits and approvals issued during the EAR reporting period.

Objective Achievement Analysis. The Port continues to identify and obtain all required permits, leases, and development approvals needed to implement its Master Development Plan. The Port maintains a positive coordination with all relevant agencies in obtaining and maintaining the required permits and approvals as shown below.

- FDEP Port Master Maintenance Dredging Permit issued December 2008
- DOA Port Master Maintenance Dredging Permit issued January 2009
- DERM Class 1 Coastal Construction permits
  - Area 3 Bulkhead issued June 2009
  - Mooring Extension at Cruise Terminal G issued January 2007
  - Mooring Bollards at Cruise Terminal D & E issued June 2009
  - FEMA riprap projects issued April 2007
  - Oleta River State Park mitigation project issued December 2006
- FDEP Environmental Resources Coastal Permitting
  - Area 3 Bulkhead issued March 2009
  - Mooring Extension at Cruise Terminal G issued November 2005
  - FEMA riprap projects issued November 2006
  - Fire Department Floating Dock issued February 2009
  - Pilot Station Riprap Rehabilitation issued February 2009
- FDEP Environmental Resources Stormwater Permitting - examples below on a per project basis:
  - Cargo Yard Improvements issued February 2004
  - Western Port Boulevard issued April 2003
  - Cruise Terminal D Intermodal issued December 2003
  - Eastern Port Blvd issued December 2003
  - Cruise Terminal D Parking Garage issued July 2006
  - Cruise Terminal D Provision Building issued June 2008
  - Fire Department issued June 2005
- DOA Environmental Resources Coastal Permitting
  - Area 3 Bulkhead issued April 2009
  - Mooring Extension at Cruise Terminal G issued September 2006
  - FEMA riprap projects issued May 2007
  - Fire Department Floating Dock issued February 2009
  - Pilot Station Riprap Rehabilitation issued January 2009
- DERM Class II Stormwater permits:

  - Cargo Yard Improvements issued July 2009
  - Western Port Boulevard issued June 2003
  - Cruise Terminal D Intermodal issued April 2004
  - Eastern Port Boulevard issued January 2004
  - Cruise Terminal D Parking Garage issued July 2007
  - Cruise Terminal D Provision Building issued September 2008
  - Seaboard Area 3 issued April 2009
  - Seaboard Phase 1 Repairs issued October 2008
- Final Environmental Impact Statement (EIS) for Phase 3 Dredging Program - Record of Decision (ROD) issued May 2006
- Miami-Dade County's Shoreline Review Committee
  - Seven infrastructural projects including maintenance of port infrastructure, wharf 6 & 7, new gantry cranes, cruise terminals D&E, Terminal A and 4 cruise provision buildings approved in 2003
  - Four shoreline infrastructures projects including Area 2 bulkhead, Area 3 bulkhead, Berth 56 expansion and pilot station riprap rehabilitation were approved for exemption in February 2009

In conclusion, this objective has been achieved, remains relevant and should be retained. The monitoring measure should be revised to exclude the word 'environmental' as the objective does not pertain only to environmental permits and approvals but relates to all required permits and approvals such as for planning, zoning, building, fire, etc.

Policy Relevance. Policy PM-7C requires the Port in coordination with the Department of Planning and Zoning to consider the appropriateness of a seaport overlay zoning district to accommodate certain port compatible uses. It is recommended that PM-7C be revised to include port compatible marinas and advertising. It is also recommended that PM-7C be further revised to highlight the fact that the Port is owned and operated by the County and pursuant to Chapter 125.015, Florida Statutes, is under the sole jurisdiction of the County and not the municipality in which it is located. This is intended to clarify which agencies the Port must address during the permitting of Port facilities, activities, and related improvements. The remaining polices under this objective are directive in nature, continue to be relevant and should be retained.

Objective PM-8
The port shall coordinate port expansion activities to achieve appropriate land uses, joint-uses and joint-venture partnerships.

CDMP Monitoring Measure. Assessment of the Port of Miami's expansion activities and joint venture partnerships.

Objective Achievement Analysis. During the last EAR update, the Port was working towards several joint venture projects such as the Port of Miami Tunnel and the Miami Harbor Phase 3 Dredge. These projects, planned through joint-venture partnerships are now coming into fruition. The Port also successfully completed joint venture projects with two cargo terminal contracts to develop cargo land. Also during the last EAR update there were plans to build cruise terminals in public parkland along Biscayne Bay, which have since been abandoned. Currently the Port is analyzing the possibility of doing a joint-venture partnership to build an intermodal logistic center that will be tied to the existing rail line servicing the Port. The Port's draft 2035 Master Plan indicates that the Port should evaluate the consolidation of uses on-island through the construction of multi-use buildings to increase the Port's land use efficiency.

The Port has coordinated with a number of federal, state, regional and local agencies on matters related to the Port's expansion during the EAR reporting period, specifically these agencies include:

- U.S. Army Corps of Engineers (USACE)
- Florida Department of Environmental Protection (FDEP)
- Florida Department of Transportation (FDOT)
- South Florida Regional Planning Council
- South Florida Water Management District
- Miami-Dade Metropolitan Planning Organization
- Miami-Dade County Department of Planning and Zoning

- Miami-Dade County Water and Sewer Department
- Miami-Dade County Department of Environmental Resource Management (DERM)
- City of Miami and their respective planning and administration agencies
- U.S. Department of Homeland Security

The Port has been engaged in a variety of public/private cooperative efforts such as:

- Working with cruise lines in design/remodeling of cruise terminals
- Deepening of the Federal navigational channel, a joint project with the U.S. Army Corps of Engineers
- Coordinating with the Panama Canal Authority in an effort to complete the Canal expansion and deep dredge simultaneously
- Negotiating with significant cargo/cruise tenants to bring new business to the Port of Miami
- Coordinating with FEC in an effort to create a distribution center and focus on the movement of cargo/passengers to/from the Port
- Coordinating with FDOT and the City of Miami to construct the Port of Miami Tunnel, connecting the Port of Miami to I-395 on Watson Island
- Coordination with cargo tenant, security, etc. in the construction of a new state-of-the-art cargo gate system
- Working with Miami-Dade Aviation Department and the National Transportation Safety Administration on an express baggage check-in system

As reported in the last EAR, the Port has coordinated with the U.S. Customs and Border Protection and the Terminal Operators toward implementation of an upgraded Gamma Ray system similar to the Stolen Auto Recovery System (STARS) to enhance security at the Port's cargo yards. This Gamma Ray system was successfully implemented in 2006.

In conclusion, this objective has been achieved, continues to be relevant and should be retained. No changes to the text of this objective are recommended.

Policy Relevance. Policy PM-8C should be revised to include cruise terminals among the list of Port facilities to be considered for multi-use options. All other policies under this objective remain relevant, are ongoing, and should be retained.

Objective PM-9
The port shall coordinate landside and waterside transportation issues with pertinent federal, State, County (including adjacent counties) and City agencies to ensure that the Port's requirements are consistent with the abilities of the agencies to provide the services needed to support these activities.

CDMP Monitoring Measure. Number and condition of transportation projects affecting the Port of Miami during the EAR reporting period.

Objective Achievement Analysis. The Port has worked in partnership with the pertinent agencies in order to plan and implement transportation projects necessary to maintain the Port's current and future operations. Port related transportation projects completed since the last EAR update, include roadway improvements both on-island and off-island as well as waterside improvements such as maintenance dredging. The Port continues to work with the pertinent agencies to implement programmed transportation improvement projects and to plan for future projects such as those listed below.

Implemented Projects

- Eastern Port Boulevard completed in February 2006
  - Realignment, widening and capacity improvements to the main arterial accessing the cargo yards of the Port of Miami
- Western Port Boulevard completed in December 2006
  - Realignment, widening and capacity improvements to the main arterial accessing the Port of Miami
- Eastern Port Boulevard North Spur completed in March 2008
  - Build a North spur to the existing Port Boulevard in order to access cargo yards

- Bulkhead Improvements completed triennially in 2003, 2006 and 2009 pursuant to the Port's Bond Engineering Report
  - The bulkheads around Dodge/Lummus Island are constantly surveyed and maintained in order to provide for safe and efficient berthing locations for ships; the Port's bulkheads function as roadways, without them traffic (i.e. ships) could not travel to the Port.
- Maintenance Dredging completed on an as needed basis
  - This performed small-scaled maintenance dredging operations within the Port's berthing areas to maintain the depth required for ships to navigate the channel

Future projects: 2010 and beyond

- Downtown/Port Access (planning phase)
  - Construct I-95 north bound (NB) slip ramp on NW 6 Street; Implement NE/NW 5 & 6 Streets and Port Boulevard improvements for access between the Port and the I-95 slip ramp
  - Access to SR-836 westbound from the Downtown Miami Central Business District (DMCBD) is via I-395 and NE 1, NE 2 Avenues, and Biscayne Boulevard on the north and SE 1, SE 2, SE 3, and South Miami Avenues, and Biscayne Boulevard on the south
  - Slip ramp would provide direct access for the northern portion of DMCBD (including Miami-Dade Community College, Bayside, American Airlines Arenas, Port of Miami, and the Performing Arts Center) to westbound SR-836 from I-95, reduce business costs for companies through fuel and time savings
- Biscayne Boulevard (planning phase)
  - Expand SB left turn lane for Port traffic entering Port Boulevard
  - The turning lane storage is not enough to accommodate current traffic needs and vehicles are obstructing the trough lane
  - Reduce traffic congestion along Biscayne Boulevard
- Vehicular Bascule Bridge (planning phase)
  - Effect needed repairs to existing vehicular bascule bridge
  - Bridge is a means of emergency ingress/egress from the Port
- Intermodal Logistic Center and Rail Road Bascule Bridge (planning phase)
  - Effect needed repairs to existing freight Rail Road Bascule Bridge
  - Bridge facilitates freight transportation by rail, and potential use for passenger rail being evaluated
  - Develop an intermodal logistic center off-port that will connect directly with the Port via upgrades to the existing FEC rail line, and repairs to the Port's bascule rail bridge, the addition of two 2,500 Ft. Parallel tracks on Port and an intermodal loading facility
- Port Tunnel (design and build currently underway, anticipated completion in year 2014)
  - The Port, through a Public Private Partnership Agreement led by the FDOT and supported by City of Miami, seeks to construct a tunneled roadway from Port Boulevard to I-395 as the primary means of ingress/egress to the Port
  - Currently, the only link between the seaport and the mainland is the 6-lane port bridge that intersect Biscayne Boulevard at NE 5 & 6 Streets, and once constructed, the Port Tunnel would become the primary Port access providing direct access to the interstate highway system
  - The Port Tunnel would relieve traffic congestion within the Downtown area and particularly on Biscayne Boulevard in the general Bayside area by diverting Port truck/vehicle traffic away from the Downtown area roadways
  - The rerouting of Port truck traffic away from the Downtown Miami area alleviates several traffic problems including pedestrian safety issues
- Port of Miami Infrastructure (planning phase)
  - Improve the NE 1 Avenue/NE 6 Street intersection to accommodate safer truck turning movements from NE 6 Street onto NE 1 Street
  - Port truck traffic travels westbound on NE 6 Street then northbound on NE 1 Avenue en-route to the interstate highway system

accessed from the I-395 on-ramp at NE 1 Avenue and NE 12 Street
  - Increase the number of travel lanes through the Cargo Gates
- Port of Miami Operations: (planning phase)
  - Pier Pass Feasibility Study to examine the impact of implementing congestion mitigation incentives for off-peak hours
  - In order to reduce traffic congestion through the Downtown Miami area it is necessary to study alternative Port operating options
- Harbor Deepening: (design phase)
  - The Port obtained Congressional Authorization through the Water Resources Development Act of 2007 for Phase III of the Miami Harbor Dredging project
  - At the authorized harbor depth of 50 feet, the port will be able to double its cargo capacity and accommodate/berth the super-post Panamax (mega cargo) ships being built today
  - Allowing for larger ships to access the Port increases the Port's cargo and throughput capacity and makes the Port more competitive
- Bulkhead Improvements and New Construction
  - The bulkheads around Dodge/Lummus Island must constantly be surveyed and maintained in order to provide for safe and efficient berthing of ships, and new bulkheads will be provided where appropriate in order to increase the Port's cargo and cruise passenger capacity
  - The Port's bulkheads function as roadways, without them traffic (i.e. ships) could not travel to the Port
  - To meet current and projected capacity demands for cargo and cruise passenger throughput, and to berth ships of various sizes, the Port needs to maintain existing and/or construct new bulkheads as appropriate

In conclusion, this objective has been achieved, continues to be relevant and should be retained. However, it is recommended that the objective be reworded to be more concise.

Policy Relevance. Policy PM-9A requires coordinated implementation of the dated Miami Downtown Transportation Master Plan (MDTMP) and should be revised to include the most current plans. Similarly, Policy PM-9B should be revised to remove references to the MDTMP and to make the policy more succinct. Policy PM-9C is ongoing, relevant and should be retained, but, it should be reworded to specifically reference the Port of Miami Tunnel instead of the port/interstate transportation link, currently referenced. Policy PM-9E references the State's authorization to create the South Florida Regional Transportation Authority (SFRTA), which has since been created. Therefore, the policy should be updated to reflect the fact that the SFRTA and other agencies have been created, and reworded to be more succinct. Policy PM-9F requires the Port to assist in implementing the MDTMP recommendations that provide transit and roadway network improvements important to Port-related freight and cruise passenger transportation, similar to the intent of Policy PM-9A. Therefore, it is recommended that Policies PM-9F and PM-9A be combined. The remaining policies under this objective remain relevant, are ongoing and should be retained.

Objective PM-10
The port shall work with County departments and utility providers to ensure that necessary capacity is available to support existing and proposed uses in advance of need.

CDMP Monitoring Measure. Infrastructure improvements made since 2003.

Objective Achievement Analysis. During the last EAR update, the Port reported the ongoing preparation of an overall Stormwater Management Master Plan (SMMP) for the Port as part of the National Pollutant Discharge Elimination System (NPDES) permitting process. The SMMP was subsequently completed in 2004, is being implemented, and is updated periodically. The Port also reported in the last EAR update that it was planning for future water and sewer needs. Studies analyzing the Port's water and sewer capacity and future needs were completed and the Port is currently revisiting the studies to determine the current conditions and future needs. Also as

reported in Objective PM-7 and PM-8 achievement analyses, the Port coordinates with all relevant permitting and service provider agencies to implement development consistent with the Port's Master Development Plan.

Policy PM-10C required by 2006, the construction of projects arising from the Consent Agreement between the Port and DERM regarding the extension of sewer lines into the eastern half of the Port. These projects were completed in 2005. Table 2.2.5-6 below lists the utility projects implemented by the Port during the 2003 to 2009 EAR reporting period.

Table 2.2.5-6
Port of Miami Utility Capacity Projects
2003 to 2009

Project Description	Completion Date
Utilities - Electric / Cruise Terminal D&E Relocations	11/19/2004
Sewer Main & Utility Improvement - Phase 1	1/27/2005
Sewer Main & Utility Improvement - Phase 2	4/20/2005
Wharves 6 & 7 - Electrical	2/25/2005
Port Wide Drainage Well Redevelopment & Drainage System Cleanout	4/24/2007

Source: Port of Miami, February 2010

In conclusion, this objective has been achieved, continues to be relevant and should be retained. The monitoring measure should be revised to make it specific to utilities and the timeframe replaced with text that indicates since the latest EAR.

Policy Relevance. Policy PM-10A should be revised to reference the NPDES Stormwater Pollution Prevention Plan, amended annually as required, instead of the currently referenced November 2000 version. Policy PM-10B required the above-mentioned SMMP to be developed by 2006, which was achieved. This policy should therefore be revised to now require ongoing implementation of the plan as amended periodically. Policy PM-10C required by 2006 the completion of construction projects related to the extension of sanitary sewer lines into the eastern portion of the Port, which were completed in 2005. Therefore, the Policy is no longer relevant and should be deleted. Policy PM-10D should be reworded to reflect coordination between the Port and the Miami-Dade Water and Sewer Department to relocate water lines that affect the dredge project. It is recommended that a new policy be developed that requires the Port to work cooperatively with its utility providers to determine cost-saving sustainable projects to be implemented on-island.

Objective PM-11
The Port shall recognize local, state and federal security needs in all port operations, expansion and new construction.

CDMP Monitoring Measure. Compliance with applicable security requirements and plans.

Objective Achievement Analysis. Since the last EAR update, the Port has attained compliance of its Facility Security Plan (FSP) with all security regulations, Including Chapter 28A (Seaport Security and Operations) of the Miami-Dade County Code, the United States Coast Guard enforced Maritime Transportation Security Act of 2002, and Chapter 311, Florida Seaport Transportation and Economic Development (Section 311.12, Seaport Security), Florida Statutes.

The security needs of the Port take precedence over other Port projects due to life safety issues and are addressed consistent with federal and state regulations. Accordingly, Port security projects are not required to be included in the CDMP's Capital Improvements Element (CIE), due to the rapidly evolving nature of security issues and the long timeframes necessary to modify the CIE to be found consistent with the CDMP, pursuant to Policy PM-11B. However, consistency with the CDMP is dependent on the CIE being amended at the appropriate time to address the improvements, as needed. This allows the Port flexibility to address security needs as they arise.

In conclusion, this objective has been achieved, remains relevant and should be retained. No change to the text of this objective is recommended.

Policy Relevance. Policy PM-11A references the Port's Florida Department of Law Enforcement

(FDLE) approved Security Plan. However, the Port's FSP is currently approved by the United States Coast Guard, the FDLE, and the Florida Office of Drug Control. Therefore, the policy should be revised accordingly to reflect the state and federally approved FSP. Policy PM-11B requires the Port to schedule security-related items into the CIE at appropriate times, while recognizing the evolving nature and significance of security issues and indicating that inclusion of security-related items in the CIE shall not be a requirement for a finding of consistency with the CDMP. It is recommended that Policy PM-11B be revised to remove the requirement to schedule security-related items in the CIE, because of life safety reasons and that scheduling security-related items in the CIE is not required for a finding of consistency with the CDMP. All other policies under this objective remain relevant, are ongoing and should be retained.

Future Port of Miami Facilities
The list of Future Port of Miami Facilities will be updated to reflect currently planned Port facilities.

Port 2004 Master Development Plan
The Port of Miami 2004 Master Development Plan will be updated to reflect current Port conditions.

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2.3 HOUSING ELEMENT

Introduction

It is difficult to overstate the importance of this EAR's review of the Housing Element for several reasons. First, the range of changes that occurred during this period of review is fittingly wide, including the highest level seen in real estate prices and housing market activity in the past 60 years, as well as the precipitous drop that followed. Second, the timing of this review is opportune, taking place during the ongoing deflation of the housing bubble, accompanied with economic recession, tightened real estate financing, budget cuts and restructuring of government housing agencies.

Affordable housing has been a recognized ongoing concern of Miami-Dade County for more than 30 years. The unprecedented developments in the housing market during the last five years transformed it into one of the most important issues facing the County.

The troubling housing situation in Miami-Dade is a result of several factors driving major fluctuations in housing supply and demand between 2003 and 2009. One of them was the real estate boom which took place during this period. Seen, at the same time, as a consequence and reason for the subsequent economic turndown, the real estate market trend, starting in 2003 was characterized by an unparalleled increase in values resulting in a severe demand/supply imbalance. The continuing trend toward upscale single and multi-family development was incompatible with housing demand for the majority of the County's residents. Home values increased sharply by more than 170% between 2000 and 2006 forcing 58% of homeowners with mortgages to devote over 30% of their income (cost burdened) to housing costs. Perhaps, the most telling single statistic is the percent of households that are cost burdened. In 2000, 232,618 fell into this category. Just eight years later, this figure had jumped to 392,882 households.

Despite its decrease of over 25 percent from its height in 2007, the median single-family home price for Miami-Dade County was $276,600 in 2008; this figure was outside the affordable range for most households. The 2008 figure was more than six times the median household income and twice the affordable price for Miami-Dade County's households in 2008 as measured by the median house price-to-median household income ratio of 2.5:1. It should be noted that although the median single-family home fell even further to $195,300, the affordability issue remains. Finally, on the other side of tenure, namely rental housing, the median rental price of a residential unit in 2008 remained high at $1,008 compared to corresponding figure of $816 in 2005.

In 2008, housing prices far exceeded the affordability level of most households in Miami-Dade County irrespective of occupation and income category, thus creating severe cost burdens for owner and renter households alike.

Miami-Dade County's affordable housing supply imbalance has also been exacerbated by the substantial loss of the County's rental housing supply as a result of condominium conversions, and the overall decline in rental housing production. The overall increased vacancy rate did little to resolve the housing problem.

Last but not the least, the global economic recession left many households with markedly lower income and exacerbated the housing crisis and the wave of mortgage foreclosures whose end is yet to be seen. Florida, together with three other states accounted for 57% of the foreclosures in the nation. This process was particularly pronounced in Miami-Dade County where the foreclosure case filings averaging approximately 10,000 between 2002 and 2006, more than doubled in 2007, only to double again in 2008 to 56,656.

The 2008 pace in foreclosure filings continued until April 2009 followed by a moderate decline. However, the market downturn in 2008 did not ease the demand for affordable housing due to the overall worsening of economic conditions and an unsold inventory that has continued to grow and backlog as both buyers and sellers await some level of market correction.

In 2009, the Miami-Dade County's housing market continues to be characterized by uncertainty and

instability due to the severe mismatch between the upscale housing production from the recent years, and the unmet affordable housing demand that grew as unemployment rates reached 11.7% in July 2009.

On a more positive note, there is reason to believe that the trends regarding housing affordability will be reversed due to the collapse of the housing market as prices for ownership units in Miami-Dade County have declined to 2003 levels. Despite this much lower price level, Miami-Dade residents are particularly vulnerable due to the fact that a large component of the labor force is in lower wage occupations. The extremely low- to low-income households create a sizable and sustained demand for affordable housing.

Much attention has been focused on the actions of the financial sector as a cause for the recent housing bubble, such as low interest rates and extension of credit to poorly qualified customers. However, it is also important to remember that land use and housing policy at the local level affects the expansion of housing supply, in particular in the affordable range.

Miami-Dade County government responded to the changing housing situation by streamlining its existent policies and programs, this time with detailed monitoring and implementation requirements. The Miami-Dade Master Affordable Housing Plan (Master Plan), currently in process, represents a notable effort by the County and stakeholders to consolidate, streamline and optimize the existing multitude of initiatives and programs addressing separate housing issues and operating independently in the jurisdiction.

The Master Plan provides a broad vision for the future of the housing in Miami-Dade County as well area-specific strategies, measures and deadlines for addressing the most pressing issues. It also mandates a higher level of involvement of various agencies in the practical implementation of the objectives.

Finally, it should be noted that unless otherwise specified, affordable housing refers to housing for households at or below 120% of AMI. In addition, since the 2010 decennial census data referred to in the monitoring measures for these objectives is not available as of the release of this EAR, the analysis is based on the most recent data available, namely the 2008 American Community Survey (ACS) 1-year estimates. The following sections present an assessment of the achievement of each objective and related policies of the Housing Element for the past seven years, as well as a determination of policy relevance.

Goal I, Objective HO-1
Promote housing choice for all Miami-Dade County citizens regardless of their race, ethnicity, age, sex, family composition, disability or sexual orientation.

CDMP Monitoring Measure. Residential segregation indices using census and other data as necessary and available will be used to report on results achieved related to this objective.

Objective Achievement Analysis. This objective has significantly been achieved. Housing market supply and demand create spatial clustering of households which is sometimes interpreted as discrimination in housing market. In addition to the market forces, institutional factors can also create neighborhood heterogeneity in income, race, and housing characteristics. Segregation in urban neighborhoods may be perpetuated by discrimination in the provision of housing choice by factors like redlining by lenders and insurers, steering by brokers, discrimination by owners and unfair affordable housing practices, etc. Government policies affecting the choice of residential location and neighborhood heterogeneity are evaluated through the achievement of the other objectives of the Housing Element.

The promotion of fair and equal housing opportunities for all is a prerogative of the U.S. Department of Housing and Urban Development (HUD) which is charged by law to implement and enforce a wide array of civil rights laws, not only for members of the public in search of fair housing, but for HUD funded grant recipients as well. HUD is also charged with ensuring the successful operation of specific enforcement of housing programs.

In Miami-Dade County, housing choice and anti-discrimination compliance are the responsibility of the Miami-Dade Public Housing Agency (MDPHA), the Housing and Community Development (HCD), the Office of Americans with Disabilities (ADA) and the Office of Equal Opportunity Board (EOB) of Miami-Dade County. MDPHA and HCD administer housing development programs including federally-funded programs, regulated and governed by the HUD. HCD is integrating HUD's anti-discrimination requirements into the implementation and monitoring of the housing programs and practices by housing assistance providers.

Complaints related to housing discrimination are received and reviewed by the EOB. Between January 2003 and August 2009, EOB has received a total of 316 complaints from Miami-Dade residents against local housing providers. Of this total, 19 complaints are still unresolved including 7 received over two years ago. These cases involve retaliation, discrimination based on national origin, and disability complaints and are being investigated. The most common complaint (19.3% of the total) was based on disability including 17 issues covered by the Americans with Disabilities Act (ADA) and 44 handicap (not ADA) cases.

Table 2.3-1
Housing Discrimination in Miami-Dade
January 2003 – August 2009

Discrimination Basis	Number	% of Total
Disability	61	19.30%
Race	55	17.41%
National Origin	49	15.51%
Retaliation	44	13.92%
Marital /Family Status	38	12.03%
Other	33	10.44%
Religion	8	2.53%
Sexual Orientation	8	2.53%
Age	7	2.22%
Sex (Female)	5	1.58%
Color	4	1.27%
HIV/Epilepsy/Other Neurological	4	1.27%
Total	316	100.00%

Source: Research Section, Department of Planning and Zoning, Miami-Dade County. 2009

The second most frequently reported problem with access to housing was race discrimination (17.4% of all cases). Of the 55 race discrimination complaints received, 49 were related to African-Americans, 5 for Whites, and 1 for Asian-Pacific Islander. On the other side, 31 of the 49 complaints based on national origin were from Hispanics. Of 60 complaints received between January 2003 and August 2008, 36 were closed with provision of an actual monetary benefit. Another 3 cases led to provision of reasonable accommodation, 5 ended with disposition for policy change, and 17 resulted in non-monetary benefits for the complainant.

Information for affordable housing in the County is traditionally provided to the general public by the MDPHA. Since 2003 the main source of information was the MDPHA's website where the most important affordable housing programs and applicable regulations were described together with eligibility criteria, processing guidelines, downloadable forms and applications. A major step further in the achievement of this objective is the project for centralizing of housing resources and data collection implemented by the MDPHA in 2009. The Housing Central website http://miamidade.gov/wps/portal/housing offers free listings of affordable rental and for sale properties, detailed eligibility information, waiting list and interactive maps. The website also contains links to comprehensive affordable housing documents, studies and statistics and has enhanced search and feedback capabilities.

Policy Relevance. All policies under Objective 1 were reviewed for continued relevance. Fair housing choice is enforced, vertically and horizontally, through compliance with the civil rights laws and funding requirements at program and policy level. Although these requirements are fully enforced, the policies remain relevant.

Goal I Objective HO 2
Designate by the year 2030 sufficient land (+/- 25,000 acres) to accommodate sites at varying densities for a variety of housing including manufactured homes, with special attention directed to affordable units for extremely low, very low, low, and moderate-income households, including workforce housing.

CDMP Monitoring Measure. The 2000 and 2010 census data will be utilized to compare the distribution of the number of units by value and type, by census tract or other appropriate area.

Objective Achievement Analysis. The objective has not been adequately achieved. The following assessment of affordable housing needs in Miami-Dade County was prepared using median household income (MHI) as a measure of the area median income (AMI) and the income limits defined in Chapter 163 of the Florida Statutes:

Extremely Low:	At or below 30% of the AMI
Very Low:	30.01 to 50% of the AMI
Low:	50.01% to 80% of the AMI
Moderate:	80.01% to 120% of the AMI

Persons or families with household income above 120% and at or below 140% of the AMI are regrouped separately as medium income. It should be noted that earlier EAR 2003 used slightly different income categories, such as "middle and higher income" to designate households with income up to 150% of the median family income (MFI). For compliance and consistency purposes, Census 2000 and 2008 ACS data below is tabulated using the median household income (MHI) and income limits defined above. This explains differences in estimates presented below and in the EAR 2003.

Between 2000 and 2008, an additional 48,987 units were added to the total of occupied housing units in the County. Consistent with development in the real estate market, this change was mostly due to a higher number of owner-occupied units. In fact, there were only 1,914 new renter occupied units. Given that, in general rental units than owner occupied ones this is a disturbing trend regarding affordable housing. The breakdown by size of household is revealing regarding the owner-occupied units showing the share of 1-person households increasing from 10.69%, in 1999 to 13.31% in 2008. Changes of similar scale occurred in the share of 2-person households which grew from 16.67%, in 1999 to 18.56%, in 2008.

Table 2.3-2
Tenure by Size of Household

	Occupied Housing Units	Owner-occupied housing units	Renter-occupied housing units
	Census 2000		
Total Number of Units	776,774	449,333	327,441
1-person household	23.30%	10.69%	12.60%
2-person household	27.68%	16.67%	11.01%
3-person household	18.28%	10.85%	7.42%
4- or more person household	30.74%	19.63%	11.11%
	ACS 2008		
Total Number of Units	825,761	496,406	329,355
1-person household	26.9%	13.59%	13.31%
2-person household	29.6%	18.56%	10.99%
3-person household	17.8%	10.87%	6.90%
4- or more person household	25.7%	17.10%	8.63%

Source: Research Section, Department of Planning and Zoning, Miami-Dade County. 2009.

Government and researchers seem to agree that the future housing needs will be best met with rental housing. However, rental housing is also undersupplied and not always affordable in Miami-Dade.

Between 2004 and 2006, a total of 32,923 affordable housing units were converted to condominiums. Some of those units returned to the rental market, but at much higher rents and, therefore did not meet the housing needs of most of the County's residents. During the same period, there was an increase of only 2,548 in the construction of new rental units. This amounted to an increase of 364 per year, a sharp contrast to the period 1990 to 2000 that saw an increase of 974 rental units per annum. Given the increase in the number of households (about 10,000 per year), it is apparent that there was a significant tightening of the rental housing market.

Table 2.3-3A
Housing Stock and Affordability by Selected Income, Miami-Dade County, Florida

Percent of MHI	Median Household Income (MHI)		Affordable Housing Costs*			
			Renter		Owner	
	2000	2008	2000	2008	2000	2008
30	$10,790	$13,220	$270	$331	$26,975	$33,051
50	$17,983	$22,034	$450	$551	$44,958	$55,085
80	$28,773	$35,254	$719	$881	$71,932	$88,136
120	$43,159	$52,882	$1,079	$1,322	$107,898	$132,204
140	$50,352	$61,695	$1,259	$1,542	$125,881	$154,238

Table 2.3-3B
Housing Stock and Affordability by Selected Income, Miami-Dade County, Florida

Income Limit MHI	Housing Units by Income Category (Cumulative)**							
	Renter Occupied				Owner Occupied			
	2000	%	2008	%	2000	%	2008	%
<=30	83,763	25.58%	82,455	25.04%	34,515	7.68%	44,248	8.91%
<=50	132,780	40.55%	136,731	41.51%	68,200	15.18%	82,506	16.62%
<=80	187,534	57.27%	195,059	59.22%	117,771	26.21%	145,688	29.35%
<=120	264,368	80.74%	249,027	75.61%	222,781	49.58%	217,638	43.84%
<=140	270,630	82.65%	264,652	80.35%	233,230	51.91%	250,894	50.54%
Total	327,441	100.00%	329,355	100.00%	449,333	100.00%	496,406	100.00%

* Factors used are 30% of the median household income (MHI) for rent and 2.5 times MHI for housing cost.
** Specified occupied housing units.
Source: U.S. Census Bureau, Decennial Census 2000 and 2008 ACS.
Prepared by Research Section, Department of Planning and Zoning, Miami-Dade County. 2009.

Table 2.3-4
Overcrowded Units by Tenure

	Number of Housing Units	Overcrowded Units			
		1.01 to 1.50 occupants / room	1.51 to 2.00 occupants / room	2.01 or more occupants / room	Overcrowded Subtotal
2000					
Owner Occupied	449,333	32,902	20,697	6,380	59,979
Share of Owner Occupied	100%	7.32%	4.61%	1.42%	13.35%
Renter Occupied	327,441	34,903	38,143	22,407	95,453
Share of Renter Occupied	100%	10.66%	11.65%	6.84%	29.15%
Total Occupied Units	776,774	67,805	58,840	28,787	155,432
Share of Total Occupied	100%	8.73%	7.57%	3.71%	20.01%
2008					
Owner Occupied	496,406	11,055	3,076	1,334	15,465
Share of Owner Occupied	100%	2.23%	0.62%	0.27%	3.12%
Renter Occupied	329,355	17,095	7,227	2,385	26,707
Share of Renter Occupied	100%	5.19%	2.19%	0.72%	8.11%
Total Occupied Units	825,761	28,076	10,303	3,719	42,098
Share of Total Occupied	100%	3.40%	1.25%	0.45%	5.10%

Source: U.S. Census Bureau, Decennial Census 2000, SF-3 and 2008 ACS. Prepared by Research Section, Department of Planning and Zoning, Miami-Dade County. 2009.

More recently, home foreclosures are expected to continue though the reminder of 2009, as mortgage payment delinquencies continue to rise, placing even greater demand on rental housing.

In terms of affordability, although there was an increase in rental costs, the median contract rent remained affordable (less than 30% of median household income) to those households at or below 80% of MHI. Table 2.3-5 indicates contract rent in terms of quartiles and the median rent for occupied housing units in 2000 and 2008. The lower quartile indicates the ceiling for rent for the lowest 25% and the upper quartile shows the floor for the highest 25%, while the median is the middle value with half above and half below.

Table 2.3-5
Contract Rent for Rental Housing Units, 2000-2008
Miami-Dade County
(in inflation adjusted 2000 dollars)

	2000	2008	Percent Change
Lower Quartile	$432	$525	21.6%
Median	$572	$709	24.0%
Upper Quartile	$724	$945	30.5%

Source: U.S. Census Bureau, American Community Survey 2008. Prepared by Research Section, Department of Planning and Zoning, Miami-Dade County. 2009

Table 2.3-5 also shows the relative increase of contract rent from 2000 to 2008 after adjusting for inflation. Rental rates increased for all three categories with the largest increase of about 30% in the upper quartile, 24% for the median, and about 22% for the lowest quartile.

To meet the affordable housing needs of the residents, Miami-Dade government mobilized various resources and established several housing programs. Noteworthy, is the provision of affordable housing development under Surtax Program continued between 2003 and 2009. By 2008 such housing placed in service 16,505 units including 4,975 homeownership units and 11,730 were rental units. Rental housing production between 1999 and 2006 resulted in 1,222 units. Another 867 rental units were added between 2007 and 2008, short of the rental housing production goals of 1,122 and 1,442 units for fiscal years 2008 and 2009 set in the Master Plan for new construction and rehabilitated units together. Additionally, HCD reported that 611 homeownership units and 5,508 rental units are in the development pipeline.

Although new mobile home parks are not permitted in Miami-Dade County, they have and continue to provide affordable units to extremely low to low income households. As of May 2010, there are 11,560 licensed mobile homes in Miami-Dade County. As not all mobile home units are affordable a precise number is not available. However, it is estimated that roughly speaking about 3 percent of units are in the affordable range. As noted in prior EARs, there is no separate data that allows tracking of manufactured homes.

Miami-Dade government also continued its efforts to provide public housing assistance to residents. As reported by the MDHA a total of 24,262 families and 56,127 persons have received housing assistance in 2006. 35 % of these families and 32% of the persons served were provided public housing. The remaining 65% of the families and 68% of the persons served received private rental housing assistance under the Section 8 program. Public Housing is limited to low-income families and individuals. At least 40% of new admissions must be extremely low-income (30% of area median income or below); the remaining 60% of new admissions can be up to the low-income level (80% of the area median income). In 2009, the MDPHA is expected to provide 9,340 units of public housing.

With focus on expanding the variety of housing for low income residents, MDPHA operated the Moderate Rehabilitation Single Room Occupancy (SRO) Program designed to provide rental assistance to building or structure owners of rehabilitated units on behalf of very low and low-income single, homeless individuals. In 2009, there are approximately 300 such SROs in Miami-Dade County restricted to persons with income below 50% of the area median income only.

Finally, in response to the shifting housing needs of the population that was exacerbated by the developments in the real estate market, Miami-Dade County government, in collaboration with U.S. HUD, local municipalities and representatives of local non-profits organizations, communities, developers and other stakeholders took steps towards establishing

efficient housing policies and strategies. Government actions resulted in development of several plans and initiatives which were, recently integrated in one policy document, the Miami-Dade Master Affordable Housing Plan (Master Plan).

The Master Plan explores options and sets goals for preservation of the existing housing stock, stimulating the production of new housing units including in-fill in strategic locations. The Master Plan also recognizes the importance of providing a wide spectrum of renter choice. Besides, growing need and shifts in demand for rental housing require an adequate supply and preservation of decent and affordable rental housing in Miami-Dade County. Furthermore, the location of existing and new affordable housing production, more specifically proximity to public transportation and job centers, is seen as vital not only for the County's workforce but for all residents as well. If approved, the Master Plan will govern all county affordable housing activities and coordinate with local municipalities all future planning efforts that include an affordable housing element.

Despite all of the County efforts to augment the number of affordable housing units, the available data, in line with the monitoring measure, indicates that there is a greater need today than there was in 2000 for affordable housing. This can be seen in two key indicators. The number of housing units of affordable units available to those at households at 120 percent or less of median household income declined by 20,484 or 4.2 percent between 2000 and 2008. Restricting the discussion to only rental units leads to a worse result. The decline over the same period amounted to 5.8 percent. At the same time, median contract rent increased by 24 percent in inflation adjusted terms.

In sum, the situation for those in need of affordable housing has, in fact, worsened. Finally, in regard to the objective itself the current supply of land for housing, not just affordable housing, inside the UDB is approximately 14,100 acres. Although this is a sizeable decrease from the level stated in the objective, the need for land suitable for increasing the number of residential units has decreased due, in part, to the shift from single family type to multifamily housing units. Further, much of the more recent housing developments resulted from a redevelopment process, rather than on undeveloped land.

Policy Relevance. All policies under Objective HO-2 were reviewed for continued relevance. The objective clearly remains relevant although it should be rephrased to clarify existing and recommended policy measures.

Goal I Objective HO-3
Assist the private sector in providing affordable housing products in sufficient numbers for existing and future residents throughout the County by the year 2025, (approximately 294,000 units), with an appropriate percentage (about 42 percent) of new housing available to extremely low, very low, low and moderate-income households, including workforce housing.

CDMP Monitoring Measure. The 2000 and 2010 census data will be utilized to calculate "cost burden" by area for the two years so that changes can be noted. Cost burden is defined as a household which is devoting more than 30% of its income to housing costs.

Objective Achievement Analysis. This objective has not been achieved. The objective focuses on population and incomes as key factors for future affordable housing demand. However, other variables such as demographic structure, socio-cultural values, and wealth also play role in the equation.

From an economic point of view, the question to ask is under what conditions private provision of affordable housing would result in balanced supply and demand across the County. Affordable housing suppliers differ in the cost functions they face, depending on their market niches and the characteristics of the site. Undersupply of affordable housing also may occur when the local public goods provided such as municipal services, water and sewer or transit services are either unavailable or insufficient.

MDPHA is the County department responsible for implementing affordable housing programs directly or indirectly though collaboration with the private sector. In 2009, the housing authority maintains 9,254 housing units of public housing. Additionally, is administers 14,534 units with Section 8 vouchers helping low-income families to pay rent. In total, the agency provides 24,324 affordable housing units

assisting approximately 27,000 households in Miami-Dade; however about 71,000 low-income households are still on the waiting list for assistance.

MDPHA's program performance between 2003 and 2006 was below the required standards which, in turn, led to agency's complete takeover, in 2007, by the U.S. HUD. In 2009, the agency was back in business after restructuring and under new management. MDPHA has adopted mid-term benchmarks for its activities and continues to provide housing assistance under the oversight of the U.S. HUD.

Among the immediate goals of the MDPHA is the expansion of the Section 8 to avoid recapturing of the unused money by the federal agency. Another goal is to achieve a high level of utilization and rent collection than the current levels of 93% utilization of the Section 8 program and approximately 76% rent collection, respectively. The occupancy rate in 2009 was 89%, a figure that was below expectations.

Housing Affordability and Cost Burden

Cost burdened households spend more than 30% of their household income toward housing costs. A comparison of the number of cost burdened households in 2000 and 2008 based on household income for specified occupied housing units shows that housing needs in Miami-Dade County have worsened over time.

In 2000, the median household income (MHI) was $35,966 and, in 2008 it was $44,068. Table 2.3-6 shows that, in 2008, 82.6% of the extremely-low and 88.0% of the very-low income households in Miami-Dade County are cost burdened. In 2000, the comparative figures were 81.2% and 79.6%, respectively. With regard to renters, in particular, 46.8% of households paying cash rent were cost-burdened in 2000. The highest burden was seen in the poorest households 77.0% and 73.3% of the extremely-low and very-low income households, respectively being cost burdened. In 2008, the comparative figures were 74.4% and 82.6%. In addition, the share of the cost burdened households earning between 50% and 120% of the MHI rose to 66.2% in 2008, from its 35.5% level in 2000.

Just as in 2000, homeowners were facing higher financial constraints in 2008. In 2000, 97.6% of the extremely-low and 93.4% of the very-low income households who owned their home experienced a severe cost-burden. The situation in 2008 was even worse bringing the share of cost burdened owners in Miami-Dade above 85% in all income categories. In 2008, the percentage of extremely-low and very-low income households struggling to pay their housing costs was 97.0% and 95.1%, respectively.

In 2008, the more homeowners were affected by the cost burden associated with housing. Their share in all households owning a home climbed to 57.2% from 35.3%, in 2000. This was accompanied by a decrease in the share of the cost burdened renters from 84.9% to 77.4% in the period 2000 to 2008. It appears that affordability gap, as defined by the very-low, low and medium income levels, has become wider while the rescores to remedy to the problem became even more scarce.

In terms of forecasting future housing needs, the Master Plan indicates that approximately 4,200 units must be produced yearly to accommodate the very low and low income housing demand where 2,500 units rental units and 1,700 homeownership units. Of this total, at least 2,539 housing units are needed for the very low income households (50% of AMI or less); another 1,571 units are needed annually for low income households (51% to 80% of AMI). Based on these projections, these two income categories together will create about 60% of future housing demand.

Recent assessment by Miami-Dade County Homeless Trust showed that 1,271 units of permanent supportive housing are needed to house single disabled persons or families with a disabled member. These households typically have extremely low to very low incomes. 1,070 of these units are single room occupancy (SROs) or one-bedroom rental units with supportive services required to house single homeless individuals with a disability. The remaining 201 rental units of permanent supportive housing are needed for homeless families. Such units have been successfully incorporated into housing developments that include tax credit and market rate units, allowing for extremely low rents of units set aside for homeless individuals and families.

With rentals considered to be the housing option of the future for the low and moderate-income households, the annual average demand for rental

occupied housing units is projected to increase.

To date the results of the **Voluntary Inclusionary Zoning Program** were modest. Established in 2007 under the Workforce Housing Development Ordinance, this program was intended to provide density bonuses to private developers if they commit to making 12.5% of the units in a residential development available for workforce housing or make a monetary contribution to the Affordable Housing Trust Fund.

Since the inception of the program, only two zoning applications to build a total of 89 workforce housing units have been approved. In addition, sixteen CDMP amendments with restrictive covenants proffering to build workforce housing have been adopted since 2006. While 11 of these amendments included participation in the Inclusionary Zoning program, most of these projects are pending zoning approval or have been suspended due to current market conditions. There have been a total of 723 housing units proffered as a maximum and 468 as a minimum. At the maximum figure, approximately one-half were proffered with the Workforce Housing amendment.

In addition, the County has taken steps through its Infill Housing Program, lien clearing for sites within targeted areas, and other efforts to assist the private sector in the provision of affordable housing. This is further developed in the analysis for Objective HO-6.

While the County has taken many steps to assist the private sector in the provision of affordable housing products, the period since the previous EAR has not been kind. According to Census data, during the period from 2000 to 2008 there were 48,987 units of additional housing were developed. At the same time, the number of affordable housing units, available to those households with 120 percent of median household income or less, declined by 20,476 units. This resulted in a decrease from 63 percent in 2000 to 56.8 percent in 2008 in the percentage of affordable to total housing units. Therefore, it is clear that the County has lost ground in its efforts to promote affordable housing.

Policy Relevance. This policy remains relevant although the objective should be modified and several policies should be modified and others added.

Goal I Objective HO-4
Develop ways to broadly communicate accurate information about public and private affordable housing development, especially extremely low, very low, low, moderate-income, and workforce housing, throughout the County.

CDMP Monitoring Measure. The measure of achievement for this objective consists of listing and describing the various means employed to inform the public about the characteristics of affordable housing and the development of it.

Objective Achievement Analysis. This objective is being achieved. However, it should be noted than there were no significant workforce and market rate mix projects between 2003 and 2009. The need to illustrate their feasibility diminished after the recent housing market collapse. Such mixed projects, however, are expected in the future, after the pending adoption of the new Multi-Family Infill Housing Zoning District Ordinance.

Table 2.3-6
Housing Need by Type, Tenure, and Income Range, Miami-Dade County, Florida

2000

	Owner Occupied					Renter Occupied					Total Households				
Households by Level of Income	Cost Burdened	%	Not Cost Burdened	%	Subtotal Units	Cost Burdened	%	Not Cost Burdened	%	Subtotal Units	Cost Burdened	%	Not Cost Burdened	%	Units Total
Extremely-low Income (Not to exceed 30% of MHI)	19,913	97.56%	497	2.44%	20,410	61,773	77.00%	18,452	23.00%	80,224	81,686	81.17%	18,949	18.83%	100,635
Very Low-Income (30.01% to 50 % of MHI)	20,034	93.38%	1,420	6.62%	21,454	34,496	73.30%	12,564	26.70%	47,060	54,529	79.59%	13,985	20.41%	68,514
Low-Income (50.01 % to 80% of the MHI)	28,949	76.24%	9,020	23.76%	37,969	20,408	35.45%	37,160	64.55%	57,568	49,357	51.66%	46,180	48.34%	95,537
Moderate Income (80.01% to 120% of MHI)	23,737	45.06%	28,936	54.94%	52,673	12,354	17.24%	59,315	82.76%	71,668	36,090	29.03%	88,251	70.97%	124,341
Middle Income (120% to 140% of MHI)	9,861	37.62%	16,348	62.38%	26,209	1,095	5.13%	20,265	94.87%	21,360	10,956	23.03%	36,613	76.97%	47,569
Total <=140% of MHI	102,493		56,222		158,715	130,125		147,756		277,881	232,618		203,978		436,596
	As a Percent of households-owners				*35.32%*	*As a Percent of households -renters*				*84.86%*	*As a Percent of All Households*				*56.21%*

2008

	Owner Occupied					Renter Occupied					Total Households				
Households by Level of Income	Cost Burdened	%	Not Cost Burdened	%	Subtotal Units	Cost Burdened	%	Not Cost Burdened	%	Subtotal Units	Cost Burdened	%	Not Cost Burdened	%	Units Total
Extremely-low Income (Not to exceed 30% of MHI)	42,120	96.95%	1,325	3.05%	43,445	56,521	74.42%	19,430	25.58%	75,952	98,641	82.62%	20,756	17.38%	119,397
Very Low-Income (30.01% to 50 % of MHI)	37,862	95.21%	1,906	4.79%	39,768	43,585	82.58%	9,195	17.42%	52,780	81,446	88.00%	11,102	12.00%	92,548
Low-Income (50.01 % to 80% of the MHI)	58,936	94.32%	3,552	5.68%	62,488	37,756	65.17%	20,179	34.83%	57,936	96,692	80.29%	23,732	19.71%	120,424
Moderate Income (80.01% to 120% of MHI)	62,774	87.25%	9,172	12.75%	71,946	16,582	31.35%	36,317	68.65%	52,899	79,356	63.56%	45,489	36.44%	124,845
Middle Income (120% to 140% of MHI)	33,490	85.16%	5,838	14.84%	39,328	3,257	21.18%	12,122	78.82%	15,378	36,746	67.17%	17,960	32.83%	54,706
Total <=140% of MHI	235,181		21,794		256,976	157,701		97,244		254,945	392,882		119,038		511,920
	Subtotal as a Percent of households-owners				*57.19%*	*Subtotal as a Percent of households -renters*				*77.41%*	*Subtotal as a Percent of All Households*				*61.99%*

Note: The totals are based on specified occupied housing units by tenure. The households with income over 140% of the MHI are excluded. Households with non-cash rent are also excluded.
Source: U.S. Bureau of Census, Decennial Census 2000 and 2008 ACS. Prepared by Research Section, Department of Planning and Zoning, Miami-Dade County. 2009

Community involvement in the development of urban design standards, that includes housing development, is achieved through the existing charrette process used to create Community Urban Centers. It is implemented by the Department of Planning and Zoning. While the this intensive charrette process that leads to conceptual design prototypes is not solely focused on housing, it is important to realize that the implementing ordinance incorporates the statutory requirements for extremely-low, very low, low and moderate income. Furthermore, all building plans for sites within the CUCs must go through the Administrative Site Plan Review. Once approved, they will serve the need for site plans appropriate for affordable housing. A requirement for housing within CUCs is that externally all housing units, including both market rate and affordable units, must be identical. Workforce housing projects typically include a set-aside requirement for 12.5% of the housing units to be built. The number of affordable housing projects and units depends largely on the existing zoning densities and market conditions. Of almost marginal during the period 2004 – 2007, these projects become increasingly attractive to developers in the wake of the housing boom and the expected restoration of housing market stability. In 2009, the number of applications from developers for affordable housing projects increased. This included several applications for conversions of market rate housing projects to affordable ones that were approved in 2007, but never implemented.

Since the last EAR, several Community Urban Centers that are based on a community wide participation in a charette process, that focuses on urban design standards and encourages workforce housing, were actuated through adopted zoning ordinances. They include the following: Perrine, Goulds, Naranja, Princeton, Ojus, Leisure City and Model City, with others in process. All of the above are in low income areas where there is a need for housing that is affordable to residents. Further, those in process and many CUCs that have been designated in the CDMP are in areas with similar needs.

Finally, citizen participation is required for the promotion of viable urban neighborhoods and adequate housing programs. These are administered by HCD and regulated US HUD. More specifically, the U.S. HUD requirements state that an entitlement area must adopt a citizen participation plan, which establishes policies and procedures for citizen participation.

Policy Relevance. All policies under Objective 4 were reviewed for continued relevance. The objective has been indirectly achieved through the charrette planning process.

Goal II Objective HO-5
Reduce the number of substandard housing units in the County by encouraging the rehabilitation or conservation of the existing housing stock, including historic structures, and provide that an increased number of extremely low, very low, low and moderate-income, and workforce units comes from housing rehabilitation and adaptive re-use of nonresidential structures.

CDMP Monitoring Measure. The number of units rehabilitated through the various Miami-Dade County sponsored or approved programs will be reported for the years 2003 to 2010.

Objective Achievement Analysis. This objective has significantly been achieved. The comparison of U.S. Census 2000 and ACS 2008 figures indicates an increase in the number of newer housing units in Miami-Dade County. However, the U.S. Census does not provide comprehensive data on substandard housing. Consequently, it is not possible to establish directly how many housing units are below standard.

Table 2.3-7
Age of Housing Units
Miami-Dade County, FL & United States

	Miami-Dade County				United States			
	2000		2008		2000		2008	
Total Units	852,278	100.00%	979,111	100.0%	115,904,641	100.00%	129,060,383	100.0%
1999 or Later	14,019	1.6%	111,569	11.4%	2,755,075	2.4	15,954,558	12.4%
1990 to 1998	115,491	13.6%	118,820	12.1%	16,945,983	14.6	18,276,148	14.2%
1980 to 1989	155,186	18.2%	147,669	15.1%	18,326,847	15.8	18,329,680	14.2%
1970 to 1979	191,906	22.5%	206,795	21.1%	21,438,863	18.5	21,252,792	16.5%
1960 to 1969	142,827	16.8%	133,445	13.6%	15,911,903	13.7	14,706,780	11.4%
1950 to 1959	140,635	16.5%	158,891	16.2%	14,710,149	12.7	14,733,097	11.4%
1940 to 1949	56,783	6.7%	66,151	6.8%	8,435,768	7.3	7,552,661	5.9%
1939 or Earlier	35,431	4.2%	35,771	3.7%	17,380,053	15	18,254,667	14.1%

Source: U.S Census Bureau, Census 2000 and 2008 ACS.
Miami-Dade County's Department of Planning and Zoning, Research Section, 2009.

Nevertheless, the results of the implementation of various policies and procedures show that Miami-Dade County has taken successful steps to reduce substandard housing in all areas indicated in the above policies.

First, significant results have been achieved in the enforcement of housing and building code standards. While not inclusive of all housing deficiencies, the enforcement actions led, in 2008, to a decrease of 54% from the level in 2003 of all violations of minimum building and housing code standards. The 2009 year-to-date data on violations indicated that their number was only 33% of the level in 2003.

The problems with maintenance of housing units remained the most important violation since 2003. These violations usually reflect the lack of proper maintenance by landlord based on tenant complaints. Examples include lack of hot water, water leaking inside the property, infestation of rodents, toilet not working properly, etc. During the period 2003 – 2009, the problems reported with housing maintenance have decreased to approximately one-third of the level in 2003.

The occurrence of emergency violations also suggests that the compliance actions were efficient in reducing the housing safety concerns. The emergency violations, otherwise easily correctable, involve life, health and safety issues, such as the lack of utilities, raw sewage, and unsecured pool. Their number decreased from 187, in 2003 to 133, in 2008. The category of condemned properties shows an increase. These violations are not easily correctable, for example as collapsing roof may require vacating of the property. These cases are referred to the Building Department as an unsafe property.

Table 2.3-8
Housing and Building Code Enforcement Actions,
Miami-Dade County, Florida

Violation of Minimum Housing Standards	2003	2004	2005	2006	2007	2008	2009 YTD
Maintenance	1,448	842	2,047	1,191	1,143	959	573
Emergency	187	162	196	152	148	133	66
Opened/Vacant/Abandoned	0	11	78	122	205	341	482
Condemnation	1	1	0	2	7	20	7
Total*	5,324	3,913	4,747	3,391	3,452	2,864	1,778

Source: Office of Neighborhood Compliance, Miami-Dade County.
**: The totals include multi-family use and crack house categories presented separately in Objective 7.*

The most important concerns are related to the number of opened/vacant and abandoned housing units, non-existent in 2003 but spiking to 482 in the first half of 2009. These properties present degradation and danger to the community (i.e. broken windows and doors and unsecured pools) and ranged second in housing standard violations, in 2009 accounting for 27% of all enforcement actions.

The problems with abandoned or vacant housing units are correlated with the rising number of mortgage foreclosures in 2008, a trend which continued in 2009. These figures clearly indicate the important role the County plays in protecting the housing inventory in times of troubled a housing market.

Second, the implementation of this objective was adhered to by the completed or under way rehabilitation of existing housing units. The number of units rehabilitated through the various Miami-Dade County sponsored or approved programs reported for the years 2003 to 2009 was over 4,500 existing housing units. They have been rehabilitated by the MDPHA between 2003 and 2009. Additionally, 280 existing farm worker housing units in Redland Center are in a process of extensive rehabilitation by the Homestead Housing Authority.

In 2008, for the purpose of housing preservation, 50 loans for rehabilitation of owner-occupied housing units were approved. The target figure for 2009 was 30 loans. Rental home assistance was provided for 47 units, in 2008 and 65 units were planned in 2009.

In terms of direct financial incentives offered to owners to renew and extend their covenants for a longer term period, strategies for preservation of government-assisted affordable housing with expiring compliance periods were incorporated in the Master Plan. More specifically, the Plan mandates rehabilitation funds be targeted toward projects with an expiring affordability period. Projects accepting rehabilitation funds would then become subject to a new affordability period, extending the use of the property as affordable housing. Funding for these strategies was secured by allocating $2 million in FY 2008, and $1 million in FY2009 to homeownership preservation.

With regard to the rental housing, 1,122 units were added or rehabilitated in fiscal year 2008 with an increase to 1,442 units planned for 2009. The funds awarded to sub recipients for home rental housing assistance in 2008 and 2009 were $342,000 and $500,000 respectively.

Policy Relevance. All policies under Objective HO-5 remain continuously relevant.

Goal II Objective HO-6
Increase affordable housing opportunities for extremely low, very low, low, and moderate-income households, including workforce housing options, within reasonable proximity to places of employment, mass transit and necessary public services in existing urbanized areas.

CDMP Monitoring Measure. Information and data compiled by the specific agencies providing affordable housing either rehab or new, will be acquired and the distributional pattern analyzed with respect to employment centers, mass transit, and important facilities and services. The 2000 and 2010 census and matching land use data will be utilized.

Objective Achievement Analysis. Some progress has been made towards achievement of this objective. It is limited, in large measure, by insufficient capacity for the production of affordable housing relative to its demand.

The provision of affordable housing is a traditional area for government intervention and leadership. In accordance with Policy HO-6D, Miami-Dade County has identified sites adequate for workforce housing. Generally, governmentally-owned sites suitable for affordable housing remained limited. Pursuing to the requirements in Chapter 166.0451, F.S. the County collaborated with municipalities resulting in 78 municipal sites located in the City of Miami, South Miami, Florida City and Opa Locka being identified as suitable for workforce housing. These are the only sites identified for affordable housing in all 35 municipalities of Miami-Dade County.

As for the private sector's affordable housing initiatives and programs during the period, they included 119 sites acquired under the **Community Development Block Grant (CDBG)** in 2008. Ten of

these sites are pending transfer to Habitat for Humanity which brings the 2009 count to 108. As shown in Table 2.3-10 below, most of these sites are located close to employment centers and transit nodes.

Another notable effort in this direction was the multifamily housing development known as **Building Better Communities General Obligation Bond (GOB)** program. In 2008, the GOB Multi-family Housing Development Program had an inventory of 27 sites available for the development of affordable housing. Following a reallocation of funding by the BCC, the number of these sites dropped to 26. In 2009, there were significant changes in the original inventory: five public housing project sites were removed, several Request for Proposals were cancelled, four new sites were added, including two public housing sites (Georgia Ayers Apartments, Lake government assisted Vue Oasis, Elizabeth Virrick II, and Victory Homes) and nearly six million dollars in federal funds were used by HCD to purchase five County-owned parcels which are suitable for transit-oriented development located near Okeechobee Metrorail Station, Northside Metrorail Station and Caribbean Boulevard. Another 723 units have been committed to workforce housing following approval of the zoning actions for five lots between April 2006 and September 2008.

HOPE VI Grant for Scott Homes & Carver Homes. The mission of the HOPE VI program is to end the physical, social, and economic isolation of obsolete and distressed public housing by creating sustainable communities and lifting residents from dependence and persistent poverty. The MDPHA's $35 million Homeownership Opportunities for People Everywhere (HOPE VI) grant from the United States Department of Housing and Urban Development (HUD) approved in 2008 is expected to revitalize the Scott Home and Carver Homes public housing developments.

Housing Choice Voucher Program (Section 8). Section 8 is a federal housing program providing rental assistance to eligible families and elderly residents that allows them to rent units in the private rental market. The most common Section 8 assistance is the voucher program. The program is tenant-based and the assistance stays with the family wherever they choose to live as long as the landlord agrees to participate in the program.

Miami-Dade County, through its General Services Administration department offers a number of incentives to encourage infill affordable housing development through its **Infill Housing Program**. Under this program, county-owned lots suitable for development are made available to qualified affordable housing developers in order to increase the housing supply and to revitalize blighted neighborhoods. Developers are required to complete construction of affordable housing projects within 12 months of acquisition. Upon completion, developers sell the units to low- and moderate-income first-time homebuyers who earn less than 140% of the area median income. In January 2009, the maximum sales price set by the County for all homes built through the program was $225,000. These housing units must remain affordable for a period of 20 years.

Privately-owned properties located within designated infill target areas are also eligible for the many incentives provided by the program. In addition to making county-owned properties available for affordable housing development, the County also helps privately-owned properties to be cleared of any liens when being developed under the program. Other incentives provided by the program include an expedited building permit process, impact fee waivers, water and sewer fee waivers, and reduced real estate taxes.

Although accurate baseline data on the infill program is not available, the program seems to have been operating successfully since its inception in 2001. By March 2007, a total of 706 built or buildable infill lots were in the program and a total of 336 homes were built. A year later, the number of infill homes built reached 420 of which 206 were built on county-owned lots and 214 on privately-owned lots. Also during 2007, a total of 398 infill homes were sold and the number of infill lots under construction was 98 with 242 were in pre-development stage. Another 176 county-owned lots were already assigned to the program pending approval.

By 2009, the number of homes built and sold through the County's Infill Housing Program attained 458 of which 42 were sold, and 521 buildable sites were

available for development of affordable single-family housing of which nearly 69% are under construction. The remaining 178 infill sites are awaiting minor modifications to be completed prior to be awarded to developers.

Table 2.3-9
Infill Program Performance (Cumulative)

	2007	Jul-2008	YTD 2009
Number of Infill Houses Built to Date	336	420	458
Number of Infill Lots Under Development*	370	340	343
Number of Lots Assigned to Program, But Pending Award	n/a	176	178
Total Lots	706	936	979

Source: General Services Administration, Miami-Dade County.

The proximity of affordable housing to employment centers and transit arteries is another policy under consideration for affordable housing projects. While this appears to have been taken achieved for most of the CDBG program sites, this is not true with respect to infill sites. Given that the infill sites originate from a list of properties with delinquent taxes, the exiting options for choice of location remain limited.

Table 2.3-10
Proximity of Infill Sites to
Employment Centers and Public Transport

	Within Major Employment Center (3-mile Radius)	Within Minor Employment Center (2-mile Radius)	Within Metrorail or Busway (.5-mile Radius)
Approved Infill Sites	0	10	36
Conditional Infill Sites	0	24	40
CDBG Sites	2	34	65

Source: Miami-Dade County, Department of Planning and Zoning, Research Section. 2009.

Note: Major employment center(s) have more than 250,000 jobs; minor center(s) have at least 25,000 jobs.

Overall, the implementation of the objective to locate affordable housing near necessary services, facilities and major job locations appears to be in need of improvement. The underachievement was recognized in the series of governmental actions and incentives proposed to remedy the problem. A step towards the future success in implementation of this objective is the recommendations of the Affordable Housing Advisory Board (AHAB) submitted to the BCC in 2008. AHAB serves as the BCC's Affordable Housing Advisory Committee. Its recommendations focus on the provision of incentives for and removal of impediments to affordable housing development, including expedited permitting procedures, density bonuses for affordable housing in transit corridors or designated employment centers, and changes to certain zoning requirements.

Finally, an amendment of the Comprehensive Development Master Plan amendment adopted by the Board of County Commissioners (BCC) provides a density bonus of 30 to 60% for residential projects that set aside units for affordable/workforce households and meet specific conditions related to proximity to major roadways, transit, parks, and employment centers. The amendment will come into effect with the adoption of the accompanying zoning ordinance.

Policy Relevance. Policies under Objective HO-6 were reviewed and continue to be relevant subject to several additions and modifications.

Goal III Objective HO-7
Bring about housing design and development alternatives that are aesthetically pleasing, encourage energy efficiency and enhance the overall health, safety and general welfare of County residents.

CDMP Monitoring Measure. Efforts to promote better housing design, construction methods, materials, energy conservation improvements or related matters will be reported on.

Objective Achievement Analysis. The objective has been consistently achieved. The efforts to promote better housing design and energy efficiency appear to be significant over the period of review. The support to development of new and innovative economically feasible construction techniques, materials and manufacturing methods that maintain or improve housing structural quality continued through the free product control feature made available online at the website of the County's Building Code Compliance

Office. This feature allows for a database search for products, certificates and listings that have been approved for use on buildings in both Miami-Dade County and throughout the country.
The Office of Neighborhood Compliance is the County department responsible for inspections and penalties to discourage illegal additions and conversions. Between 2003 and 2009, the most common violations resulting in enforcement actions reported in Miami-Dade County were multi-family use and setback violations. The data on multi-family use does not refer to multi-family building, but rather the illegal use of a structure or accessory structures for additional households. In a similar vein, setback violations similarly refer to structures that were illegally placed in setbacks.

The multi-family use problems reported include: garage conversion or illegal addition that is being rented out; side door/entrance added to the property; a/c unit added to the garage; shed being utilized as living quarters; interior house subdivided and being rented out; non-family members living at property; multiple vehicles parked at the property; fence built to camouflage additional entrances.

Multi-family use problems are very diverse, since the perception of the complainant may be that there is a multi-family use based on what they observe, however, upon inspection, the concern might not be valid or verifiable.

Examples of setback violations include: illegal additions, sheds, carports, that are within the setback. As seen from declining number these violations this compliance measure, as part of the objective, has been successfully achieved throughout the period.

The neighborhood safety programs also have a proven to work efficiently. In 2003, there were no police actions or resident complaints resulting in enforcement action following such programs. In 2008, however, seven properties used for illegal drug activities were uncovered and another three were reported in 2009 year-to-date. Miami-Dade County provides free access to public records on code violations through the Neighborhood Compliance website. Current records and monthly archived data for 2007, 2008 and 2009 are available online by neighborhood, zip code and type of violation.

The implementation of green energy housing objective is largely achieved with the creation, in 2007, of Miami-Dade County Office of Sustainability. The Ordinance 07-65 approved by the Board of County Commissioners on May 8, 2007 amended the Code of Miami-Dade County to establish a Sustainable Buildings Program for Miami-Dade County facilities and mandated the use of external sustainability rating system(s) to measure the County's efforts in this direction.

Furthermore, the County' sustainable buildings policy adopted in December 2007 requires new County owned/managed construction projects to obtain Leadership in Energy and Environmental Designs (LEED), silver certification and remodeling/renovation projects to obtain basic LEED certification. The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Rating System is designed for rating new and existing commercial, institutional, and high-rise residential buildings. It evaluates environmental performance from a "whole building" perspective over a building's life cycle, providing a definitive standard for what constitutes a green building. LEED is based on accepted energy and environmental principles and includes the following categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, and Innovation & Design Process.

Design priorities of a community are also taken into account during the established process of development of cohesive small area plans (charrettes) implemented by the Department of Planning and Zoning. Charettes provide a framework for collaborative process and solicitation of community participation. During the period 2003 to 2009, sixteen charrettes and seven ordinances have been approved by the Board of County Commissioners (BCC), subsequently leading to rezoning actions in six districts: Naranja, Goulds, Princeton, Ojus, Perrine and Cutler Ridge. The charrette process minimizes, among other adverse effects of additional residential development, the increase in traffic to surrounding neighborhoods.

Last but not the least, considerations regarding housing design are included in the CDMP. It includes policies to encourage design and amenities attractive to moderate-income households and to ensure that

units set aside for target households are disbursed throughout the housing development and are have exteriors that are visually indistinguishable from the non-set-aside units. Green Building practices will be enforced through bonus points awarded to proposals designed to obtain a minimum certification rating from organizations accredited for energy and environmental design. Developers are required to incorporate Crime Prevention through Environmental Design (CPTED) features and encouraged to apply universal design features in addition to required compliance with the Americans with Disabilities Act (ADA) design standards.

Policy Relevance. All policies under Objective HO-7 were reviewed for continued relevance and should be retained.

Goal III Objective HO-8
Maintain the stock of suitable rural housing available to farm workers, as well as special housing for migrant farm workers.

CDMP Monitoring Measure. The status of rural and farm worker housing will be compared to that five years earlier using the best available data.

Objective Achievement Analysis. The need for this objective that focuses on farm worker housing has lessened in the last seven years as the supply of housing has increased while demand has diminished. One reason for this is the decline in the demand for migrant farm workers, resulting from a shift from row crop to nursery production for the period under review.

Table 2.3-11
Farm Workers Hired in Miami-Dade County

	2002			
	Farms	%	Workers	%
With Farm Workers Hired -total	749	100.00	11,403	100.00
With Farmers Hired <150 days	552	73.70	6,156	53.99
	2007			
With Farm Workers Hired -total	982	100.00	11,886	100.00
With Farmers Hired <150 days	635	64.66	5,759	48.45

Source: Research Section, Department of Planning and Zoning, Miami-Dade County. 2009. Based on 2007 Census of Agriculture, Department of Agriculture.

As reported in 2007 Census of Agriculture, the number of farms in Miami-Dade County increased from 2,244, in 2002 to 2,498 in 2007, up by 11%. At the same time, the land in farms and the average size of the farm decreased by 26% and 33%, respectively. Although the number of farm workers increased by just under 500 persons from 2002 to 2007, the number of farm workers employed for less than 150 days actually fell by almost 400. Migrant workers fall into this latter category.

Housing assistance to farm workers has remained stable. In 2008, the Homestead Housing Authority and the Everglades Community Association provided 1,247 units, somewhat higher than the 2003 level.

USDA 514/516 Domestic Farm Worker Housing Program operated by the Homestead Housing Authority has consistently provided 640 units with a 100 % occupancy rate between 2003 and 2009. The Everglades Community Association leased 473 housing units, in 2003 and 607 units, in 2008. Construction planned to begin in the summer of 2009 is expected to add 30 of family rental units in 2010 and another 18 in 2011.

Table 2.3.-12
Farm Worker Housing Units, Miami-Dade County

Year	Everglades Community Association	Homestead Housing Authority	Total Units
2003	473	640	1,113
2004	566	640	1,206
2005	563	640	1,203
2006	520	640	1,160
2007	520	640	1,160
2008	607	640	1,247
YTD 2009	607	640	1,247

Source: Research Section, Department of Planning and Zoning, Miami-Dade County. 2009.
Based on 2007 Census of Agriculture, U.S. Department of Agriculture.

Although the true count of migrants working in the agricultural area of Miami-Dade is unknown, the data from the 2007 Census of Agriculture tends to corroborate that their number has not increased over the period. In 2003, migrant housing was estimated at about 500 units. In 2008, Everglades Community Association provided only 144 units to unaccompanied farm workers and most of the 640 units of the Homestead Housing Authority are occupied by families. The need for special housing for migrant farm workers seems to have decreased over the past seven year period.

As an alternative to the farm workers housing, farm workers with low income may opt for low income affordable housing programs. These workers who take non-agricultural jobs off season qualify for housing assistance as low-income working individuals and households under housing programs administered by government agencies or non-profit organizations.

One example is Centro Campesino which traditionally builds and sells new housing units to very-low and low income persons and households including farm workers. Similarly, the recent tax-credit project Merrit Place in Florida City provides affordable housing with a certain percent of the units being set aside for farm workers. In these cases, however, the farm workers are not specifically targeted and records for assistance provided to them are not maintained.

Policy Relevance. As noted in the two preceding EARs, this objective is no longer relevant. It has been largely achieved including through provision of affordable housing to low-income households implemented under Objective HO-3.

Goal III Objective HO-9
Provide for the special housing needs of the County's elderly, disabled, homeless, orphaned children, families in need, persons with AIDS and others in need of specialized housing assistance.

CDMP Monitoring Measure. Information and data compiled by the specific agencies dealing with these special client groups will be obtained and analyzed in order to evaluate success in meeting this objective.

Objective Achievement Analysis. The objective has been partially achieved. Special needs population has become even more vulnerable and is the most affected by developments in the housing market between 2003 and 2009. Continuing the trend noted in the previous EAR, the housing gaps appear to be widest for persons with HIV/AIDS and the disabled.

During the last seven years MDPHA has provided 2,598 units provided to the elderly, 479 units to residents with ADA disability and another 80 units compatible with the Uniform Federal Accessibility Standard (UFAS). The total number of 3,157 housing units is, however far below the needs of the growing special population in the County.

Community based residential facilities provide residential settings for many different groups of people, including children, adults, and those with health and transitional needs. In 2009, there were a total of 796 group homes that provided care for six persons or less. The facilities for are scattered throughout the residential neighborhoods of the County, although they are primarily in the unincorporated area of Miami-Dade. Currently, 45 group homes with total capacity 328 beds located in Hialeah, City of Miami, Homestead and Carol City are licensed by Florida Department of Children and Families.

Based on the ACS data in 2008 there were 275,494 people with disability in the County, or 11.7% of the total population. This number included 13,692 residents under 18 years of age representing 2.6% of the population in this age group, 118,081 residents, or 8.1% of the people 18 to 64 years, and 143,721

residents with disability 65 years and over, or 39.8% of this age group.

Recent analysis of housing need among households living with HIV/AIDS found that in 2007, approximately 1,200 households living with HIV/AIDS were receiving rental assistance or subsidized housing specifically targeted toward this population. In the same year, 7,386 households were experiencing severe housing burden and are in need of either subsidized affordable housing or rent assistance. Long-term rental assistance to low-income persons and their families living with AIDS is provided by **Housing Opportunities for People with AIDS** (HOPWA), a program contracted by the City of Miami to MDPHA.

Of the 10,265 persons participating in Miami-Dade Ryan White Title I Program during the program's fiscal period ending February 2007, 67% had household incomes equal to or less than the federal poverty guidelines.

Elderly population would also require specific housing and services assistance. About 22% of Miami-Dade County households are headed by a person 65 years or older of which approximately 44% do not own the home they live in. About the same percent of elderly households are cost-burdened where 20% pay between 30% and 50% of their income towards housing and 24% of elderly households paying 50% or more on housing.

Homelessness prevention in Miami-Dade is the mission of various organizations including Miami Coalition for the Homeless, Inc. and Community Partnership for Homeless which operate a number of programs with the coordination of Miami-Dade County Homeless Trust. According to the Miami-Dade Homeless Trust, the efficiency of the programs operated resulted in a considerable drop in the number of homeless from 7,000, in year 2000 to 2,000 in 2008.

In terms of efficient program monitoring, we should mention the integration, by HCD, of the HUD's financial and informational systems and the establishing of a performance-based system to evaluate housing programs and operations. As for the monitoring, this is a responsibility of the Risk Manager who assesses areas where non-compliance may occur. Long-term compliance is targeted through small and minority business outreach and community participation efforts.

Emergency Financial Assistance for Housing Program (EFAHP) run by the Department of Children and Families provides a one-time payment of up to $400 to families who are totally without shelter or face the loss of shelter because of non-payment of rent or mortgage. It also helps those families who have had household disasters such as fire, flood, or other accidents.

Overall, the achievement of this objective has been moderate during the past seven years. This was recognized by the specific measures to remedy the lack of advancement regarding the provision of housing stability, continuous care and homeless prevention, identified in the Master Plan. Most of these measures aim at reduction in the numbers of chronically homeless persons on streets through placement in appropriate housing or programs and provision of sufficient housing units for the homeless, a targeted production of 100 units of permanent supportive housing per year.

Policy Relevance. All policies under Objective HO-9 were reviewed for continued relevance. The objective has been only partially achieved during the period of review and remains relevant.

Goal III Objective HO-10
Continue governmental assistance to persons and families displaced and relocated by public projects and encourage private-sector assistance in relocating people displaced by private projects.

CDMP Monitoring Measure. The records of the agencies, which are responsible for relocation of displaced households, will be the basis for assessing this objective achievement.

Objective Achievement Analysis. This objective has been achieved. MDPHA is the principal County department responsible for relocation of displaced households in Miami-Dade. The agency's policies tackle the relocation of very low, low-and moderate-income populations who have lost their housing including displacement due to redevelopment. The funding for the relocation of such households and

individuals comes from the HOPE VI grant instituted in 1999.

During the prior cycle of CDMP review, the MDPHA reported that 1,350 households were relocated, as a result of scaling back its Public Housing Program. From 2003 to 2009, roughly 800 housing units have been demolished leading to relocation of about 900 households. However, no housing units have been rebuilt in connection with the HOPE VI redevelopment.

The issues related to housing displacement due to the private redevelopment projects are addressed administratively through County's procedures for providing financial support to development projects. Developers receiving financial support are required to submit a plan for displacement and relocation of individuals resulting from the development.

The provision of transit accessible affordable housing prior to relocate households displaced by public action received special attention in the Miami-Dade Housing Plan. The Plan provides for strategies to respond to risk of displacement associated with a mobile home conversion. These strategies are tied to the development of alternative rental and homeownership opportunities or acquisition of the mobile park site by residents or the County.

Policy Relevance. All policies under Objective HO-10 were reviewed for continued relevance and should be retained.

2.4 CONSERVATION, AQUIFER RECHARGE AND DRAINAGE ELEMENT

Introduction and Element Formatting

Introduction
The introductory text and goal statement for this element should be revised. Language should be included to reflect the County's participation in regional initiatives to develop strategies for climate change mitigation, such as greenhouse gas emissions reductions, and adaptation, including the anticipated impacts of sea level rise. The Introduction should explain how current conservation initiatives build upon fundamental County goals, and how proposed new policies anticipate future ecological conditions.

In conjunction with the reformatting of other CDMP elements, it is recommended that the layout and formatting of this element be modified to provide all readers with more contextual information to support the intent and applications of CDMP goals, objectives, and policies.

The number of acres of natural areas in County parks should be reviewed for accuracy. All initiatives mentioned in the Introduction should be found somewhere in the Element (or removed). The revised Introduction may also describe how this element supports other elements in the CDMP, and the broader goals of the County, such as economic vitality.

Objective CON-1: Improve air quality in the County to meet all National Ambient Air Quality Standards set by the Environmental Protection Agency (EPA) and their respective deadlines; and reduce human exposure to air pollution.

Objective CON-1
Improve air quality in the County to meet all National Ambient Air Quality Standards set by the Environmental Protection Agency (EPA) and their respective deadlines; and reduce human exposure to air pollution.

CDMP Monitoring Measure. This objective will be measured by the number of exceedances of the National Ambient Air Quality Standards (NAAQS) or exceedances of any future additional standards promulgated by the US Environmental Protection Agency during the period covered by the EAR.

Objective Achievement Analysis. The Department of Environmental Resources Management (DERM) Air Quality Management Division continues to manage the permitting, compliance, and enforcement activities for the County and the state delegated air pollution sources. The air permits incorporate the applicable County, state, and federal regulations regarding criteria pollutants and hazardous air pollutants. The Air Division ensures that the County complies with the terms of the state and federal contracts, agreements and work plans. All state rules are incorporated into the County code by reference, so that when new rules and regulations are implemented they become part of the County programs.

DERM participates in activities to foster public transportation and transportation management programs in order to help reduce vehicle miles traveled. DERM works with the Metropolitan Planning Organization and is a voting member of the Transportation Planning Technical Advisory Committee and the Transportation Planning Council, which review and make recommendations on transportation activities. DERM participates in the Southeast Air Coalition for Outreach meetings where air related outreach activities are addressed. As funds permit, DERM is involved in Clean Air Month outreach activities, including a tire gauge giveaway and public service announcements.

DERM has established a Countywide ambient air network that dates back to the 1970s and consists of 10 air monitoring stations, identified in Figure 2.4-1. Parameters monitored in the network since 1995 include Ozone (O_3), Carbon Monoxide (CO), Particulate Matter (PM and PM10), Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2), Wind Speed (WS) and Wind Direction (WD). Monitoring for PM2.5 and continuous PM2.5 began in 2001. In late 2001 and early 2002, monitoring stations were added to measure Volatile Organic Compounds (VOC) and Carbonyl for a short-term program. Two air toxics monitors were also established at the Miami-Dade Water and Sewer Department and Purdue monitoring sites by using some federal grant money and matching funds. Air toxics data were collected at

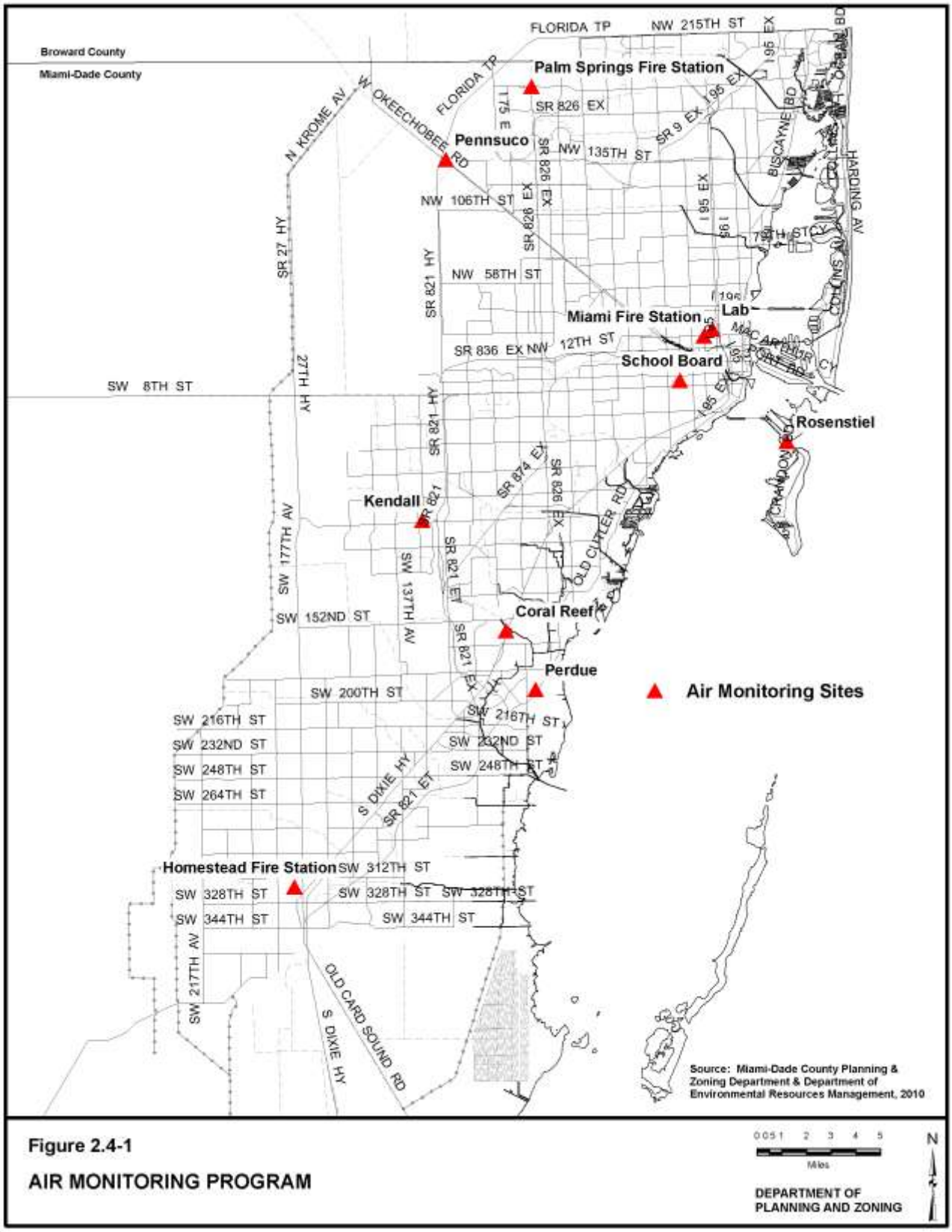


Figure 2.4-1

AIR MONITORING PROGRAM

these sites and analyzed for various air toxic pollutants until early 2005, at which time the data collection was stopped due to a lack of funding. If funding becomes available, and as resources allow, the Air Division may implement additional air toxics monitoring

Additionally, two continuous PM2.5 monitors (Particulate Matter of less than 2.5 microns) are used to gather hourly concentration levels to aid in the calculation of the air quality index. The air quality index is provided daily to the public by DERM. A summary of air quality parameter exceedances between 2002 and 2009 is included as Table 2.4-1.

Table 2.4-1
Air Exceedances: 2002-2009

Parameter	2002	2003	2004	2005	2006	2007	2008	2009
Ozone (1 hour O_3)	0	0	0	0	0	0	0	0
Ozone (8 hour O_3)	0	1[3]	1[3]	3[3]	2[3]	0	6[3]	2[3]
Carbon Monoxide (CO)	0	0	0	0	0	0	0	0
Particulate Matter <2.5 Microns (PM2.5)	0	0	0	0	0	3[1]	3[2]	0
Particulate Matter <10 Microns (PM10)	0	0	0	0	0	0	0	0
Sulfur Dioxide (SO_2)	0	0	0	0	0	0	0	0
Nitrogen Dioxide (NO_2)	0	0	0	0	0	0	0	0

Source: DERM Air Quality Management Division, 2009

Notes
[1] The exceedances were caused by wildfires.
[2] The exceedances on January 1 at each site were caused by fireworks.
[3] The 8-hour ozone did not violate the National Ambient Air Quality Standards (NAAQS) for the year.

Since 1995 no NAAQS were exceeded. It should be noted that the 8-hour Ozone limit, the PM2.5 standards, and the ozone 8-hour standard were lowered in 2007. The NAAQS associated with the 8-hour Ozone is based on the three-year average of the fourth highest 8-hour reading for each year. Using this method of calculation, no NAAQS exceedances for Ozone occurred although the 8-hour Ozone limit was exceeded at times. These standards may become more stringent in the future, as the U.S. Environmental Protection Agency (EPA) is currently reviewing and may lower the ground-level ozone standard.

Table 2.4-1A
Miami-Dade County Ozone Attainment Status

	Annual 4 Highest 8-Hour Daily		3-year Average for Attainment		Attainment Standard
Year	RS[a]	PR[b]	RS	PR	
2002	65	64	68	69	80
2003	67	64	66	65	80
2004	65	67	65	65	80
2005	71	67	67	66	80
2006	81	71	72	68	80
2007	70	71	74	69	80
2008	72	74	74	72	75
2009	64	62	68	69	75

[a] RS: air monitoring site at the University of Miami's Rosenstiel School.
[b] PR: air monitoring site at the Purdue Medical Center.
All units are in parts per billion (ppb).
Source: DERM Air Quality Management Division, 2009

As noted in Table 2.4-1A, from 1997 to 2007, the attainment standard was 80 ppb. Since 2008, the attainment standard has been 75 ppb. Based upon the data, Miami-Dade County achieved the objective of attaining ambient air quality standards for the period between 2002 and 2009. Additional stations and parameters will be added to the network should new federal pollutant air standards be adopted. Miami-Dade County has maintained its current designation by the EPA as an ozone attainment area and continues to regulate emissions of air pollutants through permitting and implementation of best management practices for air pollution sources. Pursuant to the adoption of more stringent ozone standards expected in August 2010 to a value between 60ppb and 70 ppb, the EPA will re-evaluate the county's attainment status based on the previous three years of monitoring data.

With regards to achievement of objectives for reduction of greenhouse gas emissions, emissions inventories will be developed annually for County government operations, and biennially for community-wide emissions.

Table 2.4-1B details the number of documented Air Permit violations at permitted facilities from 2003 to 2009. There are approximately 1,550 facilities which have air permits and are routinely inspected annually. The percentage of facilities in violation for any

given year ranged from 5 to 13%. Due to a realignment of resources by DERM to consolidate and streamline inspections of select categories of permitted facilities, and the associated need to re-train inspectors, there was a temporary decrease in the number of permitted facility inspections conducted during 2006-2007. In conjunction with those activities, DERM strategically initiated a pilot risk-based inspections program in order to ensure that there were no resulting adverse environmental impacts.

Based upon the data in Table 2.4-1 and table 2.4-1A, this objective has been achieved, remains relevant, and should be retained. If new federal pollutant air standards are adopted, supplementary stations and parameters will be introduced to the air monitoring network.

Table 2.4-1B
Air Permit Violations: 2003-2009

Year	Number of Air Permit Violations	Percentage in Violation
2003	195	12.6
2004	156	10.1
2005	182	11.8
2006	79	5.1
2007	96	6.2
2008	154	9.9
2009	202	13.0

Source: DERM Air Quality Management Division, 2010

Policy Relevance: The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CON-1A: This policy should be reworded to indicate not only the County's air permitting programs but also the compliance programs, which is an integral aspect for an effective program. The wording should also be changed from "toxic air pollutants" to "hazardous air pollutants" to be consistent with applicable federal and state rules, which are the "National Emissions Standards for Hazardous Air Pollutants" (NESHAPs).

Policy CON-1D: It is suggested that this policy be reworded to indicate that the Miami-Dade Cooperative Extension Service will work with the Florida Department of Agriculture and Consumer Services to keep pesticide users informed about pesticide application. The second sentence should be reworded to indicate that the County should encourage the usage of Integrated Pest Management (IPM), whenever practical.

Policy CON-1E: As the EPA has phased out methyl bromide, that specific reference should be removed and retain the wording of volatile fumigants.

Policy CON-1F, CON-1G: To be consistent with CON-1A, the wording should also be changed from "toxic air pollutants" to "hazardous air pollutants."

Policy CON-1J: This policy should be reworded—or a new policy added—to address a climate change strategy to reduce greenhouse gas emissions, and that the County will comply with any existing or future state/federal/state rules applicable with reducing greenhouse gas emissions.

Objective CON-2
Protect ground and surface water resources from degradation, provide for effective surveillance for pollution and clean up polluted areas to meet all applicable federal, state and County ground and surface water quality standards.

Objective CON-2
Protect ground and surface water resources from degradation, provide for effective surveillance for pollution and clean up polluted areas to meet all applicable federal, state and County ground and surface water quality standards.

CDMP Monitoring Measures. This objective will be met in any of the primary drainage basins, or individual sub-basins within a primary basin, when the ambient five year average value for each of the twelve NPDES priority pollutants in that basin or sub-basin does not exceed the target criteria. A second monitoring measure will be the number of groundwater exceedances based on the groundwater and wellfield monitoring programs.

Objective Achievement Analysis for Surface Water.

One monitoring measure for Objective CON-2 is that the ambient five year average value for each of

the twelve National Pollutant Discharge Elimination System (NPDES) priority pollutants in that basin or sub-basin does not exceed the target criteria. The County's NPDES sampling program is a component of the County's larger, comprehensive surface water monitoring program, which is discussed in the following paragraph. The NPDES program helps to regulate the quality of stormwater discharge from certain land uses entering surface waters. In 2003, 53 canal and Biscayne Bay sites were sampled to test for NPDES standards. Ninety-five percent of the samples collected between 1995 and 2002 met NDPES standards for 2003. Most exceedances were from nitrate, a parameter linked to fertilizers. Since the exceedances were found in 12 monitoring stations in South Dade canals, it could be concluded that this contamination originated in commercial agricultural operations (which could include nurseries and tree farms in addition to food crop production).

Separately, the 2003 EAR reported that the County's comprehensive Surface Water Monitoring Program collected monthly samples from approximately 103 stations located in fresh water canals and Biscayne Bay between 1995 and 2002. "Exceedances" were reported at 10.94%. Using the data obtained through the Miami-Dade County surface water monitoring network from 2003-2009, the five year average value for each of the twelve NPDES priority pollutants, in each defined drainage basin was calculated and compared to the criteria listed in Policy CON-5A(2). The comparison revealed that 13 drainage basins meet the WQSLOS (Water Quality Standard Level of Service). The four remaining drainage basins each had 1 of the twelve priority parameters (Nitrate/Nitrite Nitrogen) not compliant with the criteria of CON-5A.2. All of these basins (Florida City Canal, North Canal, C-102 and C-103), are in the southern portion of the County. Although the specific source of the elevated nitrogen has not been explicitly identified, the four canals extend into and drain significant agricultural regions of the County.

The same types of pollutants or "nutrients" have been recorded at levels above NPDES standards, in similar locations in the County, through a period of fourteen years. Techniques and/or regulations designed to manage and control these particular pollutants have not resulted in samples below target levels. This aspect of Objective CON-2 is not being achieved at this time for these pollutants.

New Numeric Nutrient Standards for State of Florida Waters

In 2009, the United States Environmental Protection Agency (EPA) entered into a consent decree with the Florida Wildlife Federation to establish water quality standards to, "protect people's health, aquatic life and the long term recreational uses of Florida's waters, which are a critical part of the state's economy" and to comply with section 303(c) of the federal Clean Water Act.[1] Proposed new standards would regulate the levels of nitrogen, phosphorous, and chlorophyll that may be present in Florida's lakes, streams, springs and canals. Compliance with these upstream water quality standards should assist resource managers to comply with EPA's new nutrient standards for estuaries and coastal waters that will be applied starting in January 2011. The EPA will also develop "restoration standards" that would apply to the streams, lakes, and 900 square miles of estuaries (25% of all assessed estuaries in the state) that the Florida Department of Environmental Protection found to not meet state water quality standards due to excess nutrients in 2008. The EPA has released the following statement on nutrient pollution,

> Nutrient pollution can damage drinking water sources; increase exposure to harmful algal blooms which are made of toxic microbes that can cause damage to the nervous system or even death; and form byproducts in drinking water from disinfection chemicals, some of which have been linked with serious human illnesses like bladder cancer. Phosphorous and nitrogen pollution come from stormwater runoff, municipal wastewater treatment, fertilization of crops and livestock manure. Nitro-

1 United State Environmental Protection Agency (EPA), "EPA Proposes Standards to Protect Florida's Waters: Action would decrease amount of phosphorus and nitrogen pollution." January 15, 2010. Accessed online http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/393728cbe28ce582852576ac00515a61!OpenDocument.

gen also forms from the burning of fossil fuels, like gasoline.[2]

It is not clear at this time how these new EPA standards will affect current agricultural and urban land use practices or the regulation of these activities by the County.

Beach, River/Stream Water Sampling

Once a week the Miami-Dade County Health Department (MDCHD) samples water at fifteen public beaches to test for elevated levels of bacteria including fecal coliform and enterococci. Laboratory processing of these samples takes about 24 hours. If bacteria is found at a concentration that is determined to exceed state criteria, MDCHD staff return to the particular beach site and take a second sample and deliver it to their laboratory. After 24 hours, if laboratory analysis again indicates an exceedance, the MDCHD will issue an advisory. Parks, lifeguards, some hotels, and news media are notified of advisories and signs are posted at certain locations. Beach program staff completed an unofficial count of beach advisories issued for Miami-Dade from 2004-2009 and the results are summarized in bullets below. Beaches that had the highest numbers of advisories, sometimes multi-day advisories, included Dog Beach (34), Sunny Isles (28), 21st Street (22), Matheson Hammock (21), 53rd Street (15), Golden Beach (14), Crandon Park (13), South Beach (13), and Key Biscayne.

2004: 4 advisories. Beaches included Dog Beach, Matheson Hammock, Crandon Park.
2005: 4 advisories (74th St., Dog Beach)
2006: 15 advisories (Sunny Isles, 93rd St., South Beach, Crandon Park, Matheson Hammock)
2007: 6 advisories (Crandon Park, 74th St., Dog Beach)
2008: 20 advisories (Sunny Isles, Oleta, 93rd St., 74th St., 53rd St., 21st Street, Haulover, Golden Beach, Crandon Park, Dog Beach, South Beach, Key Biscayne)
2009: (Crandon Park, 21st St., 53rd St., Sunny Isles, Dog Beach, Matheson Hammock, Key Biscayne, Virginia Key Beach, Cape Florida)

The Health Department reports that beach water quality advisories in Miami-Dade County have been due to the detection of bacteria but the specific sources of this contamination are unknown. Elevated concentrations of fecal coliform and enterococci can cause disease, infections, and rashes[3]. These bacteria occur naturally in the intestines of humans and animals. Fecal bacteria contaminates stormwater in urban and agricultural areas; bacteria in stormwater moves from the ground to canals or storm drain pipes and then into the ocean or bay (but originates from wildlife, pets, livestock, human sewage, and fertilizers.)[4]

Some stream and river resources in the Southeast Coast/Biscayne Bay Basin also surpass thresholds for surface water quality indicators, including fecal coliform[5]. For fecal coliform bacteria, the criteria/threshold is less than or equal to 400 counts per 100 mL. For samples taken from May-July 2007, streams and rivers in this Basin did not meet thresholds for Fecal coliform for 37% and 28.6% of samples analyzed, respectively.

The FDEP has a current initiative to revise fecal coliform criteria and methods to assess human health issues at beaches more rapidly and accurately.[6] The United States Environmental Protection Agency and the FDEP are also planning to establish surface water regulations for nutrients, including these bacteria, state-wide as discussed in the previous section.

With respect to beach water quality, the protection of water quality and the reduction in sewage overflows is a strategic plan outcome in the County's Water and Sewer Department Business Plan for 2009 and 2010. However, attaining adequate funding to address the County's aging infrastructure is considered a challenge and appropriate rate structures and additional funding will be needed to address future overflows.

[2] EPA, "Water Quality Standards for the State of Florida's Lakes and Flowing Waters". Florida Factsheet Water Quality Standards January 2010. Accessed online http://www.epa.gov/waterscience/standards/rules/florida/factsheet.html.

[3] State of Florida Department of Health, "Florida Healthy Beach Program". Accessed online http://esetappsdoh.doh.state.fl.us/irm00beachwater/default.aspx.

[4] Miami-Dade Health Department. "Division of Environmental Health & Engineering 2004-2005 Annual Report". Accessed online at http://www.dadehealth.org/public/publications.asp.

[5] Florida Department of Environmental Protection, Draft Integrated Water Quality Assessment for Florida: 2010 305(b) Report and 303(d) List Update. June 2010.

[6] Florida Department of Environmental Protection, Draft Integrated Water Quality Assessment for Florida: 2010 305(b) Report and 303(d) List Update. June 2010. Executive Summary, p. xiii.

The second monitoring measure for Objective 2 is the number of groundwater exceedances based on groundwater and wellfield monitoring programs in Miami-Dade County. This analysis first describes groundwater contamination, then discusses groundwater monitoring assessments for the County, and finally identifies permitting and inspection programs that provide groundwater protection county-wide. Overall, groundwater quality in Miami-Dade is good and Objective 2 has been partially achieved.

Groundwater from the shallow Biscayne Aquifer is the sole source of drinking water for residents of Miami-Dade County. In Miami-Dade, planning for clean groundwater is challenging because the Biscayne Aquifer is near to the surface of the land (1–5 feet, and during the wet season, many low lying areas have standing water) and is composed of porous materials such as sand, sandstone, and limestone (Miami oolite). Stormwater runoff passes relatively easily and quickly through these materials, and so contaminants from the urban areas in the County (city streets, urban canals) can reach groundwater quickly (the Biscayne Aquifer).[7]

Surface water pollutants that travel through canals, French drains, and gutters are more likely to contaminate groundwater in an aquifer like the Biscayne.[8] The County requires structures and techniques known as "Best Management Practices" to retain and filter stormwater for some development projects. In urban areas of the County, these water retention/ water quality structures help to protect groundwater. County water managers explain that urban areas that flood generally contribute the most contaminated water to canals and groundwater because floodwaters are not treated by filtration systems. Sources of groundwater contamination in Miami-Dade include hazardous materials or wastes associated with domestic (residential), agricultural, industrial, and nuclear power generating activities, septic tank effluent, sewage sludge, fuel spills, and leaking underground tanks.

Groundwater monitoring allows Department of Environmental Resources Management (DERM) regulators to identify pollution. The County uses a large network of wells to take water samples that are analyzed to detect over sixty chemical substances. Text in the 2003 EAR reported that the County's Ambient Groundwater Monitoring Program utilized 50 wells for groundwater samples. It was reported in a brief summary that for 1995, 94% of groundwater samples were in compliance with groundwater quality standards at that time. Greater detail concerning well locations, exact parameters and water quality standards is provided in a 2002 DERM report that evaluated a 10 year period of record of sample results from the Ambient Groundwater Monitoring Program. A brief summary of 2003 data indicated that 99% of groundwater samples met standards.

The latest multiyear period of record from the County's Ambient Groundwater Monitoring Program is currently undergoing verification. A summary of verified data from the October 2004 and October 2008 sampling episodes indicates that 100% of samples met standards in 2004 and 99.4% in 2008. The October 2004 sampling event consisted of 32 monitoring wells in which 1,684 parameters were analyzed. All of the parameters tested met the groundwater quality standards. The October 2008 sampling event consisted of 52 monitoring wells in which 10,131 parameters were analyzed. All of the parameters tested, with the exception of but 66 parameters, met the groundwater quality standards.

In addition, Table 2.4-2 (below) was prepared using data supplied by the Florida Department of Environmental Protection. The FDEP samples were taken from drinking water, irrigation, public water supply and monitoring wells used by the FDEP, South Florida Water Management District, and the United States Geological Survey.

[7] Florida Department of Environmental Protection, Division of Environmental Assessment and Restoration. "Draft Integrated Water Quality Assessment for Florida 2020 305(b) Report and 303(d) List Update". June 2010. Page 124.

[8] Proposed Conservation Aquifer Recharge and Drainage Element, Year 2000 and 2010 CDMP, Metro-Dade County, Florida. April 1988. "Biscayne Aquifer", pages 53-58, 69).

Table 2.4-2
SFWMD Southeast Coast/ Biscayne Bay Basin
Groundwater Assessment

Indicator	Criterion/ Threshold	% Samples Not Meeting Threshold
Arsenic	≤ 10 µ/L	0.0%
Cadmium	≤ 5 µ/L	0.0%
Chromium	≤ 100 µ/L	0.0%
Lead	≤ 15 µ/L	4.8%
Nitrate/ Nitrite	≤ 10 µ/L	0.0%
Sodium	≤ 160 µ/L	7.7%
Fluoride	≤ 4 µ/L	0.0%
Fecal coliform bacteria (counts/100mL)	≤ 2 (sample max)	13.1%
Total coliform bacteria (counts/100mL)	≤ 4 (sample max)	35.6%

Source: FDEP, 2010.[9]
Assessments based on thirty samples taken between April-June 2007.

The FDEP also compared groundwater quality from 2000-2007 to 2008-2009 within the Southeast Coast/Biscayne Bay Basin. The percentage of samples that achieved primary ground water standards (they did not exceed maximum contamination levels) were compared. For the Southeast Coast-Biscayne Bay Basin, groundwater samples showed improvement with respect to metals, lead, and sodium, stayed the same for arsenic and nitrate/nitrite, but worsened with respect to Total coliform bacteria (71% - 68%). (FDEP, page 143)

Groundwater contaminants of concern in Florida include volatile organic compounds, synthetic organic chemicals/pesticides, nitrate, primary metals (includes lead), sodium (saline water), radionuclides, trihalomethanes, and bacteria (coliform). Contaminant exceedances noted in the Southeast Coast/ Biscayne Bay Basin included lead, sodium, and coliform bacteria. (Other FDEP samples noted some exceedances of VOCs (in private wells), nitrate, metals, and radionuclides.) Elevated levels of lead may be due to the piping, storage systems, galvanized coatings, and plumbing fixtures that convey water. The FDEP considers sodium, or saline water, to be a concern both in coastal areas with salt intrusion and for inland areas where upconing from deeper brackish aquifers is caused by groundwater (consumptive) withdrawals that exceed aquifer capacity. The County is attempting to minimize saline water intrusion of the Biscayne Aquifer through groundwater monitoring, development of alternative water supplies, and other initiatives.

Elevated coliform bacteria levels can be influenced by contaminated wells (not groundwater), and the FDEP notes that samples showing high levels of bacteria need to be further analyzed. Other sources of potential bacterial contamination include animal waste or septic tank issues, flooding, or surface water infiltration of a water system. Elevated bacteria levels in groundwater can be addressed through disinfection at water treatment plants, but private well contamination is considered an ongoing issue and, "one of the most prevalent issues in ground water samples collected from monitoring wells". (FDEP 2010, p. 152) The FDEP also concludes that individual (private) well assessments are necessary.

Groundwater protection is also implemented in Miami-Dade County through the permitting and inspection of facilities that handle hazardous materials (Pollution Regulation and Enforcement Division, DERM); this activity is codified by Policy CON-2E and Chapter 24 of the County Code. The County's annual permitting and inspection program for particular industrial facilities issues Industrial Waste (IW) permits to any non-residential establishment/organization that generates, stores, or disposes of any "hazardous material" as defined in Resolution No. R-476-88, passed on April 19, 1988. All of these IW facilities are inspected on a periodic basis depending on specific facility characteristics. DERM issues different kinds of IW permits to these establishments/organizations based on the nature of the operation. The IW-5 Program focuses on the smaller establishments/organizations and as of May 2009, there are approximately 8,400 active IW-5 permitted facilities. The IW-O Program issues IW-2, -3 and -4 permits to more complex facilities that may have one or more of the following attributes: wastewater treatment systems with discharges to sanitary sewers, tank farms for storage of petroleum products or other chemicals, and discharges to ground from a process. There are currently 200

[9] FDEP 2010.

permitted IW-O facilities inspected on a more frequent basis.

To record the progress of the County's multifaceted groundwater protection programs, a CON-2 objective could include efforts related to contaminated site identification and clean-up, enforcement of the wellfield protection areas, hazardous material permitting, and research and modeling of the aquifer and the isochlor line (saltwater intrusion line).

Recommended Modifications for CON-2 Monitoring Measures

Existing monitoring measures should continue; DERM should continue to summarize the results from Ambient Groundwater and Surface Water monitoring programs. It is recommended the County prepare annual ground and surface water monitoring reports, to facilitate data collection for future EARs.

Water managers note that the County should reassess whether this objective should reference "target criteria", Impaired Waters criteria, or other appropriate surface water standards and criteria. Since the EPA is now in the process of establishing numeric limits for nutrients in canals and other water bodies, adherence to these new standards may be appropriate for the Conservation Element.

Additional CDMP monitoring measures for groundwater quality should report and describe completed and ongoing county-wide contamination inspections and clean-up operations that protect the Biscayne Aquifer. Monitoring could include annual reports on the density of contaminated sites for areas within and outside of wellfield protection areas. These program parameters are already being collected through DERM's departmental scorecard reporting process and include total contaminated sites, number of sites restored, and sites that have been closed.

The Miami-Dade County Department of Health samples beach water quality weekly at several beaches within the County. Information is provided in this analysis regarding their findings. To more comprehensively protect surface water and natural resources in general in the County, it is advisable to add a new monitoring measure that would track or document the Department of Health's sampling and advisory activities.

Since water quality is a fundamental objective for the County, the CDMP should strive to suggest methods to better monitor and implement adopted water resource policies. For example, the CDMP could discuss how the County addresses water quality exceedances detected through sampling programs. With respect to land use, the CDMP could advance toward identifying development practices that, by design, minimize impact to surface and groundwater resources.

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-2A. The first round of basin stormwater master plans is complete. This policy should be updated to state that the stormwater master plans will continue to prioritize and recommend drainage projects to improve water quality and that the stormwater plans will be updated regularly.

CON-2H. This policy should be deleted or reworded because the County is exempted by State and Federal regulations from primary oversight as to the use and application of fertilizers and pesticides. County oversight is limited to pesticide and fertilizer storage areas and illegal discharges of these substances to ground and surface waters. More appropriate wording may focus on augmenting the county's joint programs at the IFAS center to provide education on appropriate application of chemicals that have been found to be contaminants in surface water samples in the County.

CON-2I. This policy has been implemented in terms of clean-ups and inspections being integrated into a GIS system. CON-2I should be reworded to reflect the scope of ongoing county-wide inspections and clean-up operations protecting the Biscayne Aquifer.

CON-2J. This policy should be reworded to state that the County shall continue to enforce the 500-foot protection zone for non-community, non-

transient water supplies that serve uses such as public or private schools and trailer parks. This protection zone is mandated by the state and is already enforced by DERM.

CON-2K. This policy needs to be reviewed and possibly modified. Defining "Background Conditions" requires identifying 'non-impacted' sites for the various habitats or regions of the county. Reference may have to be to a 'reference condition', which would allow areas of least impact to serve as comparison sites.

Objective CON-3
Regulations within wellfield protection areas shall be strictly enforced. The recommendations of the NW Wellfield Protection Plan shall continue to be fully implemented, as are recommendations that evolve from the West Wellfield and South Dade Wellfield planning processes.

CDMP Monitoring Measures. This objective will be measured by the number of exceedances of any applicable water quality standard within wellfield protection areas, and the number of times that pumpage has to be curtailed due to pollution incidents that threaten water resources within any defined wellfield protection area.

Objective Achievement Analysis.
This objective is one component of the County's efforts to manage groundwater contaminants to ensure that the Biscayne Aquifer continues to supply Miami-Dade residents with clean drinking water, and is able to support South Florida ecosystems that are dependent on fresh water. An average of 330 million gallons per day (MGD) is withdrawn from the Biscayne Aquifer. Wellfield protection areas were established to attempt to protect public wells from land uses and urban activities that inherently pose an increased risk of groundwater contamination.

The first monitoring measure for Objective 3 is the number of exceedances of any applicable water quality standard within wellfield protection areas. The reader should reference the Objective Achievement Analysis for Groundwater that is included for Objective CON-2, above, for a discussion on groundwater quality standards. Overall groundwater quality is good in Miami-Dade County as reported by the Florida Department of Environmental Protection. A discussion on the significance of the risk of saline water contamination of the Biscayne Aquifer is discussed in the Major Issue on Climate Change.

Several CON-3 policies address the presence of facilities that handle hazardous wastes within wellfield protection areas. As discussed in the CON-2 analysis, the DERM Pollution Regulation and Enforcement Division permits and inspects these facilities throughout the County. Inspections are more frequent in wellfield areas and supplement the water quality information provided by the groundwater monitoring wells within wellfield protection area. Water is also tested daily at each County water treatment plant before and after treatment processes.

The second monitoring measure for this objective tracks the number of times that public well pumpage has been curtailed due to pollution incidents that threaten water resources within any defined wellfield protection area. During the 2003-2009 period, contamination first detected in January 2005 caused several production wells at the Northwest Wellfield to be shut down due to the detection of benzene. Benzene is an aromatic hydrocarbon that occurs naturally in crude oil and gasoline and is used as a solvent to produce other chemicals and pharmaceuticals. Benzene is known to be a human carcinogen.[10] Although human exposure to benzene generally results from inhalation, exposure can also result from drinking contaminated water.

Samples of water being drawn from the Northwest Wellfield into the John Preston Water Treatment Plant had concentrations of benzene that were higher than the highest levels of benzene that are allowed for drinking water according to the Environmental Protection Agency's National Primary Drinking Water Standards. Production wells PW-1, PW-2, PW-3, PW-4 and PW-5 were shut down; later well PW-6 and PW-7 were also shut down as contaminants were found in their vicinity as well. Investigations to determine the source of the contamina-

[10] Report of Carcinogens, Eleventh Edition; U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, Substance Profiles: Benzene CAS No. 71-43-2.

tion and to assess methods to address the contamination were coordinated by DERM and the County's Water and Sewer Department (WASD).[11]

Existing production wells were sampled and new groundwater monitoring wells were constructed in the areas where benzene was found. The USACE reported that there were three periods of elevated benzene concentrations between January 2005 and August 2007. Field investigations were also implemented to find the source of the spill; rockmining lake areas and blasting activities, contaminated soils and a diesel fuel spill were inspected. (FSEIS page 3-74 and 3-75)

Unfortunately, the County was reportedly unable to identify the source of the benzene contamination. The USACE sited problems with the well monitoring program that resulted in too few data points to gauge potential contamination sources. The USACE has stated, "… additional monitoring wells in other locations may be required to determine the source, and additional sampling of existing monitoring wells should be accomplished on a regular basis." (FSEIS page 3-76) Meanwhile, a "corrective action plan" has been developed by the County to address the benzene contamination. The USACE writes that the existing water treatment processes (air stripping towers) at the John Preston Water Treatment Plant (draws water from the Northwest Wellfield Area) are sufficient to reduce benzene concentrations to criteria set by the Florida Department of Health. (FSEIS page 3-76)

Although current monitoring measures for this objective do not monitor implementation of Policy CON-3G, it seems that this policy should be addressed by the County to maintain high quality public drinking water. Policy CON-3G states, "Miami-Dade County shall re-evaluate the extent, and mandate periodic updating, of the protection areas for all public water supply wellfields to adjust the protection areas and programs for those wellfields, as warranted."

The County and the United States Geological Survey (United States Department of the Interior) (USGS) have been studying the movement of pathogens through the Northwest Wellfield Protection Area using dye and particle tracer tests since 1998.[12] In 2003 and 2004 the USGS completed dye tests to better understand the way in which contaminants move through the Biscayne Aquifer, particularly near wellfield areas. The County has utilized consultants to help assess the potential risk from rockmining for transport of pathogens to the wells of the Northwest Wellfield from rockmining lakes.[13] Several USGS reports were published in 2008 that drew conclusions from USGS hydrologic tests. In 2008, the USGS stated, "The highly porous nature of the Biscayne Aquifer presents significant water-management implications, especially as it relates to the inadvertent release of contaminants within or immediately outside the well field protection area." The USGS also suggested that "current (wellfield) protection zones are not sufficient to protect water supply wells from possible contaminations from borrow-pit lakes (artificial lakes created by the mining activities) associated with nearby rock mining activities."[14]

The County, the USGS, and consultants are now analyzing aquifer test results and groundwater flow models to determine how rock mining and resulting lakes affect the movement of contaminants toward Northwest Wellfield wells. No changes to the wellfield protection areas have been recommended. But the state and County, the USACE, and others have studied and documented some of the impacts of mining in the Lake Belt area and a Miami-Dade County Lake Belt Mitigation Plan has been created. In 2006, Senate Bill 1306 established a "water treatment plant upgrade fee" (F.S. Section 373.41492 *Miami-Dade County Lake Belt Mitigation Plan; mitigation for mining activities within the Miami-Dade County Lake Belt*) to upgrade the treatment systems of water plants that receive water coming from the Northwest Wellfield in Miami-Dade County.

[11] United States Army Corps of Engineers; Final Supplemental Environmental Impact Statement on Rock Mining in the Lake Belt Region of Miami-Dade County, Florida (FSEIS). May 2009. Chapter 3, pages 3-68.

[12] USGS. 2009. Final Supplemental Environmental Impact Statement on Rock Mining in the Lake Belt Region of Miami-Dade County, Florida. Accessed online at http://www.lakebletseis.com/library.htm. Chapter 3, page 3-55.

[13] USGS. Same as above. Page 3-55.

[14] U.S.G.S., U.S. Department of the Interior. News Release, 'Water Supply at Greater Risk than Expected', August 27, 2008.

As stated above, the second monitoring measure for this objective is, "the number of times that pumpage has to be curtailed due to pollution incidents that threaten water resources within any defined wellfield protection area." The benzene contamination event(s) that meet this description have been described above. This monitoring measure should be more specific; it is not clear if one pollution incident should indicate that the County has not achieved the objective, or whether sufficient mitigation and prevention strategies were undertaken and so therefore the objective was partially achieved.

Recommended Objective Modifications.
This objective should be updated and reworded. The first sentence should reference "approved wellfield protection plans" instead of "wellfield protection areas". The second sentence should be revised because the West Wellfield planning process did not result in an approved final report and the South Dade Wellfield planning process resulted in recommendations that have been approved through the Lakebelt Planning Process. The Lakebelt process addresses monitoring and wellfield protection for both the West and South Dade wellfields. The objective should state that "recommendations from the Lakebelt Planning Process and other ongoing planning activities to refine and improve protection of local drinking water supplies shall be implemented and enforced."

Existing monitoring measures for this objective should be maintained. Considerations regarding additional measures are summarized below. An additional monitoring measure, water quality data from individual public drinking water wells, would help pinpoint contaminated areas.

Policy CON-3G addresses the additional risk of groundwater contamination, established by hydrologists, that "new surface water bodies" impose upon the County's aquifer, especially in wellfield protection areas. These new water bodies are created by rock mining excavations. An additional monitoring measure could require reporting on the state of research on the management of water bodies in wellfield protection areas to, "ensure protection of water quality and maintenance of the groundwater classification of the wellfields."

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-3C: This policy should be cross-referenced or combined with a new policy focused on new or expanded county facilities that shall be located away from areas that will be impacted by sea level rise in the near future.

CON-3H: This policy should be assessed as to feasibility or otherwise removed.

Objective CON-4
The aquifer recharge and water storage capacity of the presently undeveloped areas in western and southern Miami-Dade County shall be maintained or increased.

CDMP Monitoring Measures. This objective will be measured by the number of cut and fill permits issued in the various basin areas, the amount of French drain installed and the number of permitted developments with insufficient land storage retention areas.

Objective Achievement Analysis.
The focus of this objective and its policies includes aquifer recharge, minimization of flood risk, and water conservation. Adequate flood protection also aids in limiting the release of contaminated stormwater into surface water bodies. This objective analysis will review County initiatives and programs designed to achieve this objective.

Level of service standards. State growth management laws require that builders comply with drainage 'level of service' (LOS) standards for new construction (and significant redevelopment). Drainage LOS standards are enforced through permits and are intended to minimize or eliminate the amount of runoff leaving a particular property (Flood Protection Level of Service or FPLOS) and minimize the contaminants carried by site runoff to surface and groundwaters (Water Quality Level of Service or WQLOS). Builders are generally required to design and install structures to capture runoff from one day of a theoretical ten-year storm to meet FPLOS.

Currently, the most common structure type used to retain stormwater in Miami-Dade County is the french drain. County water managers have determined that this technology also functions to recharge the aquifer.

Aquifer Recharge in Urbanized Areas

The County attempts to control flooding and improve aquifer recharge in urban areas by requiring the installation of french drain systems (also considered "exfiltration systems"). French drains are on-site water retention systems that utilize perforated underground pipes to capture site runoff and allow it to gradually dissipate into the soil. The County's Public Works Department installed approximately 34,600 linear feet of french drain structures along public rights-of-way to drain public roadways from 2003-2009. Through the Division of Recovery and Mitigation (DORM) program, over one million linear feet of drainage pipes, including french drains and solid pipes, have been installed throughout the County during the same period. In total, drainage structures installed throughout the County include the following:

- 111,390 catch basins and other types of inlets
- 4,507,230 linear feet of stormwater pipes
- 2,253,510 linear feet of french drains

Cut and fill criteria and approvals for undrained areas of the County. Cut and fill requirements are designed to ensure that development in any particular drainage basin does not increase flooding. A drainage basin should meet flood protection level of service standards (FPLOS) if new sites are designed and constructed according to cut and fill criteria. Cut and fill permits are required in areas of the County that are not drained by canals. These permits generally require that approximately 30% of a proposed development site be maintained as open land for on-site retention of stormwater (runoff). Engineers utilize individual site characteristics to determine what portion of a particular property can be filled for development. Cut and fill permits also suggest what types of water retention structures should be constructed to meet FPLOS, such as stormwater lakes or dry retention areas. The table below provides cut and fill permit information for on-site stormwater retention.

Table 2.4-3
Estimated Cut and Fill Permit Data with
On-site Stormwater Retention
January 2002- December 2009

Drainage Basin	# Permit by Basin	Acres Permitted by Basin	Acres set aside for Dry Retention	Acres set aside for Stormwater Lake
Basin B	68	2815	308	241
Bird Drive Basin	38	450	9	84
North Trail Basin	14	1099	81	73
Total	120	4365	398	398

Source: DERM, Water Control Section, January 2010

Some cut and fill approvals are issued for development projects on sites that are too small to comply with the County's cut and fill criteria for their respective drainage basin (the sites have insufficient land area to create stormwater retention areas, such as lakes). These property owners or developers instead pay into a 'stormwater compensating trust fund' to offset the acreage their developments have impacted. The table below provide cut and fill approval information for these smaller sites.

Table 2.4-4
Estimated Cut and Fill Permit Data for Small Sites Contributing to the Stormwater Compensating Trust Fund,
January 2002- December 2009

Basin	# Permits by Basin	Acres by Basin
Basin B	2	4
Bird Drive Basin	61	118
North Trail Basin	12	17
Total	75	138

Source: DERM, Water Control Section, January 2010

The stormwater compensating trust fund is in turn utilized to construct stormwater retention projects close to these smaller sites to provide shared localized flood protection (and also to remove some contaminants from stormwater runoff). The total number of completed Stormwater Utility capital improvement projects is not available at this time.

Altogether DERM has issued 195 cut and fill approvals from January 2002- December 2009. A total of 352 approvals were issued during the previous EAR reporting period. Less acreage was approved for development according to cut and fill criteria during the more recent EAR review period: January 2002- December 2009 approvals for 4,503 acres while 8,362 acres were approved from 1998-April 2003.

Monitoring measures generally indicate that the County has achieved this objective. The County invested in French drain and other types of drainage systems. In four drainage basins, the County has mandated stormwater retention areas through the application of cut and fill criteria during the site development and permitting process. The County also maintains a Stormwater Compensating Trust Fund that will be used to construct regional stormwater retention/detention projects.

Recommended Objective Modifications.
Existing monitoring measures should be maintained, but should be clarified to more specifically describe what objective achievement entails. In addition, several policies within this objective focus on water conservation practices. The objective should be modified and broadened to better encompass water conservation initiatives.

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-4A. This policy should be revised. DERM has explained that wetlands, with thick mats of periphyton and other dense hydric soils, filter standing surface water slowly. Wetlands should not be considered areas that quickly allow surface water to flow into the Biscayne Aquifer. This objective should be reworded. The term "wetland areas" should be replaced with the term undeveloped land. Add text relating to developments that occur in wetlands and require cut and fill criteria for all wetland developments.

CON-4B. This policy should be revised. The requirement to retain runoff from a one in five year storm should be adjusted or clarified; depending on a site's location and other characteristics, other procedures may be required to address water quality and water quantity (runoff) regulations.

CON-4D: This policy should be modified. The term "Xeriscape" should be replaced with the term "Florida Friendly landscaping".

CON-4E: This policy should be revised. Text should address the quality of reuse water utilized to rehydrate wetlands.

Objective CON-5
Miami-Dade County shall continue to develop and implement the Stormwater Master Plans comprised of basin plans for each of the twelve primary hydrologic basins being addressed by the County, and cut and fill criteria as necessary to: provide adequate flood protection; correct system deficiencies in County maintained drainage facilities; coordinate the extension of facilities to meet future demands throughout the unincorporated area; and maintain and improve water quality. The Stormwater Master Plan is projected to be completed in 2005, and implementing actions recommended in each basin plan shall continue to commence immediately after the applicable plan is approved. Outside of the Urban Development Boundary the County shall not provide, or approve, additional drainage facilities that would impair flood protection to easterly developed areas of the County, exacerbate urban sprawl or reduce water storage.

CDMP Monitoring Measures. This objective will be measured by the number of stormwater master plans that have been completed and implemented, and the number of stormwater system improvements that have been made.

Objective Achievement Analysis. In 1992, the County began the development of stormwater management master plans for hydrologic basins. (A hydrologic basin is an area that drains to a common water feature, such as a river or an artificial canal. The Figure 2.4-2, Primary Hydrologic Basins, illustrates the County's drainage basins.) The Stormwater Management Master Plan is an essential step towards identifying and solving the drainage related

water quality problems in the County's canal system, which discharges to Biscayne Bay. The overall goal of the planning effort is to recommend stormwater management solutions throughout the County to minimize flooding and improve stormwater quality.

The Stormwater Master Plan process began with evaluations of older studies and current water quality and flooding problems. The master plans identify and map existing stormwater systems, including canals and underground stormwater pipes, and compile topographic, rainfall, and hydrologic information. This information assists in building a hydrologic and hydraulic model. These models identify existing flooding and water quality problem areas and also estimate the effects of future land uses on flood protection and water quality. Through this process, the plans develop Best Management Practices for flood reduction and water quality improvement throughout the County.

The Stormwater Master Plan's specific goals are the following:

- To quantify the Flood Protection Level of Service (FPLOS) and Water Quality Level of Service (WQLOS) currently provided in different hydrologic basins.
- To reduce urban stormwater pollution loads discharged to the environment.
- To meet or exceed all applicable federal, state, regional, and local regulatory requirements.
- To provide the basic rationale for interim FPLOS and WQLOS to be included in the CDMP for Miami-Dade County.
- To develop plans for future facilities that provide improved LOS, where needed.
- To prioritize the identified needs.

At this time, master planning for all drainage basins initially proposed has been completed. One additional basin (C-111) will be completed by the end of Fiscal year 2009-2010. Each basin will be re-evaluated during plan updates at least once every 5 years. Three re-evaluations have already been completed C-7 (April 2005), C-8 (September 2008), C-9 (September 2009) and two new re-evaluations are scheduled for C-103 and C-1. With respect to the first monitoring measure, this objective has been achieved.

The second monitoring measure for Objective CON-5 is implementation of the Best Management Practices recommended by the master plans, which include capital improvement projects and other initiatives. Implementation of the stormwater master plan BMPs directly affects the amount of flooding and the quality of the surface and ground water in the County. Some funding for these initiatives is provided by the County's aforementioned Stormwater Utility fund and the County's General Obligation Bond. Other funding or in-kind work can be leveraged through inter-agency grants or contractual agreements.

The third monitoring measure for Objective CON-5 is the number of stormwater system improvements that have been made. Information regarding the number of Stormwater Utility Capital Improvement Projects that were completed between 2003 and 2009 was not available. The section below suggests modified monitoring measures that may better track implementation of stormwater system improvements.

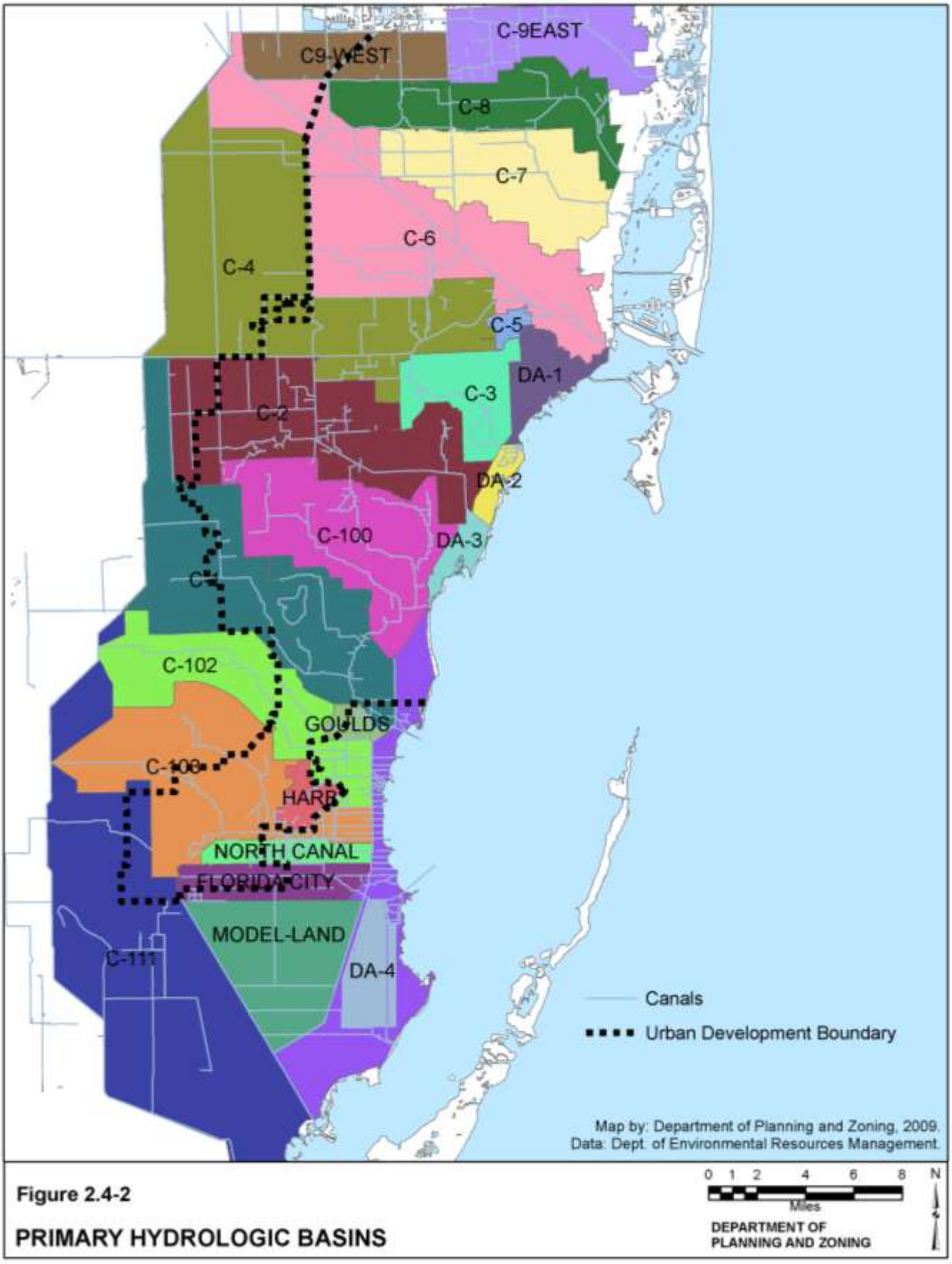


Figure 2.4-2

PRIMARY HYDROLOGIC BASINS

Recommended Objective Modifications.
The update on stormwater plans provided in the section above demonstrates that this objective needs to be revised. By 2007, all originally scheduled stormwater management master plans had been completed. The wording of the objective should reflect this milestone and should be replaced with a new measure ensuring timely revisions of those master plans.

Timely stormwater master plan revisions are essential to ensure that the county's limited resources are being channeled to those stormwater projects that will have the most significant impact on flooding and water quality. As neighborhoods and hydrologic basins develop, more land is altered through filling, higher elevation, and impervious cover. Urbanization incrementally prevents stormwater from being naturally, gradually absorbed by the ground, and may incrementally increase flooding. County stormwater modelers adjust and revise stormwater master plans to recommend new drainage projects and higher required flood elevations for houses and streets to protect investments and improve safety during large storm events. Prevention of flooding in and of itself also improves the quality of stormwater runoff because flood waters overwhelm structural treatment systems or BMPs designed to contain water pollutants.

The monitoring measure that tracks the number of stormwater system improvements is difficult to report due to multi-year projects. Sufficient funding for projects prioritized in the stormwater master plans is important for flood protection and stormwater quality. A modified monitoring measure for this objective may instead quantify how flooding and water quality goals are being addressed through stormwater project implementation.

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-5A. The Water Quality Level of Service (WQLOS) wording needs revision. The WQLOS assessment should be by the 'median', as per State of Florida rules used for assessing Impaired Waters, rather than by the 'average'. Values in the associated table (page IV-9 of the CDMP) need to be reassessed for appropriateness, and to reflect state and federal water quality related rules and criteria changes.

Policy changes related to Policy CON—5A include:

- This policy should mandate a periodic update to the Public Works Manual (every 5 years), so the minimum LOS of a 10-year storm can be required for all permits and implemented for County roads.
- A policy should mandate the adoption of a water quality monitoring plan to document long-term conditions and trends in water quality.
- A policy should mandate the adoption of a Stormwater Management Program Manual (SWMP) to be updated every 5-years, which must include Best Management Practices (BMP's) for operation and maintenance of stormwater management systems and a Stormwater Pollution Prevention Plan (SWPPP), to achieve compliance with the National Pollutant Discharge Elimination System.

CON-5F. Hydrologic basin maps should be inserted in this element to illustrate locations mentioned in this policy.

CON-5G. Analysis shows that moderate water impoundment areas (1-1.5 ft) may not need much of a buffer. This policy should be revised to include the evaluation for the need and extent of buffers to impoundment areas.

Objective CON-6
Soils and mineral resources in Miami-Dade County shall be conserved and appropriately utilized in keeping with their intrinsic values.

CDMP Monitoring Measures. This objective will be measured by the number of acres that have been retained in agriculture and the acreage of open land areas where rockmining is an allowable use that are being actively rockmined.

Objective Achievement Analysis

Analysis of Mineral Resources
Florida law requires that the Conservation Element of the CDMP provide policies for the "conservation, appropriate use and protection" of areas suitable for extraction of minerals. The law also requires policies to protect and conserve the natural functions of existing soils. (9J-5.013(2)(c)2. F.A.C. and 163.3177(6)(d) F.S.) Appropriate planning considerations for these two resources are complex and sufficiently distinct such that they should be addressed through separate objectives. These proposed objectives should be expanded to better encompass the planning considerations related to minerals/rockmining and soils/agriculture. Language in this objective related to rockmining should be clarified to reflect economic, wetlands, water supply and water quality considerations and existing County policy. Considerations related to the protection of soils, and the use of those soils through farming, are briefly reviewed in this section.

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.

As data above indicates, rockmining is an active, permitted use in Miami-Dade County. The County retains significant acreage that is utilized for limerock and aggregate extraction and therefore achieves the second monitoring measure for this objective.

Analysis of Preservation of Soils with Good Potential for Agricultural Use
Objective 6 and Policy CON-6C discuss the protection of the richest soils for agricultural use in the County from 'premature urban encroachment'. The Figure 2.4-3, General Soil Map, indicates that the land outside of the UDB designated as Agriculture in the adopted LUP map overlays the soil types that are most suitable for agricultural activities in the County, for the most part. (There are also some drained marl soils east of the UDB in areas designated for agriculture that are able to support agricultural activities.) The monitoring measure for this objective is the number of acres retained in agriculture, and this number has decreased since the last EAR period.

Overall, it appears that the County is partially achieving its objective to conserve and appropriately use soils according to their intrinsic values.

Total farmland acreage has been decreasing in Miami-Dade since before the 1950s through various processes. Since 1995, one CDMP amendment has converted 42 acres of land that was designated Agriculture and located outside the Urban Development Boundary to a different land use (Business and Office), during the April 2007-2008 amendment cycle; this application moved the UDB. Other CDMP amendments have converted land designated as Open Land, but used for agriculture, to other land use designations that may not have allowed farming to continue.

Between 2005 and 2010, approximately 5,600 acres of land with existing agricultural uses were converted to other land uses outside of the Urban Development Boundary. This is illustrated by Figure 2.4-4. Of these conversions, approximately 39% were due to purchases by the State of Florida and the South Florida Water Management District for Everglades and water resources purposes, 26% were due to residential development, and 18% were

due to acquisitions by private entities, mainly rock-mining interests, in land designated Open Land and Agriculture. The remaining conversion of agricultural land was through conversion to other public and private uses including industrial, lake excavations, parks, utilities, and institutional uses.

Some agricultural land is converted when private farm owners sell their property to developers and their land is converted to rural or estate type residential uses. Some properties (about 33%) with residential structures continue to be farmed, as indicated by agriculture exemptions applied by the County's property appraiser. However in most cases, when a residence is constructed on an agricultural property, farming activity ends. On Figure 2.4-4, the purple and white spots within the area known as the Redland primarily reflect residential uses with some conservation and institutional uses. Property designated Agriculture on the CDMP's Land Use Plan map in unincorporated Miami-Dade County can be developed at a density of one residential unit per five acres. Other agricultural land has residential zoning or development entitlements that predate the adoption of the CDMP. These parcels continue to convert to residential development as some property owners decide to stop farming or are financially unable to continue farming. When land values, even during the recession that began in early 2008, are at $100,000 an acre (generally sold in five acre parcels), farmland is likely to be purchased by prospective developers. Conversely, those who wish to purchase land in Miami-Dade County to begin an agriculture business face an arguably insurmountable initial land cost.

As noted above, farmland has been acquired for Comprehensive Everglades Restoration Plan (CERP) projects; some of these projects will allow historically low-lying areas to again flood on a seasonal basis. 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). Additional SFWMD acquisitions occurred between 2005 and 2010, as discussed in previous paragraphs. This acquired land will be used for CERP efforts.

The CDMP has policies focused on the protection and preservation of agricultural land resources scattered within the document; they include policy LU-8C, 8G, 9L, 9N, CON-6C and CDMP Concept #14 on page I-69. The County has amended the CDMP and updated the Code to help minimize the amount of agricultural land converted to other uses through providing agricultural land owners with additional ways to generate income and maintain their property as agricultural land. Allowing additional land uses in land designated Agriculture, such as bed and breakfast uses, should support the agriculture industry and allow agricultural land owners to benefit from potential new sources of income.

The relationship between the Miami-Dade agriculture industry and the amount of land retained for agriculture in the County is complex and should be further analyzed to assist with policy decisions. The agriculture industry faces challenges in South Florida that affect the amount of farmland that is converted to other land uses. Impacts to the agriculture industry that have affected the amount of acreage actively farmed in the County include hurricanes, infestations, and competition from international producers with access to less expensive supplies and labor. Shifts in farming practices and agricultural business models are also affecting both the Miami-Dade agriculture industry and farmland. The number of farms in Miami-Dade has increased by about 11% between 2002 and 2007, even though the total land acreage farmed has decreased by about 26%.[15] An analysis of successful agricultural business models and market trends may assist the County in developing land use policy that supports farmers, helps achieve farmland retention, and offers other cultural and socio-economic benefits to Miami-Dade residents.

[15] United States Department of Agriculture, National Agricultural Statistics Service, 2007 Census of Agriculture, County Profile for Miami-Dade County, Florida.

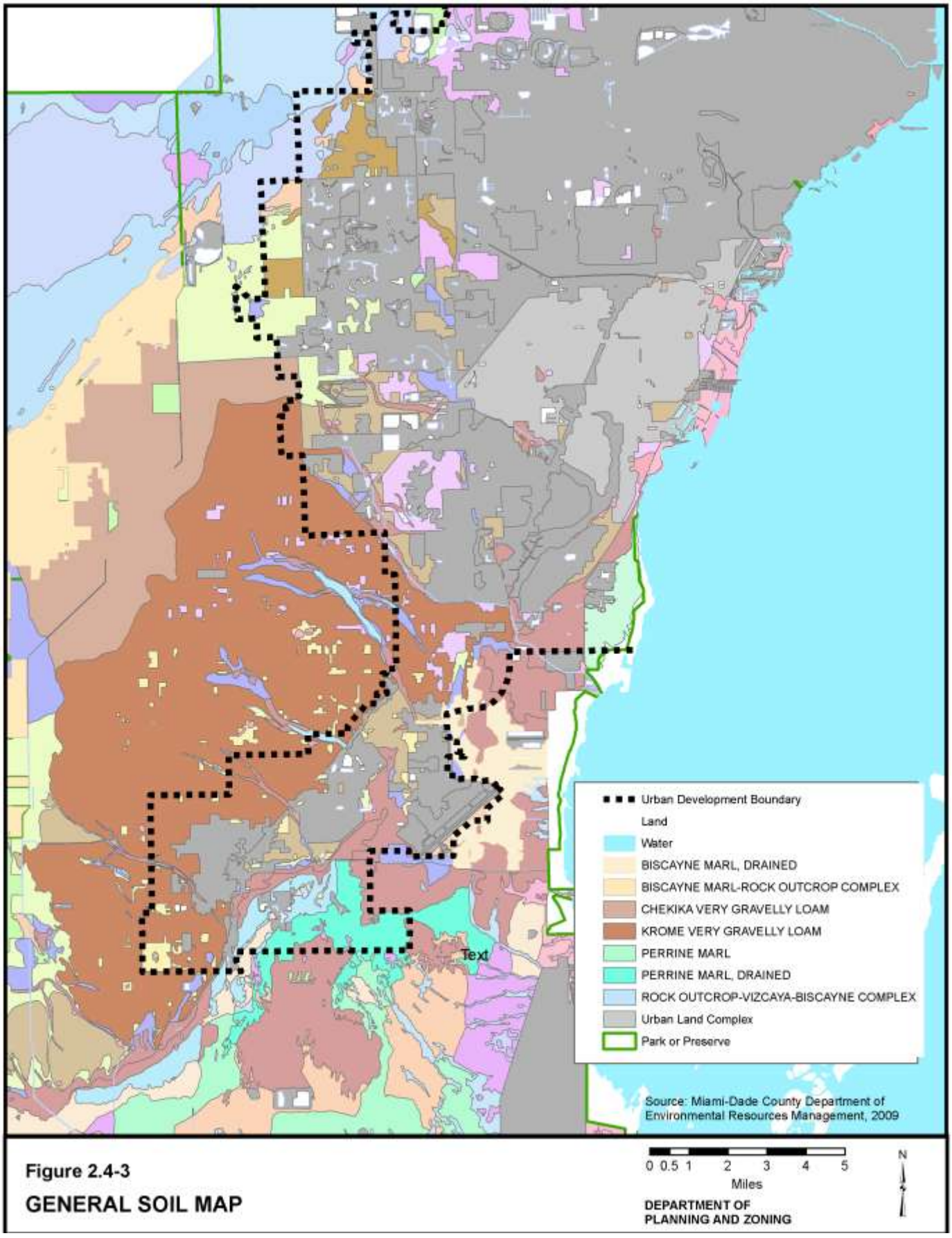
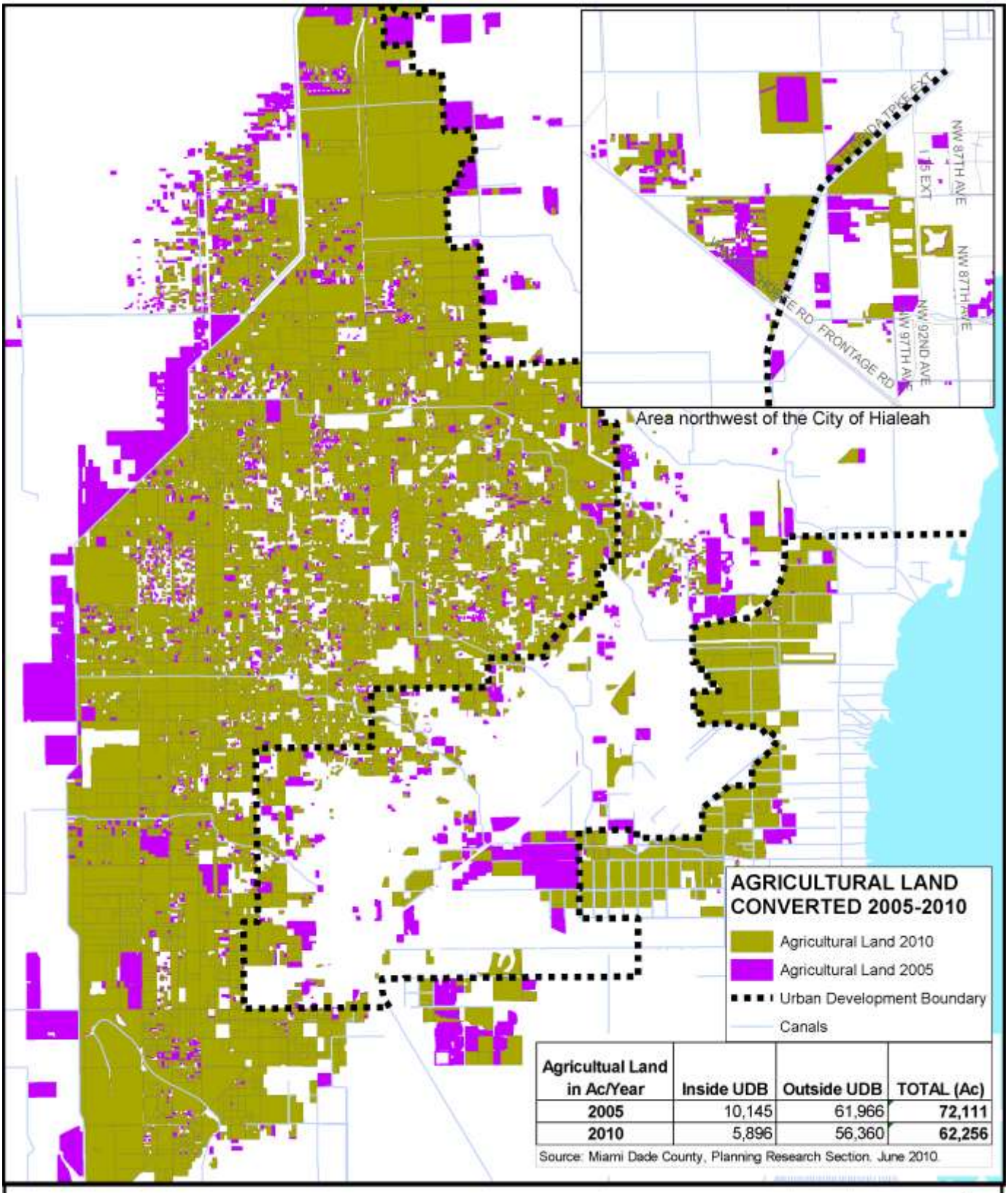


Figure 2.4-3

GENERAL SOIL MAP



Agricultual Land in Ac/Year	Inside UDB	Outside UDB	TOTAL (Ac)
2005	10,145	61,966	72,111
2010	5,896	56,360	62,256

Source: Miami Dade County, Planning Research Section, June 2010.

Figure 2.4-4

AGRICULTURAL LAND CONVERTED 2005-2010

0 0.5 1 2 3 4 5 Miles

N

DEPARTMENT OF PLANNING AND ZONING

Recommended Objective Modifications.
Monitoring measures could include analysis to show the extent of rezoning and the types of new non-agricultural land uses being established in agricultural areas.

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-6A and 6C. These policies should be modified to more clearly define "premature encroachment" and "premature urban encroachment".

CON-6D: This policy does not support the objective and should be removed. The building requirements may be addressed in the Florida Building Code.

Objective CON-7
Miami-Dade County shall protect and preserve the biological and hydrological functions of the Future Wetlands identified in the Land Use Element. Future impacts to the biological functions of publicly and privately owned wetlands shall be mitigated. All privately owned wetlands identified by the South Florida Regional Planning Council as Natural Resources of Regional Significance and wetlands on Federal, State, or County land acquisition lists shall be supported as a high priority for public acquisition. Publicly acquired wetlands shall be restored and managed for their natural resource, habitat and hydrologic values.

CDMP Monitoring Measure. This objective will be measured by the acreage of wetlands that have been acquired and managed through the South Florida Water Management District Save Our Rivers Program, the Miami-Dade County Environmentally Endangered Lands Program or other public land acquisition and management programs to preserve their wetland values.

Objective Achievement Analysis
This objective is monitored in part by assessing the acreage of wetlands that have been acquired through the SFWMD Save Our Rivers Program. As stated above, the Save Our Rivers program is now associated with the state's Florida Forever bond and land acquisition program. The SFWMD has acquired approximately 6,512 acres of land during the period of 12/1/2002 to 12/31/2009 at a total cost of $101,085,301.00. Data in the table below was provided by the SFWMD in January 2010.

Table 2.4-5
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.

These SFWMD land acquisitions will support implementation of the Comprehensive Everglades Restoration Plan (CERP) and related wetland restoration efforts. The CERP was approved by the United States Congress in 2000 through the Water Resources Development Act. The CERP authorized the United States Army Corps of Engineers to re-evaluate the adverse impacts of the extensive drainage projects and infrastructure that were constructed in South Florida during the 1900s. As its name suggests, the numerous projects considered a part of the CERP are intended to collectively restore the Everglades ecosystems. Examples of some active CERP projects that will affect wetlands in Miami-Dade County are provided below.[16]

- **Biscayne Bay Coastal Wetlands Project:** "The goal of this project is to improve the ecological health of Biscayne Bay (including freshwater wetlands, tidal creeks and near- shore habitat) by adjusting the quantity, quality, timing, and distribution of freshwater entering Biscayne Bay and Biscayne National Park . . .The project includes pump stations, spreader swales, stormwater treatment areas, flowways, levees, culverts, and backfilling canals located in southeast Miami-Dade County and covers 13,600 acres along L-31N to capture, treat, and redistribute freshwater runoff from the watershed going into Biscayne Bay, creating more natural water deliveries and expanding spatial extent and connectivity of coastal wetlands, and improved recreational opportunities."
- **Water Conservation Area 3 Decompartmentalization & Sheet Flow Enhancement (Decomp):** Everglades ecosystems are dependent on the historic, natural flow of freshwater through their flooded lands. This project will involve the removal of canals, levees and other barriers that artificially changed natural water flow into, through, and out of the Everglades. Water managers are studying how to best modify or backfill parts of the Miami Canal, and other canals such as L-67A, L-68a, L-67C, L-29, and L28. This project also involves elevating portions of the Tamiami Trail, that currently block "sheet flow" or the natural, gradual southern flow of water through the Everglades.
- **C-111 Spreader Canal:** Construction of this C-111 canal drained fresh water east and resulted in drier conditions along Taylor Slough. Taylor Slough provides water to Florida Bay, a sensitive estuary that supports many marine species. The Florida Bay ecology has become more saline and has been negatively impacted by this diversion of fresh water. Project components will include a 590-acre water detention feature in the area known as the "Frog Pond" and modifications to the C-111 canal that will include a spreader canal to increase water flow toward Florida Bay.

Everglades restoration is also occurring through projects that are not officially part of CERP. Projects planned or underway for Miami-Dade County include the "**Modified Water Deliveries to Everglades National Park project" (includes** 8.5 Square Mile Area Flood mitigation, Tamiami Trail Modifications, Conveyance and Seepage Control Features, and Combined Operation Plan). The C-111 South Dade Project will improve the hydrology of wetlands in the Southern Glades and Model Lands areas, Taylor Slough, and Florida Bay. This project will also involve construction to minimize seepage of freshwater from Taylor Slough south and east (away from Florida Bay) to the lower C-111 canal.[17]

This objective is also monitored through an assessment of the County's Environmentally Endangered Lands (EEL) Program acquisitions. The EEL program has acquired 5,705 acres of freshwater wetlands between 2003 and 2009. These lands have management plans and are maintained by Natural Areas Management crews. These acquisitions were funded in part by the County's EEL program and in part through the Save Our Rivers program and are discussed in more detail in the analysis related to Objective CON-8.

The Miami-Dade County Board of County Commissioners has supported Objective CON-7 through the adoption of Resolution R-1547-09 in December

[16] "About CERP Brief Overview". The Journey to Restore America's Everglades. The United States Army Corps of Engineers and the South Florida Water Management District. Accessed on the internet at http://www.evergladesplan.org/about/about_cerp_brief.aspx on March 16, 2010.

[17] Same as above: http://www.evergladesplan.org/pm/projects/non_cerp_sf_projects.aspx.

2009 to urge the allocation of $15 million of state funds for 2010-2011 to support the Florida Forever bonding program. The resolution expresses the importance of acquiring environmentally sensitive and significant lands to contribute to the environmental health, quality of life, recreation, and sustainability of Florida's current and future generations.

Recommended Objective Modifications.
The wording of this objective and its first monitoring measures should be modified. The "Florida Forever" bonding program should be mentioned in conjunction with the "Save Our Rivers" trust fund and land acquisition program. South Florida Water Management District (SFWMD) staff has explained that the Save Our Rivers program is now closely associated with the Florida Forever bonding program.[18]

A new monitoring measure should be included for this objective to assess wetland impacts and the success of wetland mitigation policies and programs. The County should monitor the issuance of Class IV Wetland permits. Permit activities are already tracked by the Department of Environmental Resources Management for their Departmental Scorecard reports. The following information has been provided to allow for future comparisons of wetland permitting with current conditions. Freshwater wetland permits have been issued to allow 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. The 2003 EAR reported that a total of 16 wetlands permits were issued between 1995 and 2002 resulting in impacts to approximately 93 acres of wetlands; these wetland impacts were reportedly mitigated through payments to benefit a total of approximately 190 acres of wetlands. (2003 EAR, page I-62)

A monitoring measure should also address whether wetlands in various drainage basins are being inspected annually, or as needed, to prevent and address unauthorized impacts. Commonly encountered activities that impact wetland areas include illegal trespassing with motorized vehicles, illegal dumping, and unauthorized land use that impacts natural resources including groundwater.

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON 7A: Modify this policy to include the word "degraded" in the last sentence to make it internally consistent with the first sentence. Replace the reference to critical habitat in this and other policies with the phrase significant habitat. The term "critical" has legal significance in U.S. Fish and Wildlife Service species recovery plans not intended in the CDMP. The policy should remain broad as initially intended to include all habitats identified by the County as well as the state or federal government as significant in the support of endangered and threatened flora and fauna.

CON-7E: The reference to the Save Our Rivers program needs to be accompanied with a reference to the Florida Forever program.

CON 7F: Modify language to allow for greater flexibility in selection of mitigation areas. This policy should mention a preference for creating corridors for connectivity. Remove the term, "adjacent to canals".

CON-7G. Stormwater managers are now beginning to collaborate with public land managers to understand ways in which hydrologic projects may be constructed on EEL lands. These projects would serve recharge and water quality functions and may also comply with and implement EEL ordinance requirements to enhance the ecology of these public lands. These projects may provide protection and relief from impacts, such as flooding and saltwater intrusion, that can be anticipated as sea level rises. Update policy language and remove reference to

[18] Florida Forever is a bonding program that was created by the state legislature. The bond is retired, or repaid, by the Florida Forever trust fund. Contributions to the Florida Forever trust fund come from a 'document stamp tax'; this tax is generated by real estate transactions throughout the state of Florida. Revenue from the Florida Forever trust fund pays bond interest yearly. However, since the Florida real estate market has been in significant decline for several years, bond payments have been difficult because the trust fund is not receiving adequate revenue from property transactions.

Save Our Rivers or replace with "Florida Forever fund".

CON 7G: See comment for CON 7E.

CON-7H. This policy should be reworded to modify the date. There is a dedicated funding source that is used for EEL program land management. This policy may be modified to suggest additional long-term funding.

CON-7J. The language in the second sentence of this policy should be strengthened from 'may' to 'shall' to reflect the County's commitment to avoid approval of amendments and development that are inconsistent with the preferred project options of the Comprehensive Everglades Restoration Plan.

Objective CON-8
Upland forests included on Miami-Dade County's Natural Forest Inventory shall be maintained and protected.

CDMP Monitoring Measure. This objective will be measured by the acreage of hammocks and pinelands retained in public ownership or acquired by public land acquisition programs. Additional measures will include the number of sites where management plans have been, or are being implemented, the number of Endangered Lands Covenants and the number of sites and acreage retained in Natural Forest Communities.

Objective Achievement Analysis.
Pine forests and hammocks were once extensive along elevated ground on Miami-Dade's coastal ridge. The pine forests or 'pine rockland' ecosystems ran parallel to the Atlantic coastline and were interspersed with low wet glades that drained fresh water to Biscayne Bay.[19] About 65 linear miles of slash pine or "Dade County pine" covered about 185,000 acres in this area. This unique upland ecosystem provides critical habitat to endangered plants and animals, six of these species are federally listed and 50 are listed by the state. Twenty percent of the 225 native plant species found in the County's remaining pine rockland areas are found nowhere else on earth.[20]

The County's pine rockland areas are critically endangered. Today only about two percent (4,000 acres) of these ecosystems remain; the largest contiguous stands are within the boundaries of the Everglades National Park. Stands outside of the park include 400 acres in the Richmond Pineland tract that encompasses Metrozoo, 400 acres in the Navy Wells Pineland Preserve south of Homestead, and 120 acres in the Nixon Smiley Pineland Preserve east of Kendall Tamiami Airport.[21] Dade County pine is extremely strong and durable wood and was lumbered extensively; it is the prevalent building material for many of the historic structures in the Florida Keys and the remaining wood frame buildings in MDC. Pinelands were also cleared for agriculture and urban development because they were located in the least flood prone areas of the County.[22]

Tropical hardwood hammocks are also rare upland ecosystems, most hammocks in the County have been lost to development. Tropical hardwood hammocks are characterized by vines, shrubs, and broad-leaved evergreen trees such as gumbo limbo, wild tamarind, live oak, and poison wood. Hammocks are areas of dense vegetation that retain moisture but generally are above flood elevations and do not burn. (Pine rockland areas that are not maintained through prescribed burning can convert to hammocks.)

County policies and programs that strive to preserve remaining pinelands and hammocks are described in the following paragraphs and are assessed to determine achievement of this objective.

The County Code offers protection for pine rocklands that are within "Natural Forest Communities". In 1984, Department of Environmental Resources Management (DERM) specialists inventoried the County and designated environmentally sensitive

[19] MDC DERM web publication. Pine Rocklands Born From Fire. Accessed December 30, 2009.
http://www.miamidade.gov/derm/library/land/pine_rocklands_EN.pdf

[20] MDC DERM Pine Rockland webpage.
http://www.miamidade.gov/derm/pine_rocklands.asp. Accessed December 30, 2009.

[21] See #17

[22] See #17.

areas for protection.[23] These designated Natural Forest Communities (NFCs), and other tree resources, are protected as described by Chapter 24-60 of the County Code. Fifty-five Environmentally Endangered Land preserves (described in more detail in the following paragraph) are designated NFCs and total NFC acreage within EEL preserves is approximately 1,900 acres.

The County's Environmentally Endangered Lands program (EEL) continues to protect sensitive upland areas through land acquisition and management. The EEL program was established in 1990 when voters approved a referendum for a two-year property tax increase to, "acquire, protect, and manage environmentally endangered lands for this and future generations." Ninety million dollars were raised during that two-year period for acquisition and management trust funds. The interest from those funds continues to support the EEL program today.

The 2003 EAR reported that from 1995-2002, the EEL program purchased 248 acres of pinelands and 142 acres of hammocks at a cost of $16.35 million. During that period $4.2 million was used to manage natural lands. Table 2.4-6, below, describes the types of habitat acquired through the EEL program and the costs of acquisitions that have occurred from 2003-2009 (costs are rounded to nearest $100). Altogether, the EEL program now includes 75 preserves encompassing over 24,000 acres. Each preserve has an annual stewardship plan and budget. During the 2003-2009 period, the EEL program managed these 75 areas for an average cost of $2.48 million per year. Figure 2.4-5 depicts existing EEL lands.

Table 2.4-6
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

Source: Department of Environmental Resources Management, 2010.

The County also works to preserve upland habitat through establishing legal covenants with private landowners. Since the 1980s DERM has administered the voluntary Environmentally Endangered Lands covenant program. (Conservation Element EAR, 1988, page 117) Private land owners who believe there are significant natural resources on their property may request a land survey or inventory by County staff. When significant resources, such as pinelands or land designated as Natural Forest Communities, are found, a management plan is presented by the County to the landowner. The landowner may then enter into a covenant (a binding legal agreement) that restricts development of the property for a period of 10 years and requires the owner to implement the natural area management plan that County staff has developed for their property. In return, the property owner receives tax benefits for their cooperation.

In 1988, 35 covenants were in existence and encompassed approximately 200 acres. (These covenants are only active for ten years. If the owner desires to terminate the covenant early, he/she must pay back taxes.) During the period 1994-2003, 26 covenants were renewed and 16 new covenants were established. Through the 2003-2009 period, the program has recorded a total of 78 covenants that temporarily protect 234.6 acres of natural area.

In total, the County has increased the acreage of hammocks and pinelands retained in public ownership or acquired by public land acquisition programs, therefore, the County has achieved Objective 8. As stated above, this monitoring measure should be expanded to also capture the loss of significant upland habitat.

Recommended Objective Modifications. Endangered pine rockland habitats, discussed above, are fire-dependent. The existence of many of the endemic plant and animal species the County is striv-

[23] (Miami-Dade County CDMP Proposed Conservation, Aquifer Recharge and Drainage Element, April 1988, p. 113)

ing to protect is tied to the need to administer controlled burns within preserved land areas. Community education and support for prescribed burning is necessary in areas where pine rocklands are in close proximity to residential neighborhoods. Sometimes the public is not aware of the critical need to periodically burn these habitats in order to preserve them. The wording of the objective should be modified to clarify the term "maintained" with regard to Natural Forest Communities (NFC's); this term should be followed by the phrase, "through exotic plant control and in pine rocklands, prescribed burning". This recommendation also applies to Policy CON-8A, -8E, -8G and was also urged in the 2003 EAR.

All existing monitoring measures should be retained. However, existing monitoring measures do not establish targets related to the protection of upland forests. In the 2003 EAR, achievement of this objective was reached simply through the reporting of the continuance of these programs.

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-8D, -8G and –8H: Destruction and disturbance of hammock and pineland understory is also critically important to the preservation of these rare and endangered habitats and the plant and animal species dependent upon them. The term "canopy" should be followed by the phrase "and understory".

CON-8G: See recommendation for CON-8D and wording suggestions for Objective 8.

CON-8I. This exotic pest plant list must be updated, a reference to the Exotic Pest Plant Council (EPPC) list should be added and should include Category 1 species and/or Category 2 species. These lists should be deleted once the County records them in the Code; the CDMP text would reference the adopted list in the Code. The text of this policy should include an acknowledgment that exotic species lists are updated from time to time.

CON-8J: This policy should be broadened to include protection of listed animal species.

CON-8M. This policy should include a timetable for completion if it is to be a meaningful goal.

CON-8N. This language should be updated to indicate that the County already implements such a program and that the program could be expanded.

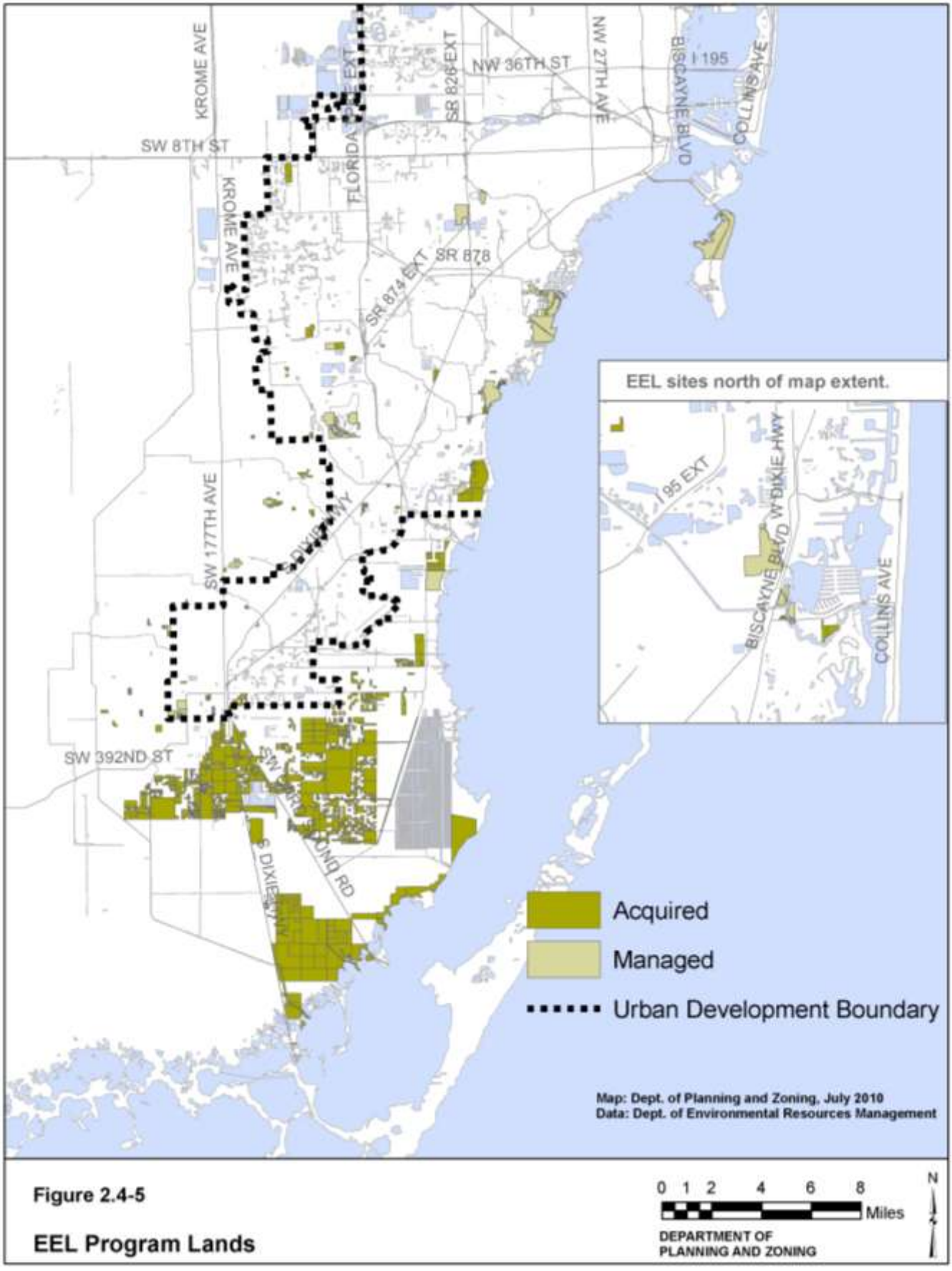


Figure 2.4-5

EEL Program Lands

Objective CON-9
Freshwater fish and wildlife shall be conserved and used in an environmentally sound manner and the net amount of habitat critical to federal, state or County designated endangered, threatened, or rare species or species of special concern shall be preserved.

CDMP Monitoring Measure. This objective will be measured by the net changes in the number of listed plant and animal species and the net changes in numbers of species in individual categories.

Objective Achievement Analysis.
The existing monitoring measure for this objective is the net change in the number of threatened and endangered species that have been listed by the Florida Fish and Wildlife Conservation Commission (FFWCC) for animals and the Institute of Regional Conservation & Fairchild Tropical Garden Herbarium data for plants.[24] As stated above, this monitoring measure will be replaced during the County's EAR based amendments. Due to the errors in the County's currently adopted Endangered and Threatened species lists, it is not possible to determine whether the County has achieved this objective at this time. The state and federal threatened and endangered species lists in the CDMP will be updated regularly from this point forward and more careful attention will be paid to ensuring that the lists reflect only those state and federally listed species that pertain to Miami-Dade County. Updates and corrections needed at this time are explained in detail below.

After a detailed review of the existing CDMP threatened and endangered species lists for flora and fauna ("CDMP lists"), County staff discovered that the CDMP lists need extensive revisions. It appears that the CDMP lists were never carefully tailored to reflect only those species that have been documented as present in Miami-Dade County; as a result, some species have been added to the CDMP lists that do not occur in Miami-Dade County. Some species were erroneously removed by County staff from the CDMP lists during the 2003 EAR based amendments. Multiple listed species, particularly plants, have been erroneously left off the CDMP flora list.

According to County research, only sixteen of the species currently recorded on the CDMP species list for flora (plants) actually occur in Miami-Dade County. The list had not been culled for those plant species that occur in other parts of Florida but that have not been documented as historically present in this county. The proposed new CDMP list for flora includes over 220 species of plants with accurate state and federal designations. It appears that only one new plant species has been designated as a candidate species for federal listing since 2003. Due to the significant number of state listed plant species that have been mistakenly excluded from the CDMP list, it is not possible at this time to determine which state plant species have been added or deleted since 2003.

Some animal species need to be added to the CDMP fauna list because these species have recently been listed by state or federal agencies or because they were mistakenly excluded or removed from the CDMP list in the past. Removal of numerous species is also necessary because they have never been documented in this County. Various spelling corrections are also needed.

The County will prepare a comprehensive list of changes required to update the CDMP T&E species list. The common names for species with changed federal status are listed in bullets below.

Federal Listed Status Change for Species in Miami-Dade County 2003-2009:

- Endangered: Smalltooth Sawfish
- Threatened: Elkhorn coral and Staghorn coral
- Candidate: Florida Bristle fern, Florida bonneted bat, and Red knot bird
- Removed from federal list: Bald eagle

Corals were added for the first time to the list of threatened federal species in 2007. The NOAA-NMFS explains that these branching corals, "were once the most abundant and most important species on Caribbean coral reefs in terms of accretion

[24] The federal agencies that share the authority to manage the federal list for Florida are the National Oceanic and Atmospheric Administration- National Marine Fisheries Service (NOAA-NMFS) and the United States Fish and Wildlife Service (USFWS).

of reef structure."[25] These species' populations have declined starkly since the 1980s due to disease and bleaching related to water temperature, quality, and the clarity of water, predation, hurricane damage and other factors. [26]

"Critical habitat" was also designated for staghorn coral (Acropora cervicornis) and elkhorn coral (Acropora palmate) in Florida in November 2008, as required by the Endangered Species Act. Designated critical habitat for these coral species includes 1,383 square miles of submerged land off the coast of southern Florida (in addition to other areas).
The NOAA-NMFS explains that critical habitat designation does not result in a refuge for endangered or threatened species. The designation requires that federal agencies must ensure that proposed publicly funded projects in these areas do not further jeopardize listed species. However, there is no protection under this designation for any other activities taking place on private and public land with critical habitat designations. Decision-making regarding the protection or destruction of these critical habitat areas lies with local governments.
The 2003 EAR reported that "critical habitat" was designated in Miami-Dade County for four endangered species, the American crocodile, Cape Sable seaside sparrow, the Everglades snail kite, and the West Indian Manatee. However, areas of the County that are encompassed by these critical habitats are not necessarily protected from destruction.
The Florida Fish and Wildlife Commission (FWC) has the authority and duty to manage wildlife in the state but has explained, ". . .local governments and other agencies also play a substantial role in wildlife conservation and management by providing protected, managed areas."[27] Biologists emphasize the importance of identifying and preserving habitats needed by rare species. For example, pine rocklands are utilized by the (state listed) endangered Miami Blue butterfly and freshwater marsh is utilized by the (state and federally listed) endangered Everglades snail kite. Some of the FWC's suggested guidelines for local governments are summarized below. County policies and initiatives related to these FWC guidelines are discussed subsequently.

- Conserve large blocks of contiguous land based on wildlife and habitat needs through conservation overlays, fee simple purchase, or transfer of development rights type programs.
- Provide a funding source for the management and maintenance of land in public holdings.
- Incorporate incentive-based opportunities and tax-breaks for private land conservation.
- Consider natural resource management during development approval and comprehensive plan amendments.
- Incorporate wildlife agency materials in the comprehensive plan.

The policies associated with Objective CON-9 focus on habitat preservation and conservation planning but Miami-Dade County does not appear to have comprehensive programs in place to preserve habitat to protect threatened and endangered species. Existing programs that support important habitat are listed below and could be better publicized, funded, and monitored. New programs could be initiated to implement existing policies in this section and new policies could be incorporated into the CDMP to reflect advancements in research in conservation design for all scales of development.

Existing County programs:

- The County's Environmental Endangered Lands (EEL) program does protect habitat that supports rare species through land acquisition and management. Policies in the CDMP support additional long-term funding for land management for this program.
- The County also has an Environmentally Endangered Lands covenant program that was discussed in the analysis related to Objective 8. However, this program is limited.
- The University of Florida/ Miami-Dade Extension is a jointly funded research and education center that supports conservation planning initiatives such as education for agriculturalists regarding best management practices for the use of pesticides, herbicides, and fertilizers, to minimize pollution in runoff.

[25] National Archives and Records Administration, Federal Register.
[26] NOAA Fisheries, Office of Protected Resources. Accessed on the web March 1, 2010: http://www.nmfs.noaa.gov/pr/species/invertebrates/elkhorncoral.htm.
[27] Florida Fish and Wildlife Conservation Commission, United State Fish and Wildlife Service, Florida Natural Areas Inventory. Florida Wildlife Conservation Guide. Tallahassee; Version July 2009 (annual update). Slide 90.

In conclusion, to protect habitat needed for threatened and endangered species, as described by Objective CON-9, the County should support and expand existing land acquisition and management programs. To pursue Objective CON-9, the County should also protect habitat during development evaluation and permitting processes (Policy CON-9E and CON-9F) through the Development Impact Committee, the Development of Regional Impact process, and the Shoreline Development Review Committee. Recommendations are made regarding the potential impacts of proposed development on the habitats used by threatened and endangered species but the County does not track how these recommendations are incorporated into legislative actions and approvals. Improved monitoring and accountability in this area would assist the County to achieve Objective CON-9.

Additional resources are now available to better support the County's existing policies related to habitat preservation and conservation planning. These resources provide technical assistance that would allow the County to plan for wildlife corridors linking parks, agricultural land, and rural neighborhoods together providing economic, environmental, and transportation benefits. Florida-specific resources are also available to assist with building programs to plan 'wildlife-friendly' communities that utilize Florida friendly landscapes and incorporate existing natural resource features into open space within new developments, minimizing the cost of creating artificial design features and landscapes that require heavy watering and chemical maintenance. Resources are available that could assist the County to expand "mitigation-based incentive programs"; these programs or initiatives assist private land owners to receive assistance including funding, education, and other benefits in exchange for preserving portions of their lands or for engaging in best management practices that have ecological benefits. Resources include:

- The Florida Wildlife Conservation Guide, http://www.myfwc.com/CONSERVATION/FWCG.htm. (Created by the Florida Fish and Wildlife Commission in partnership with public and private partners).
- The Florida Wildlife Habitat Planning manual and website, "Wildlife habitat Planning Strategies, Design Features and Best Management Practives for Florida Communities and Landowners", www.floridahabitat.org. (Created by 1,000 Friends of Florida, the Florida Wildlife Federation and the Florida Fish and Wildlife Commission).

Progress on County protection initiatives for various threatened and endangered species was discussed in the 2003 EAR. Updates on activities related to marine species can be found in the Coastal Management Element analysis for Objective CM-4. Information on other selected listed species can be found below.

The second monitoring measure for Objective CON-9 is population estimates or net changes in population change for individual species. The Florida Fish and Wildlife Conservation Commission (FWC) estimates that the total Florida panther population is about 90 -100 individuals in 2010.[28] The FWC's Fish and Wildlife Research Institute's annual 'synoptic aerial survey' of manatees records the following population estimates: about 3,000 individuals in 2003, about 2,800 individuals in 2007, and about 5,000 individuals in 2010. Recent extended cold temperatures have resulted in manatee deaths estimated at about 77 individuals, although 100 deaths have occurred already in 2010 surpassing 2009 numbers (56 individuals died due to cold).[29]

The Everglades National Park reported that the Cape Sable seaside sparrow population increased slightly between 2006 and 2007 to 3,184 individuals. However, 6,600 were estimated between 1981-1992.[30] Endangered wood stork populations were reported at 6,600- 7,700 pairs in 2002 (down from 10,000 pairs in the 1980s). However in late 2009, Everglades National Park biologists reportedly observed 77,000 nests in the Everglades and other wetland areas; this was the best of three strong nesting seasons since 2002. Wood stork chick

[28] FWC "Florida Panthernet". Accessed at www.floridapanthernet.org/index.php/pulse/.

[29] FWC "FWC records unprecedented number of cold-related manatee deaths". News release January 26, 2010. Carli Segelson. Accessed at http://myfwc.com/NEWSROOM/10/statewide/News_10_X_ManateeCold1.htm.

[30] National Park Service, United States Department of the Interior. "Status of Cape Sable Seaside Sparrow 2007 Survey Report". Accessed on http://www.nps.gov/ever/parknews/status-of-cape-sable-seaside-sparrow-2007-survey-report.htm.

numbers have increased this decade from 1-2 to 3-4 chicks. Wood stork nesting activity reportedly increased over 1,700 percent from 2008.[31]

Recommended Objective Modifications.
The first sentence of the objective statement should be changed from "..used in and environmentally sound manner…", to "…managed in an environmentally sustainable manner…". The objective should also be revised to mention plants. The reader should be reminded that coastal habitats and species are addressed in the Coastal Management Element. Substitute the term "freshwater habitats" and/or "freshwater flora and fauna" for "freshwater fish and wildlife" to appropriately broaden the reference. This would further clarify that the term "freshwater" in the title relates to all freshwater habitats and conditions.

The monitoring measure that relates to the number of listed threatened and endangered species is inappropriate and should be changed. State and federal species listing processes are independent from Miami-Dade County and do not necessarily reflect the County's initiatives to support or protect these species. A new monitoring measure will focus on habitat protection through land acquisition and voluntary incentive-based conservation programs for habitats within private land (such as the County's existing Environmentally Endangered Lands covenant program) or potential future programs such as a Transfer of Development Rights conservation program.

In increasingly urbanized areas such as Miami-Dade County, the preservation and restoration of the habitats that support state and federally listed upland threatened and endangered plant and animal species is an important factor related to the survival of these species. An assessment of habitat lost versus habitat protected would be more appropriate for this objective. A second metric could monitor the progress and populations of selected species such as the Florida panther, and in the Coastal Management Element, certain listed marine species. County staff will also review 'county designated threatened and endangered species' as mentioned in the CDMP and may suggest listing additional species.

Policy Relevance. All the policies under this objective were reviewed for continued relevance and effectiveness. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

CON-9A: This policy should be modified and retained. Replace the reference to critical habitat with the phrase significant habitat. The term critical habitat has specific definitions in United States Fish and Wildlife Service (USFWS) species recovery plans. The policy should remain broad as initially intended to include all habitats identified bby the County as well as the state or federal government as significant in the support of endangered and threatened flora and fauna. Appendix B must be updated regularly, at least yearly, to ensure that changes to state and federal lists are recorded by the County. As mentioned above, the list is currently out of date and includes several errors and omissions; it will be updated according to County staff specifications as part of the 2010 EAR based amendments.

CON-9B: This policy should be modified and retained. The phrase 'where necessary' should be removed to improve the document's internal consistency and to strengthen the policy.

CON-9D: This policy should be revised; the multi-agency habitat mapping described was not accomplished by 2005.

CON-9E: This policy should be revised to clarify and strengthen the phrase, "taken into consideration".

[31] "Wading birds' rebound is boon for Everglades", December 11, 2009. Miami Herald. Curtis Morgan.

2.5 WATER, SEWER AND SOLID WASTE ELEMENT

2.5.1 Water and Sewer Subelement

The Water and Sewer Subelement was recommended during the 1995 Evaluation and Appraisal Report (EAR) on the County's Comprehensive Development Master Plan (CDMP) and subsequently established through the November 1998 EAR-based amendments. The baseline data for many of the monitoring measures in this Subelement was established in the 2003 EAR. Performance against objectives or standards will be evaluated from 2003 through 2009 (last 7 years) and changing circumstances, legislation, and technologies will be discussed. Any deviation from the stated objectives will be addressed.

The Executive Summary of the Miami-Dade County Water and Sewer Department (WASD) Business Plan for 2008-2010 provides basic information on the extent of the County utility's services. The Plan states, "The Department is one of the largest public utilities in the United States; and currently serves approximately 418,258 retail water customers and 336,290 retail wastewater customers." The Plan notes that WASD service includes water and sewer service for the unincorporated areas of the County, wholesale water service for 13 municipalities, and wholesale wastewater service for 11 of Miami-Dade County's 35 municipalities. Altogether, the WASD provides services to roughly 2.23 million residents.[1]

Additional information is provided in bullet form below:

- The Department operates three regional water treatment plants, and five smaller plants in the southern part of the County for a permitted water treatment capacity of 452 million gallons per day (MGD).
- Water is drawn from the Biscayne Aquifer through 100 wells located in 15 separate wellfields (depicted on Figure 2.5.1-5) with a permitted allocation of 152,741 Million Gallons (418.47 MGD) through 2027.
- The Department operates three regional wastewater treatment plants (WWTP), the North, Central, and South District WWTP, with a permitted treatment capacity of 368 MGD.
- The wastewater collection system consists of 1,035 wastewater pump stations and 6,169 miles of wastewater collection pipes.

Objective WS-1
In order to serve those areas where growth is encouraged and to discourage urban sprawl, the County shall plan and provide for potable water supply, and sanitary sewage disposal on a countywide basis in concert and in conformance with the future land use element of the comprehensive plan.

CDMP Monitoring Measure. Recommended measurement for potable water and sanitary service: geographic area outside of the Urban Development Boundary (UDB) served by water and sewer each year. Alternative measure for potable water: miles of water mains greater than 6 inches in diameter which exist outside of the UDB. Alternative measure for sanitary sewer: miles of sewer force mains which exist outside of the UDB. Source of alternative measure: Miami-Dade Water and Sewer Department Water and Sewer Atlases. It should be noted that the alternative measurements will overestimate system development outside of the UDB, as they will count water and sewer mains located outside the UDB, but not used for local service. The use of the alternative measurements will have to correct for this bias.

Objective Achievement Analysis. Miami-Dade County has achieved Objective 1 by adhering to adopted policies such as WS-1A and WS-1H that strive to discourage urban sprawl and promote efficient provision of water and sewer services. These policies focus investments in public water and sewer service to areas within the Urban Development Boundary and restrict service expansions that could exacerbate sprawl development patterns. The County reviews applications for connections to existing water and sewer lines outside of the Urban Development Boundary to ensure that new connections are reserved for public or institutional type uses, or to address environmental problems, and will not encourage new urban development in areas

[1] Miami-Dade Water and Sewer Department Business Plan, Fiscal Year: 2008-09 & 2009-10, Executive Summary, Page 15-16. Published in November 2008.

reserved for non-urban uses such as agriculture, water resources management, or environmental preservation.

Although the County's water service area and sewer collection area are not identical, they do not extend beyond the current adopted Urban Development Boundary, as shown in Figure 2.5.1-1 WASD Water Service Areas and Figure 2.5.1-2 WASD Sanitary Sewer Collection Areas. Those few sites that do connect to public water or sewer outside of the Urban Development Boundary have been reviewed for consistency with relevant CDMP policies.

Water service and sewer connection maps provided in the 2003 EAR reported that thirteen sites were connected to public water lines outside of the UDB and seven sites were connected to the public sewer system. These sites included public correctional facilities such as the Krome Detention Center, the State of Florida Correctional Center, the Homestead Housing Authority Labor Camp, and the Everglades Labor Camp. Other County or federal facilities connected to water or sewer outside the UDB in the 2003 map include the Black Point Marina, Biscayne National Park, the West and Northwest Wellfields, and the South District Waste Water Treatment Plant and Landfill. The water connections depicted in the 2003 Water Service Area map as Facility number six and seven ("Unknown Facility") and in 2010 maps as "Commercial Business" appear to represent water lines that were extended past the UDB to enhance flow. For water lines outside the UDB, there are notations made in the Water and Sewer Atlases that no additional connections are allowed to those mains.

The Water and Sewer Department has reported no new connections to the public sewer system outside the UDB since 2003. Three new connections were made to public water supply lines since 2003 and are shown on Figure 2.5.1-2 WASD: Trail Glades Park, an existing gas station, and the South Florida Evaluation and Treatment Center. Each of these new connections was reviewed and was found consistent with the goals, objectives, and policies of the CDMP. The Trail Glades Range Park is a County Metropolitan Park that provides recreational opportunities on a regional scale; the sewer connection to this Park was designed to minimize wetland disturbance and utilize a main that already serves the nearby Miccosukee Gaming facility. The South Florida Evaluation and Treatment Center is a state-owned mental health facility that provides services to the adjacent Dade Correctional Institute, a state detention facility. Approval of water and sewer infrastructure to serve the Dade Correctional Institute was based on the nature and size of the facility, and the policy of the County to eliminate large on-site treatment facilities when possible. The County Environmental Quality Control Board determined that due to environmental risks, the gas station indicated on Figure 2.5.1-2 must be connected to public water lines.

The 2009 WASD Water Service Areas map (Figure 2.5.1-1) indicates that the WASD provides water directly to many Miami-Dade County residents (retail) and sells water "wholesale" to thirteen city-owned utilities that maintain their own water distribution infrastructure. Figure 2.5.1-1 also indicates that there are four other water supply utilities that have separate water treatment plants and serve some areas of Miami-Dade County; these utilities include Florida City, Homestead, North Miami Beach, and North Miami. North Miami also buys some of the water provided within its service area from WASD. With respect to sewage treatment, the County's regional treatment plants treat almost all centrally collected wastewater. The City of Homestead is the only other owner of a sewage treatment facility.

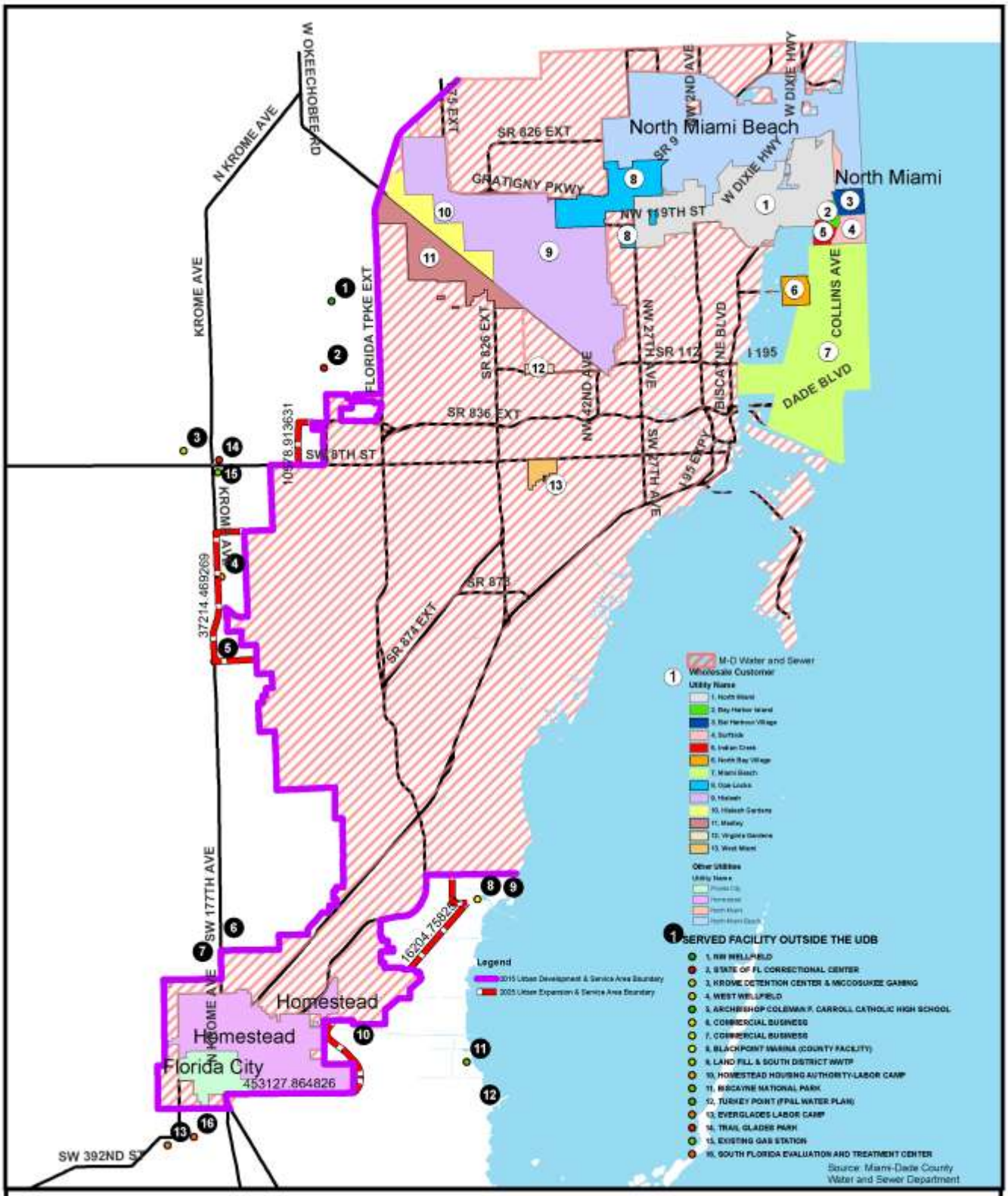
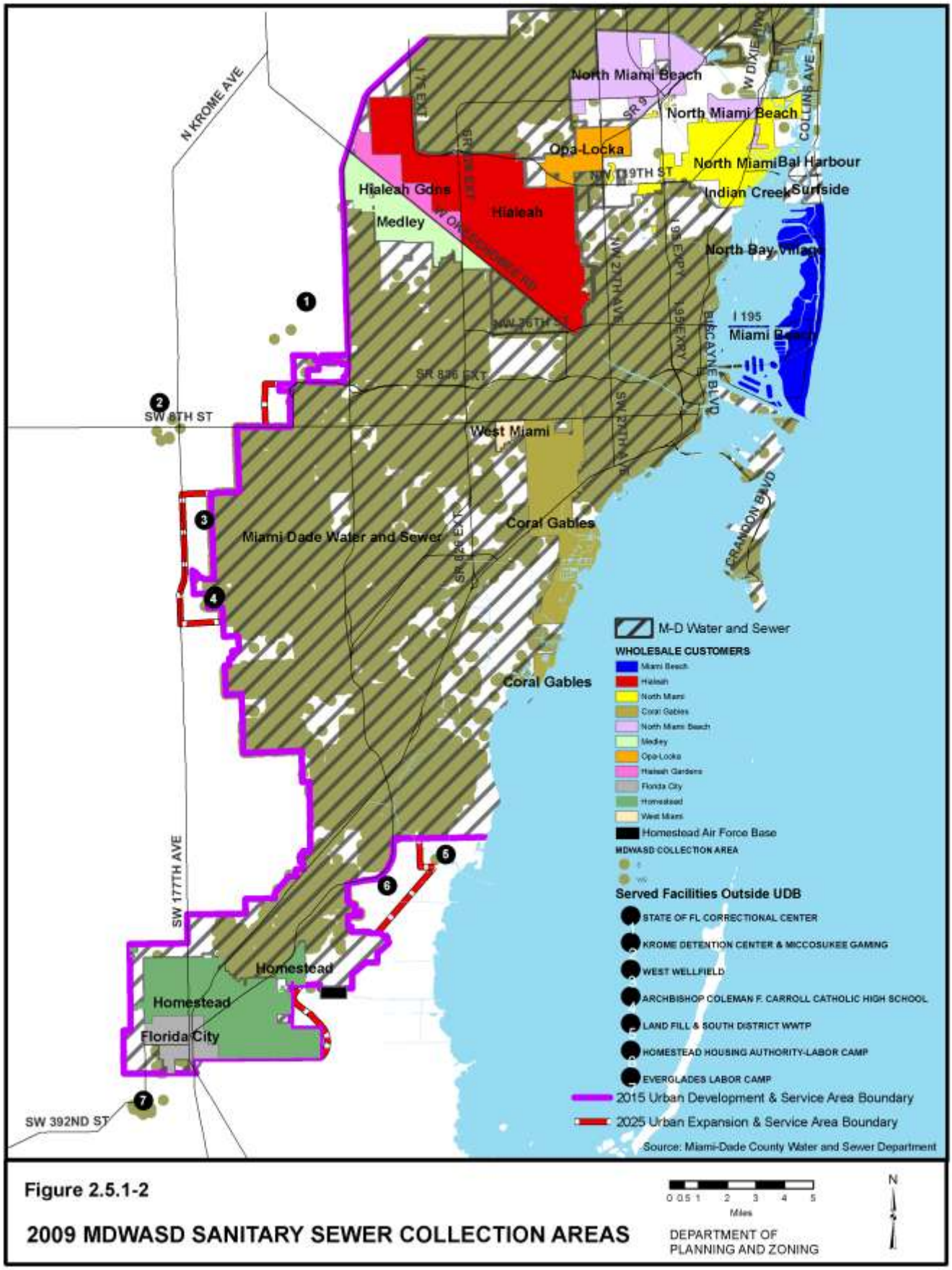


Figure 2.5.1-1

2009 WASD WATER SERVICE AREAS


North Miami Beach
North Miami Beach
Opa-Locka
North Miami
Bal Harbour
Hialeah Gdns
Indian Creek
Surfside
Hialeah
Medley
North Bay Village
I 195
Miami Beach
SW 8TH ST
West Miami
Miami Dade Water and Sewer
Coral Gables
Coral Gables
SW 177TH AVE
Homestead
Homestead
Florida City
SW 392ND ST
M-D Water and Sewer
WHOLESALE CUSTOMERS
Miami Beach
Hialeah
North Miami
Coral Gables
North Miami Beach
Medley
Opa-Locka
Hialeah Gardens
Florida City
Homestead
West Miami
Homestead Air Force Base
MDWASD COLLECTION AREA
Served Facilities Outside UDB
STATE OF FL CORRECTIONAL CENTER
KROME DETENTION CENTER & MICCOSUKEE GAMING
WEST WELLFIELD
ARCHBISHOP COLEMAN F. CARROLL CATHOLIC HIGH SCHOOL
LAND FILL & SOUTH DISTRICT WWTP
HOMESTEAD HOUSING AUTHORITY-LABOR CAMP
EVERGLADES LABOR CAMP
2015 Urban Development & Service Area Boundary
2025 Urban Expansion & Service Area Boundary
Source: Miami-Dade County Water and Sewer Department
Figure 2.5.1-2
2009 MDWASD SANITARY SEWER COLLECTION AREAS
0 0.5 1 2 3 4 5
Miles
DEPARTMENT OF
PLANNING AND ZONING
N

Policy Relevance. All of the policies under this objective are directive in nature and continue to be relevant. No changes are recommended at this time.

Objective WS-2
The County will maintain procedures to ensure that any facility deficiencies are corrected and that adequate facility capacity will be available to meet future needs.

CDMP Monitoring Measure. The achievement of the Level of Service (LOS) standards is their own monitoring measures. For the entire objective, the following measures are recommended: treatment plant capacity for the system (water and sewer); reserve capacity of raw and treated water (water); amount of areas of inadequate fire flow (water). Treatment plant capacity is monitored and published by WASD regularly, and does not require an alternative. Other alternative measures include: percent water unaccounted for; ratio of peak demand to average demand treatment capacity for individual treatment plants.

Objective Achievement Analysis. Level of Service Standards (LOS) for potable water and sanitary sewer measure WASD's efforts to ensure that there is sufficient water and sewer facility capacity and that system deficiencies are addressed within Miami-Dade County.

The first component of the LOS standards for potable water requires that the regional water supply treatment system operate with a capacity no less than 2 percent above the maximum daily flow for the preceding year, and with an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. Table 2.5.1-1 illustrates that the County has achieved this aspect of Objective WS-2.

Table 2.5.1-1
Miami-Dade WASD Water System
Historical Capacity and Level of Service 2003-2009

Year	Plant Rated Capacity (MGD)	102 Pct. of Max. Day Demand (MGD) for the Preceding Year Raw Water	102 Pct. of Average Day Demand (MGD) for the Preceding 5 Years Raw Water
2003	451.77	399.13	344.55
2004	451.77	376.48	344.77
2005	451.77	396.17	345.75
2006	451.77	395.45	345.94
2007	452.01	389.33	351.45
2008	452.01	364.96	348.50
2009	452.01	339.46	342.07

Source: Miami-Dade Water and Sewer Department, 2009
MGD = Million Gallons per Day

The WASD has also developed projections estimating demand and capacity for years to come. This data is provided in Table 2.5.1-2 below.

Table 2.5.1-2
MDWASD Water System Capacity and Demand Comparison

Year	Rated Capacity (MGD)	Finished Water Demand (MGD)
2010	473	327.37
2015	483	342.37
2020	488	357.25

Source: Miami-Dade Water and Sewer Department, 2009
MGD = Million Gallons per Day

The second component of the LOS standards for potable water requires that water be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. WASD is in the process of conducting a system-wide pressure analysis to identify areas that require improvement. Once identified, recommendations for system betterment projects will be finalized and incorporated into capital improvements budgets. Pressure analysis is one component of the update to the WASD Master Plan for Potable Water Service, which is currently in progress and will assist the County to meet this aspect of Objective WS-2.

The third component of LOS standards for potable water requires that the County's public water supply meet all federal, state, and County standards. WASD water managers test raw and finished water more than 100,000 times annually both before and after treatment at water treatment plants. On its

website[2], WASD publishes an annual Water Quality Report that provides public information on water treatment and the 46 parameters (contaminants) that are monitored through regular testing by WASD employees. For 2003-2009, WASD reports that no parameters exceeded state or federal standards for drinking water. Depending on the water treatment plant, WASD uses treatment systems including disinfection, filtration, fluoridation, and air stripping towers (for the removal of volatile organic compounds) to maintain high quality water for Miami-Dade County customers.

The final water LOS standard requires that Countywide storage capacity for finished (or treated) water shall equal no less than 15 percent of the Countywide average daily demand. This standard helps to ensure that the County has sufficient water during daily peak demand hours, during prolonged fire events, and during source or pump failures. The Countywide projected annual average daily demand for 2010 is approximately 329 million gallons per day. Fifteen percent of 329 MGD would be 49.5 MG and the system-wide storage capacity, as shown in Table 2.5.1-3, is 116.6 million gallons. The County has achieved and surpassed this Level of Service monitoring measure.

Table 2.5.1-3
Miami-Dade Total Finished Water Storage Capacity for 2009

Water Storage Facility Location/Name	Capacity (MG)
Hialeah-Preston Water Treatment Plant ground storage tank and elevated storage tanks	56 (combined)
Alexander Orr, Jr. subarea ground storage tank and plant clear well	59 (ground storage tank) 1.6 (plant clear well)
South Dade subarea	N/A**
Total Countywide Storage Capacity for Finished Water for 2009	116.6 million gallons (MG)

** The WASD has plans for the construction and operation of the South Miami Heights Water Treatment Plant in the South Dade Subarea; a 5 MG reservoir is being planned for on-site plant finished water storage.

Additional monitoring measures related to Objective 2 for water include water treatment plant capacity for the system and reserve capacity of raw water. "Plant rated capacity (MGD)" figures can be reviewed in the first column of Table 2.5.1-1 for 2003-2009. Reserve capacity of raw water is reported within the analysis provided for Objective 6 in conjunction with a discussion of the County's efforts to utilize Aquifer Storage and Recovery systems.

The first component of the LOS standards for sanitary sewer requires that regional wastewater treatment plants operate with a physical capacity of no less than the annual average daily sewage flow. Table 2.5.1-4, MDWASD Regional Wastewater System Historical Wastewater Capacity and Flow, demonstrates that the County has surpassed baseline requirements for this measure every year since 2003 and has additional treatment capacity within its sewage treatment system. Table 2.5.1-5 indicates that the WASD projects that the County's regional wastewater treatment system will have excess treatment capacity through 2020.

Table 2.5.1-4
MDWASD Regional Wastewater System
Historical Wastewater Capacity and Flow 2003-2009

Year	Treatment Capacity (MGD)	Average Daily Flow (MGD)	102 Percent of Previous 5 Year's Average Daily Flow (MGD)
2003	352.5	291.36	313.09
2004	368	264.6	309.54
2005	368	295.7	298.69
2006	368	289.41	295.29
2007	368	307.19	292.64
2008	368	297.24	295.44
2009	375.5	279.36	296.65

Source: Miami-Dade Water and Sewer Department, 2009
MGD = Million Gallons per Day

[2] Miami-Dade County Water and Sewer Department, Water Quality Reports, http://www.miamidade.gov/wasd/report_water_quality.asp.

Table 2.5.1-5
MDWASD Regional Wastewater System
Capacity and Wastewater Flow 2010 - 2020

Year	Population Projections	Treatment Capacity (MGD)	Wastewater Flow(MGD)
2010	2,288,423	375.5	320
2015	2,466,836	375.5	343
2020	2,614,650	375.5	358

Source: Miami-Dade Water and Sewer Department, 2009
MGD = Million Gallons per Day

The second LOS standard for sanitary sewer requires that wastewater treatment plant discharge meet all federal, State, and County standards. As noted above, WASD operates three regional wastewater treatment plants (WWTP), the North, Central, and South District WWTPs with a permitted treatment capacity of 368 MGD.[3] The WWTPs treat the wastewater to secondary treatment standards. Treatment methods vary and include physical treatment such as screening and sedimentation, biological treatment such as activated sludge and trickling filters, and chemical treatment such as chlorination.[4] Once treatment has occurred, the County currently disposes wastewater into the ocean several miles from the coast, or injects it into the ground through a deep injection well system.

The WASD is responsible for responding to changes in state and federal laws that govern wastewater treatment systems. There have been several important changes that have occurred since the end of the last EAR reporting period (2002) that affect how the County must comply with wastewater treatment plant discharge standards. The following paragraphs are adapted from WASD's Departmental Business Plan for Fiscal Years 2008-09 and 2009-10, from the section "Summary of the Department's Regulatory Environment". (The regulatory changes related to water are not addressed in this section).

In 2003, the federal Environmental Protection Agency conducted research and published a risk assessment report on wastewater disposal/management methods utilized in South Florida. The assessment was mandated by the United States Congress after it was documented that wastewater injected into deep wells had migrated into prohibited areas that in some cases are underground sources of drinking water.[5] The study extended from Miami-Dade and Monroe Counties north to include Pinellas and Brevard Counties. The assessment noted that of 93 deep injection well facilities analyzed, 18 experienced unintended migration of wastewater, 3 had confirmed movement of wastewater into underground sources of drinking water (USDW), 6 sites reported probable movement of wastewater to USDW, and 9 sites had wastewater migrate into non-USDW areas. (EPA, 2003, page ES-10). The assessment also contemplated the risks associated with routing treated public wastewater flows to 'aquifer recharge' or land application systems such as infiltration basins, to surface-water bodies such as canals, and discharges to ocean outfalls. Ocean outfalls are discussed in more detail below.

In 2003, the Miami-Dade Board of County Commissioners (Board) approved and entered into a Consent Order (CO) between the Florida Department of Environmental Protection and the County to address wastewater disposal at the South District Wastewater Treatment Plant (SDWWTP). The CO requires upgrades to the SDWWTP wastewater treatment process to meet high level disinfection (HLD) requirements in Chapter 62.600.440(5) Florida Administrative Code (FAC), requires expansion of treatment and disposal capacity, and provides for a funding agreement between the FDEP and the County that is contingent on the completion of a Wastewater Facilities Master Plan.

In 2005, the USEPA published a new Underground Injection Control Program rule involving the requirement of High Level Disinfection Facility construction and injection wells where wastewater migration has occurred. The County is currently work-

[3] WASD Business Plan, FY 2008/2009- 2009/2010.

[4] Miami-Dade County Department of Environmental Resources Management, Wastewater Treatment, accessed online at http://www.miamidade.gov/derm/wastewater_treatment.asp.

[5] United States Environmental Protection Agency, Office of Water, Relative Risk Assessment of Management Options for Treated Wastewater in South Florida, EPA 816-R-03-010, April 2003.

ing with the FDEP and the EPA to comply with these requirements and expects to be in compliance by 2013 through the completion of HLD facilities. The County has also initiated a ground water study at its North District Wastewater Treatment Plant (NDWWTP) to find out whether there is any unintended wastewater movement associated with deep injection systems there. If fluid movement is indicated, a High Level Disinfection system may be required at the NDWWTP.

A 2006 Florida Department of Environmental Protection Reuse Inventory estimates that 299.3 million gallons per day of treated wastewater is piped into the ocean off the east coast from Palm Beach to Key Colony Beach (Monroe County). Miami-Dade discharges approximately 195 million gallons per day to its two ocean outfalls at the NDWWTP and the Central District Wastewater Treatment Plant, CDWWTP (large sewage pipes that transport wastewater from the shore several miles into the Atlantic Ocean).[6] Public opposition to wastewater discharges to the ocean prompted the formation of a legislative committee and in 2008, the Florida Legislature adopted legislation that prohibited any additional wastewater discharge to ocean outfalls.[7]

The 2008 Florida ocean outfall bill requires wastewater treatment and management changes that will reduce the amount of pollutants emitted through ocean outfalls by December 2018, particularly nitrogen and phosphorus (nutrients that can stress marine organisms and ecosystems and cause algal blooms harmful to humans). This reduction may be achieved through increased treatment of wastewater (Advanced Waste Treatment or AWT) or a decreased volume of wastewater discharge. Either strategy should result in an 80-90% reduction in nutrient loading to the ocean. The bill requires that the use of ocean outfalls be eliminated entirely by 2025, and only utilized during rain events that cause elevated flows (of treated wastewater) from reuse systems.

The 2008 ocean outfall bill will also require sixty percent (2003-2007 annual average discharge flow for each facility) of all ocean outfall facility flows to be reused by 2025. For Miami-Dade County, 117 MGD must be reused by 2025 and advanced wastewater treatment facilities must be constructed and operational by 2018. The County is currently constructing a High Level Disinfection (HLD) system at the SDWWTP (this is also required by the South Florida Water Management District's Water Use Permit, discussed later) and will reroute ocean outfall flows at the NDWWTP and CDWWTP to injection wells. Reclaimed water systems are being developed for the SDWWTP as well to further refine water passing from the HLD process; reclaimed water is treated with reverse osmosis, microfiltration and ultraviolet radiation. Water treated through Phase 1 of the County's reclaimed water projects will be piped to the MetroZoo moat and will be used to recharge the Biscayne Aquifer.[8] Phase 2 and 3 of the reclaimed water plan may route water to the County's canal system and wetland areas. The County must submit a detailed plan to satisfy the requirements of this bill by July 2013.

Policy Relevance.

WS-2A, 1a. This policy needs to be modified to update the meaning of maximum daily flow criteria. At this time, DERM and WASD calculate maximum daily flow differently and the methodologies must be reconciled.

WS-2F. This policy will be modified to incorporate a planning period through 2030, since projections are available for that planning horizon at this time.

Objective WS-3
The County will provide an adequate level of service for public facilities to meet both existing and projected needs as identified in this plan through implementation of those projects listed in the Capital Improvements Element. All improvements for replacement, expansion or increase in capacity of facilities shall conform to the adopted policies of this Plan including level of service standards for the facilities.

[6] WASD Business Plan, FY 2008/2009- 2009/2010, page 25.

[7] Florida Department of Environmental Protection, Ocean Outfall Legislation Chapter 2008-232 Laws of Florida Effective July 1, 2008. Linda Brien, Water Facilities Administrator. 2009 Powerpoint Presentation. Accessed online at http://www.sfwmd.gov/portal/page/portal/pg_grp_sfwmd_regionalserv/portlet_broward_wrtf/tab22133478/btf_brien_20609.pdf.

[8] Miami-Dade Water and Sewer Department, Miami-Dade Consolidated PWS Water Use Permit No. 13-00017-W, Compliance Highlights, July 7, 2008. Page 4.

CDMP Monitoring Measure. The measurements recommended are the list of capital projects included in the Capital Improvements Element and completed projects.

Objective Achievement Analysis. Each year, Department of Planning and Zoning staff coordinate with Water and Sewer Department staff to update the list of capital improvement projects that are in progress and planned for the County. This list is included in the CDMP's Capital Improvement Element and as Table 2.5.1-6 and Table 2.5.1-7 in this section. The tables show ongoing system maintenance, upgrades, and efficiency improvement projects. The tables indicate the "purpose" of each line item; the purpose may be "existing deficiency", "future growth", or "combined". Each line item generally represents multiple individual projects. These tables also include projects mandated through the County's Water Use Permit (WUP) from the South Florida Water Management District that was issued in 2007 and expires in 2027. Projects specifically mandated by the WUP are listed below:

- Village of Key Biscayne Reuse Distribution System
- Biscayne Bay Coastal Wetlands Rehydration Pilot
- North District Wastewater Treatment Plant Reuse Project- Plant Pipeline
- South District Wastewater Treatment Plant Reuse Project (Phase 1, 30 MGD)
- West District Water Recharge Project Canal Recharge (Phase 2, 21 MGD)
- South District Wastewater Treatment Plant- Pipeline from South District to Metrozoo Wastewater System- South District Area
- CR-D 72 Inch Reclaimed Water Pipeline- South District Wastewater Treatment Plant to Florida Power and Light's Turkey Point Nuclear Power Plant
- South Miami Heights Water Treatment Plant and Wellfield – 11800 SW 208 Street
- Alternative Water Supply Projects
  i) Aquifer Storage and Recovery Ultraviolet (UV) Disinfection System at the West Wellfield
  ii) Hialeah Floridan Aquifer Reverse Osmosis (RO) Water Treatment Plant Phase 1 (10 MGD)
  iii) Hialeah Floridan Aquifer Reverse Osmosis (RO) Water Treatment Plant Phase 2 (5 MGD)
  iv) Hialeah Floridan Aquifer Reverse Osmosis (RO) Water Treatment Plant Phase 3 (2.5 MGD)
  v) Aquifer Storage and Recovery 20 Year Water Use Permit Regional Impact Projects
  vi) Installation of 36 Inch DI Water Main NW 87 Avenue from NW 154 Street to 186 Street

TABLE 2.5.1-6
Water Facilities Capital Improvement Plan, 2010 – 2015
Expenditures (In Millions of Dollars)

Project Name	Year of Completion	Prior Years	Fiscal Year 2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Six Year Totals	Future Years	Project Totals
South M-D Water Trans. Mains Improv.	2012	0.00	0.00	1.01	5.51	5.29	0.00	0.00	11.81	0.00	11.81
Water T. Plant - Alexander Orr,Jr. Expansion	2014	4.43	10.25	22.29	33.16	5.61	1.20	0.00	72.51	0.00	76.94
Water T.Plant - Hialeah/Preston Improv.	2015	3.86	5.96	21.33	19.23	9.78	15.59	7.44	79.33	0.00	83.19
Wellfield Improvements	2015	3.27	8.93	69.50	34.00	14.35	1.50	0.00	128.28	0.00	131.55
Water Main - Extensions	2014	1.05	0.35	0.35	0.35	0.35	0.53	0.35	2.28	0.14	3.47
Central M-D Water Trans. Mains Improv..	2014	3.99	0.05	0.00	0.00	1.12	2.60	9.10	12.87	6.18	23.04
North M-D Water Trans. Mains Improv.	2012	2.33	8.96	5.34	4.41	1.40	0.26	1.41	21.78	1.33	25.44
W.T.P. Replacement & Renovations	2015	11.81	8.37	8.03	8.56	7.03	4.78	4.78	41.55	4.78	58.14
Water System Maintenance & Upgrades	2015	29.73	19.30	20.14	20.14	17.92	17.92	17.91	113.33	17.92	160.98
Water Distribution System Extension Enhanc.	2015	67.82	22.79	28.76	26.22	11.47	15.75	27.45	132.44	79.94	280.20
Water Equipment & Vehicles	2015	13.39	6.47	7.09	7.09	7.08	7.08	7.08	41.89	7.09	62.37
Water General Maintenance & Office Facilities	2015	7.06	4.87	12.54	12.91	3.02	1.55	4.10	38.99	5.19	51.24
Water System Fire Hydrant Installation	2015	8.20	4.17	2.87	1.58	1.58	1.57	1.57	13.34	1.50	23.04
Water Engineering Studies	2009	5.85	1.41	0.13	0.02	0.00	0.00	0.00	1.56	0.00	7.41
Safe Drink.Water Act Mod.-SWT Rule&D-DBP	2015	6.16	15.49	34.97	86.49	137.97	127.24	46.55	448.71	0.00	454.87
South Miami Heights W.T.P. & Wellfield	2012	19.34	16.57	34.62	23.99	1.00	0.00	0.00	76.18	0.00	95.52
Water Telemetering System Enhancements	2015	3.85	0.60	0.44	0.44	0.43	0.43	0.43	2.77	0.43	7.05
W.T.P. Miscellaneous Upgrades	2011	3.96	4.43	12.79	1.51	1.50	0.25	0.00	20.48	0.00	24.44
Alternative Water Supply											
A. ASR Ultraviolet(UV) Disinfection System for ASR Syst.@W&SW Wellfield	2011	3.38	1.00	3.50	0.00	0.00	0.00	0.00	4.50	0.00	7.88
B. Hialeah Floridan Aquifer Reverse Osmosis (RO) WTP Ph I (10 mgd)	2012	12.94	7.98	27.89	9.42	0.00	0.00	0.00	45.29	0.00	58.23
C. Hialeah Floridan Aquifer Reverse Osmosis (RO) WTP Ph II (5 mgd)	2017	0.00	0.00	0.00	0.00	0.00	1.35	7.38	4.09	12.82	0.00
D. Hialeah Floridan Aquifer Reverse Osmosis (RO) WTP Ph III (2.5 mgd)	2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.10	6.10
E. ASR - 20 Year Water Use Permit	2028	1.20	0.80	0.04	0.00	0.00	0.00	0.00	0.84	0.00	2.04
Regional Impact Projects											
F. Installation of 36 Inch DI Water Main NW 87 Ave from NW 154 St to 186 St	2011	0.52	2.82	2.66	0.00	0.00	0.00	0.00	5.48	0.00	6.00
Automation of Water Treatment Plants	2010	0.35	0.35	0.35	0.00	0.00	0.00	0.00	0.70	0.00	1.05
TOTALS		214.49	151.92	316.64	295.03	228.25	205.63	132.26	1,329.73	130.60	1,674.82

Source: Miami-Dade Water and Sewer Department and Department of Planning and Zoning, 2010.

TABLE 2.5.1-7
Sewer Facilities Capital Improvement Plan, 2010 - 2015
Expenditures (In Millions of Dollars)

Project Name	Year of Completion	Prior Years	Fiscal Year 2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Six Year Totals	Future Years	Project Totals
Central M-D W.W.Tr.Mains & Pump St. Improv.	2013	3.52	6.52	28.65	20.08	28.00	0.00	0.00	83.25	0.00	86.77
Gravity Sewer Renovations	2015	34.49	14.15	15.28	10.94	9.95	2.62	0.40	53.34	1.32	89.15
Sanitary Sewer Improvements	2015	0.90	1.71	2.23	0.71	0.71	0.71	0.70	6.77	0.71	8.38
W.W. General Maintenance & Office Facilities	2015	0.26	7.80	16.88	19.78	9.87	6.30	4.70	65.33	8.02	73.61
W.W. Telemetering System	2015	4.16	3.73	2.72	0.00	0.00	0.00	0.00	6.45	0.00	10.61
Lift Station Upgrades & Struct. Maint. Impr.	2015	4.65	4.22	3.33	4.33	5.88	6.86	6.86	31.48	3.96	40.09
South District W.W.Tr. Mains&Pump St. Improv.	2012	0.00	3.18	4.37	2.10	0.00	0.00	0.00	9.65	0.00	9.65
Wastewater System Maint. & Upgrades	2015	15.54	10.60	16.43	16.43	16.42	16.42	16.42	92.72	16.43	124.69
Pump Station Improvements Program	2015	30.54	11.60	14.25	13.00	8.00	3.00	0.00	49.85	0.00	80.39
Corrosion Control Facilities Improvements	2012	10.97	1.20	2.06	3.07	1.50	1.50	1.50	10.83	1.37	23.17
Wastewater Engineering Studies	2010	6.39	1.66	0.50	0.10	0.00	0.00	0.00	2.26	0.00	8.65
Sanitary Sewer System Extension	2015	22.58	21.26	9.62	8.59	5.47	4.88	8.81	58.63	59.43	140.64
Peak Flow Management Facilities	2016	11.62	15.96	93.27	90.05	155.38	244.53	147.72	746.91	342.03	1100.56
W.W. Equipment & Vehicles	2015	12.88	7.64	8.57	8.58	8.58	8.58	8.57	50.52	8.57	71.97
Central District Upgrades - W.W.T.P.	2015	2.93	12.34	45.08	27.79	3.66	6.37	2.39	97.63	0.00	100.56
North District Upgrades - W.W.T.P.	2013	1.78	3.28	9.15	35.56	42.90	17.15	7.89	115.93	0.00	117.71
South District Upgrades - W.W.T.P.	2015	5.15	6.17	14.90	11.16	2.88	1.28	1.28	37.67	0.00	42.82
W.W. Treatment Repl. & Renovation.	2015	5.57	14.45	4.29	4.29	4.29	4.29	4.29	35.90	4.29	45.76
Pump Station Generators & Misc. Upgrades	2015	0.18	1.42	12.26	6.68	9.68	5.28	5.28	40.60	4.80	45.58
W.W.T.P. Automation Enhancements.	2014	6.45	1.64	2.34	1.27	3.73	1.83	0.00	10.81	0.00	17.26
W.W.T.P. Miscellaneous Upgrades	2015	0.00	0.66	3.96	2.95	0.98	3.10	2.87	14.52	0.00	14.52
North M-D W.W.Tr. Mains & Pump St. Improv.	2010	3.33	1.74	0.59	2.55	0.00	0.00	0.00	4.88	0.00	8.21
South District W.W.T.P Expansion (Ph III)	2015	0.78	1.77	2.18	4.69	3.66	5.23	11.57	29.10	5.67	35.55
South District W.W.T.P.-High Level Disinfect.	2015	105.00	147.57	201.58	76.93	40.27	19.80	0.00	486.15	0.00	591.15
Village of Key Biscayne Reuse Distr.System	2009	1.10	0.90	0.00	0.00	0.00	0.00	0.00	0.90	0.00	2.00
Biscayne Bay Coastal Wetlands Rehydr. Pilot	2011	1.68	4.50	4.70	3.12	3.12	2.12	0.91	18.47	0.00	20.15
North Dist.W.W.T.P.Reuse Proj.-Plant/Pipeline	2012	0.32	1.44	3.27	4.74	0.00	0.00	0.00	9.45	0.00	9.77
Central District W.W.T.P. Reuse Project	2012	2.04	6.48	11.09	12.18	0.00	0.00	0.00	29.75	0.00	31.79
South District W.W.T.P. Reuse Project Ph I (30 mgd)	2015	4.10	8.91	69.52	137.61	99.76	10.10	0.00	325.90	0.00	330.00
West District W.R.P. Canal Rech. Ph II (21 mgd) (WR-B)	2025	0.00	10.14	17.37	29.63	13.35	2.06	48.36	120.91	494.90	615.81
North Dist.W.W.T.P- Inject.Wells Improv. ND Flo Aq Mon.	2015	0.24	0.17	0.36	2.73	1.33	0.00	0.00	4.59	0.00	4.83
South District W.W.T.P - Pipeline from SD to Metrozoo	2015	0.40	1.35	14.25	13.24	0.00	0.00	0.00	28.84	0.00	29.24
CL-E 72 Inch Influent to Proposed W.D.W Reclam. Plant	2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	87.19	87.19
CR-D 72 Inch Reclaimed Water Pip/ne SDWWTP to FPL	2015	0.00	0.00	3.36	6.47	4.13	52.23	52.23	118.42	3.58	122.00
WE-B Injection Well	2015	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.73	82.73
Miami Springs Sewer System	2013	0.52	0.62	0.41	0.00	0.00	0.00	0.00	1.03	0.00	1.55
Outfall Legislation	2020	0.00	0.70	6.24	3.09	11.66	27.04	49.51	98.24	377.09	475.33
TOTALS		300.07	337.48	645.06	584.44	495.16	453.28	382.26	2,897.68	1,502.09	4,699.84

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

The tables above indicate how the County plans to continue addressing this objective. The County ensures that sewer and water systems have capacity in specific locations to serve new development through the concurrency review system; concurrency review is the process by which County staff ensure that applicable Level of Service Standards will be met for new development. The County also considers active Consent Orders, the Water Use Permit, and new legislative mandates when allocating funds for capital improvement projects.

Policy Relevance

WS-3F. This policy should be modified to require regular updates for plans to address water and reclaimed water planning documents as well.

Objective WS-4
Miami-Dade County shall protect the health of its residents and preserve its environmental integrity by reducing the proportion of residences and commercial establishments within the County using private wastewater treatment facilities. Miami-Dade County shall discourage the new or continued use of such facilities through the strict application of the CDMP and land development regulations.

CDMP Monitoring Measure. Recommended measurements include: proportion of septic tank permits issued that are for new septic tanks as opposed to septic tank abandonments; number of non-residential septic tanks and other private treatment facilities, unsewered and developed areas with well-field protection areas; number of IW (industrial wastewater) permits; number of conversions by permit from septic tank system to central system per year or any given period.

Objective Achievement Analysis. This objective seeks to address the public health and ecological risks associated with groundwater and surface water contamination that can result from private wastewater treatment facilities or "onsite sewage treatment and disposal systems" (OSTDS). The most commonly used OSTDS are septic tanks with soil absorption drainfields; these systems utilize naturally occurring bacteria and soils to treat effluent, or wastewater. Homes, businesses, and institutional facilities that are not connected to Miami-Dade County's central sewer system have been utilizing OSTDS systems for decades. Septic systems can malfunction due to overuse, improper disposals, or lack of maintenance. Failure of these systems can allow harmful organic and inorganic chemicals, bacteria, and viruses to reach groundwater and surface water, endangering human health and causing ecological distress. Even when functioning properly, OSTDS's treatment efficiency is about 50% relative to centralized wastewater treatment plant systems (90% efficiency); some pollutants (such as paints, pesticides, stain removers, household cleaners) pass through OSTDS into groundwater.[9] The United States Environmental Protection Agency (EPA) also reports that properly functioning septic systems may not remove enough nitrate-nitrogen from wastewater to protect from certain human health risks.[10]

One of the most common reasons that septic tanks cause contamination is failure of soil absorption drainfields. Soil drainfields located in areas with high water tables, or areas that are seasonally flooded, are more likely to function improperly. The State of Florida has been researching septic tank failure associated with saturated soils since at least the 1980s.[11] Miami-Dade depends on the shallow, permeable Biscayne Aquifer that is "highly susceptible to contamination".[12] The groundwater of the Biscayne Aquifer is close to the surface of the land and as a result, soils surrounding septic tanks in low-lying areas are often saturated. Samples taken from groundwater monitoring wells adjacent to septic tank drainfields in low areas have been shown to contain chemical constituents and levels of fecal coliform bacteria.[13] Contaminants such as phos-

[9] Broward County Environmental Protection Department, Public Health Unit. 2005. "You and Your Septic Tank". Accessed online at http://www.broward.org/environment/publications.htm.

[10] U.S. Environmental Protection Agency, Office of Water (4606), EPA 816-F-01-021. July 2001. "Source Water Protection Practices Bulletin, Managing Septic Systems to Prevent Contamination of Drinking Water." Accessed online at http://www.epa.gov/safewater/sourcewater/pubs/septic.pdf.

[11] Ayres Associates for the State of Florida Department of Health and Rehabilitative Services. 1989. "Onsite Sewage Disposal System Research in Florida, Performance Monitoring and Ground Water Quality Impacts of OSDSs in Subdivision Developments". Accessed online at http://www.doh.state.fl.us/environment/ostds/research/researchreports.htm.

[12] United States Environmental Protection Agency, Office of Water, 2003. "Relative Risk Assessment of Management Options for Treated Wastewater in South Florida". Page 2-10.

[13] Ayres Associates for the State of Florida Department of Health and Rehabilitative Services, 1989, page 76) and Bicki, Thomas; Brown, Randall; Collins,

phorus and viruses have been reported to transfer to groundwater from OSTDS where high water tables and saturated soils are present.[14] The EPA has written that septic tank systems may be unsuitable for karst areas (such as Miami-Dade County):

> Areas with high water tables and shallow impermeable layers should be avoided because there is insufficient unsaturated soil thickness to ensure sufficient treatment. . . If permeability is too high, the effluent may reach ground water before it is adequately treated. As a result, alternative systems may be necessary in karst areas.[15]

The Florida Department of Health's Bureau of Onsite Sewage enforces state and federal laws associated with OSTDSs state-wide. The Miami-Dade County Health Department's OSTDS Program works in conjunction with the state Bureau of Onsite Sewage to ensure that all regulated OSTDS systems are "sized, designed, constructed, repaired, modified and maintained properly in order to prevent groundwater contamination, surface water contamination and to preserve the public health."[16] The Health Department issues new OSTDS permits. The Health Department also issues OSTDS repair and modification permits for systems that must be enlarged to handle larger quantities of waste. This agency also receives and responds to nuisance complaints regarding OSTDS systems such as odors or standing wastewater. New legislation that will require regular inspections of OSTDS is discussed in the final paragraphs of this analysis.

This analysis addresses the monitoring measures listed above. The first section assesses the numbers and locations of OSTDS utilized by residences, businesses along commercial corridors, and industrial uses. Then OSTDS inspections and monitoring are discussed. There is a progress review of OSTDS abandonments and required new connections to the central sewer system. Finally, there is a summary of objective achievement analysis and discussion of upcoming challenges and new legislation.

Residential OSTDS

Table 2.5.1-8, "Percentage of Single Family Units Utilizing Septic Systems", reflects estimates of the total number of residential septic tank systems (onsite sewage treatment and disposal systems, or OSTDS) for the County. Estimates for 1990 and 2003 reflect data collected in the previous EAR, data for 2009 reflects estimates from an independent study executed on behalf of the Florida Department of Health in 2009. DOH estimates are approximate, and DOH officials have explained that some estimates (213,000 OSTDS) do not include abandonment data. Accurate OSTDS abandonment data does not exist at this time for various reasons. Since an accurate total number of residential OSTDS is not available, it is not possible to assess whether there is a higher or lower percentage of residences utilizing OSTDS compared to seven years ago.

Table 2.5.1-8
Percentage of Single Family Units Utilizing Septic Tank Systems

Year	Total Single-family residences	Total Res. Septic Tanks in Use	Percent Single-family units utilizing septic tank systems
1990*	311,519	116,288	37%
2003*	345,455	114,000	33%
2009**	552,000 total parcels (489,00 improved parcels)	121,000-213,000 [17]	Between 25 and 43.5%
**2009 known sewered parcels is 281,245 but there could be as many as 370,000.			

*Data taken from 2003 EAR.
**Florida Department of Health, see footnote #16 for complete citation.

Mary; Mansell, Robert; Rothwell, Donald; Soil Science Department, Institute of Food and Agricultural Sciences, University of Florida. 1984. Report to the Florida Department of Health and Rehabilitative Services under contract number LC170: "Impact of On-site Sewage Disposal Systems on Surface and Ground Water Quality. Page 7.

14 Bicki, Thomas; Brown, Randall; Collins, Mary; Mansell, Robert; Rothwell, Donald; Soil Science Department, Institute of Food and Agricultural Sciences, University of Florida. 1984. Report to Florida Department of Health and Rehabilitative Services under contract number LC170: "Impact of On-site Sewage Disposal Systems on Surface and Ground Water Quality. Page 5 and 8.

15 Same as 2.

16 Miami-Dade County Health Department, Environmental Health Division, Onsite Sewage Treatment and Disposal System Program website. Accessed on April 23, 2010, at http://www.dadehealth.org/enviro/ENVIROseptic.asp.

17 Hall, Pamela; Clancy, Stephen. 2009. *The Florida Statewide Inventory of Onsite Sewage Treatment and Disposal Systems (OSTDS). A Report on the Status of Knowledge of the Number and Location of OSTDS in each County and Best Management Practices for Improving this Knowledge.* Accessed online at http://www.doh.state.fl.us/environment/ostds/research/researchreports.htm.

Analysis and figures included in the 2003 EAR indicated that the areas with the greatest concentration of OSTDS were in Pinecrest and an adjacent section of unincorporated Miami-Dade County, a portion of Coral Gables, the Redland in southwest unincorporated Miami-Dade County, and Westview in unincorporated northern Miami-Dade County, south of Opa-Locka. Current maps reflecting data collected by the Florida Department of Health's (DOH) Bureau of Onsite Sewage Programs indicate that these areas remain unsewered. Residential and mixed-use areas of Miami-Dade County with the highest concentrations of new, repaired, and existing OSTDS are listed below and are also shown on Figure 2.5.1-3, Areas with Concentrations of Onsite Sewage Treatment and Disposal Systems (OSTDS):

Southern Portions of the County

- Unincorporated Miami-Dade County west of US1 near the City of South Miami and the Village of Pinecrest. (Also the Redland agricultural area, however that area is outside of the Urban Development Boundary and is not intended for urban uses.)
- Village of Pinecrest
- Palmetto Bay
- Coral Gables

Northern Portions of the County

- Unincorporated Miami-Dade County south of Opa Locka and east of Miami Gardens
- Miami Gardens
- Biscayne Park
- Miami Shores
- El Portal

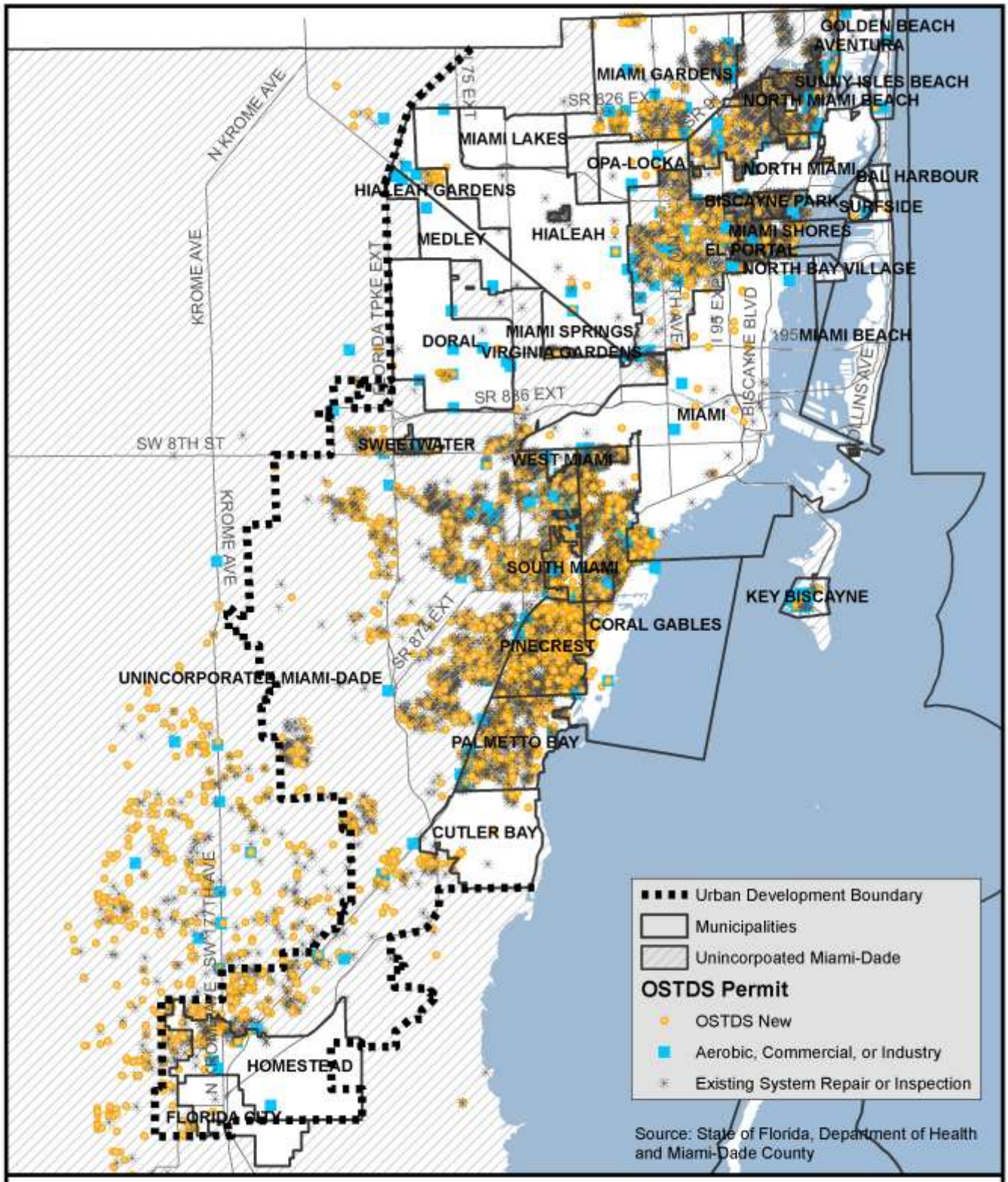


Figure 2.5.1-3

AREAS WITH CONCENTRATION OF ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS (OSTDS)

Commercial Corridor OSTDS

Onsite sewage treatment and disposal systems sometimes limit expansion of existing businesses, redevelopment and infill development in areas inside the Urban Development Boundary. Small businesses may not be able to pay to connect to a sewer main that lies across a major commercial corridor such as US1 or Coral Way. Areas of unincorporated Miami-Dade County where commercial redevelopment potential is inhibited by a lack of connection to public sewer lines (in additional to potential additional limiting factors) include:

- NE 186 Street immediately west of Biscayne Boulevard
- Sections of Dixie Highway, US1 and Biscayne Boulevard
- Industrial areas along 37th Avenue from 36th Street to 79th Street
- And the sections of the commercial corridors illustrated on the map below.

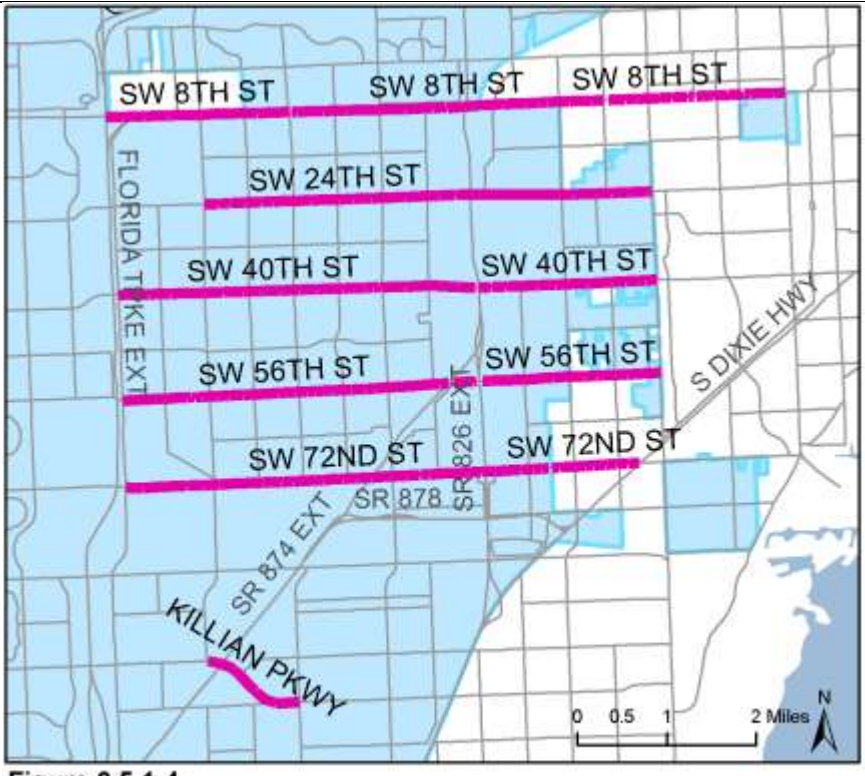


Figure 2.5.1-4

Example of Commercial/Other Corridors with Limited Sanitary Sewer Service Connections

Industrial OSTDS

The County's Department of Environmental Resources Management (DERM) issues IW-4 permits for facilities that discharge industrial wastewater to the ground. There are six sites in total that have these permits, but two sites have two distinct permits for different parts of their operations (Turkey Point nuclear power plant and Gordon Ivy Power Plant have two permits per site for different wastewater discharges) so the total number of IW-4 permits remains the same as during the last EAR reporting period. There are eight IW-4 permits. The County has consistently enforced policies that restrict new industrial wastewater discharges to the ground. Existing IW-4 permits reflect existing facilities that predate current regulations and some facilities are not within a distance feasible for connection to the public sewer system.

OSTDS Monitoring and OSTDS in Wellfield Areas
DERM is delegated by the State of Florida to regulate wastewater and requires an IW-5 permit for OSTDS that may receive wastewater other than domestic wastewater. These permits are typically required for businesses such as funeral homes, paint and body shops, or pet kennels (that are not connected to the central sewer system). DERM inspects and samples septic tank materials to ensure that no unauthorized contaminants, such as paint solvents, have been discharged into these systems. These businesses are supposed to manage their commercial waste separately, and collect and dispose of them, for example, by paying a licensed hauler to remove them from the site. There are approximately 19,000 IW-5 permits that are inspected on a risk-based frequency.

Permitted sites that are located within a wellfield protection area, or that have had previous environmental violations (an Environmental Quality Control Board order), or have been determined to be contaminated, are inspected more frequently. Figure 2.5.1-5 demonstrates the general location of unsewered and developed areas with wellfield protection areas. Portions of the Snapper Creek, Alexander Orr, West Wellfield, and Florida Keys Aqueduct Authority contain concentrations of OSTDS. These wellfield protection areas and others do still contain some DOH commercial or industrial OSTDS facilities according to DOH data (purple dots on Figure 2.5.1-5). Countywide, DOH records indicate that there are a total of 386 OSTDS operating permits for aerobic systems, and systems that are owned by commercial, industrial, or manufacturing operations. (It is important to note that although commercial operations may have an OSTDS, the OSTDS is only supposed to be utilized for the disposal of domestic wastewater. Due to the risk of inappropriate waste disposal, the DOH requires operating permits for these OSTDS.)

DERM also regulates and issues permits for OSTDS such as package treatment plants. There are 23 package treatment plants in the County. One site, Spring Tree Apartments, at Bird Road and 102nd Avenue connected to the public sewage system over the last two years.

New OSTDS Versus Abandoned OSTDS and New Sewer Connections
One of the monitoring measures for this Objective requires a comparison between the percentage of OSTDS permits for new systems versus abandonments. Miami-Dade County Health Department records indicate that for the last EAR period an average of 435 residential septic tank permits were generated yearly and 70 percent of the permits were for abandonment.

The Florida Department of Health's (DOH) Onsite Sewage Program began using a new state-wide database to electronically track OSTDS permitting in 2003. Records from this database indicate that between 2003 and July 2007, there were 6,537 permits issued for new septic systems within Miami-Dade County (or 1,453 per year). The database indicates that within the same time period there were about half as many abandonments- 3,323 OSTDS abandonments (or about 738 per year). Other DOH estimates suggest an average of 600 abandonments in Miami-Dade County per year since 2000 which would result in approximately 4,200 abandonments between 2003 and 2009.[18] As noted above, DOH officials note that abandonment data is problematic. Sometimes property owners do not go through official procedures when leaving a home, and do not notify the state, and their OSTDS abandonment is not recorded. (When left unused for a certain period, or when septic systems will no longer be used, owners must contact the DOH to learn about proper abandonment procedures and to obtain an abandonment permit.) Given available data, it appears that the County has not been successful with respect to this monitoring measure. It appears that for this EAR reporting period the ratio between new septic tank permits versus abandonments has worsened. (The percentage of septic tank permits that were for abandonment has decreased from 70% to 64 or possibly 50.8%.)

Additionally, the County WASD does not monitor whether new connections to the central sewer system are conversions from OSTDS or whether they are new accounts that have resulted from new construction. For these reasons, it is difficult to accu-

[18] Personal phone conversation with Dale Holcomb, Florida Department of Environmental Health, Onsite Sewage Program, June 4, 2010.

rately assess the County's success in converting from OSTDS to central sewer service.

Notices of Required Connection

The County's Notice of Required Connection (NORC) program is managed by the Department of Environmental Resources Management. This program identifies homes and businesses in the County that abut sewer lines through WASD or municipal notifications, unrelated permitting activity, or when there is an OSTDS failure or complaint. Once DERM has identified a location where an OSTDS could be converted to a new sewer connection, they send a Notice of Required Connection (NORC) to the OSTDS owner. According to Section 24.43.1(7) of the County Code, the OSTDS owner then has 90 days to connect to the sewer system. Connection extensions are made if there is a lateral main that extends into the property, and 360 day extensions are sometimes granted if there is no lateral main and the property owner will have to pay a higher fee to connect. Sometimes OSTDS owners are not aware of the opportunity to connect to sewer, or because of connection costs (which may range from $2,000- $5,000 or more if a lateral node is required), they may not want to connect to public sewer.

Unfortunately, it is not clear how successful the County's Notice of Required Connection (NORC) program has been in enforcing required connections. When a NORC letter is sent to an owner and there is no response, DERM sends an inspector to the NORC address. However, if the inspector is not offered access to a property, they are not currently authorized to enter private property and report as to whether the NORC has resulted in actual connection to the central sewer system. Separately, DERM reports that some municipalities apply for and receive extensions from the County's Environmental Quality Control Board to delay required connection deadlines. The County does have the ability to identify the total number of NORCs mailed per year and the total number of NORCs that resulted in new sewer connections, but the data is not available at this time.

OSTDS Inventory Uncertainty and New Legislation

Research completed for the State of Florida Department of Health (DOH) indicates that uncertainty in assessing the locations, quantities, and functionality of onsite sewage treatment and disposal systems can pose significant problems. With roughly half of the state's developed properties utilizing OSTDS, the potential for some systems to function improperly, and then release pollutants into groundwater (used eventually for drinking) and surface water (used for swimming, fishing, and needed to support marine and terrestrial species) is significant.[19] The DOH indicates that less than one percent of Florida 2.3 million OSTDS are managed through operating permits or maintenance agreements; and most Florida OSTDS are only serviced when they fail. The DOH also reported that most Florida OSTDS are 30 years old and were not installed according to current standards.[20] State researchers write, "When they (OSTDSs) collectively fail to perform as designed or cannot reduce nutrient loading to surface and groundwater, they can become serious health hazards. The degree of success or failure cannot be ascertained without adequate documentation of location and condition of many individual systems."[21]

Given legislation passed during 2010, all Florida counties may be inadvertently required to improve OSTDS tracking systems. Recommendations from the U.S. Environmental Protection Agency led to new laws (Senate Bill 550) that mandate a statewide septic tank inspection and maintenance system. All septic tanks will be required to be inspected every five years. Malfunctioning systems will be pumped and/or repaired and failed tanks will be replaced. This new requirement will ultimately result in the need to identify the locations of existing OSTDS in order to generate compliance notifications for property owners. This new measure may assist Miami-Dade County in achieving part of Objective 4, "protect the health of its residents and preserve its environmental integrity", by reducing contamination related to malfunctioning OSTDS.

In summary, the County has partially achieved Objective 4, but must commit additional resources to

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19 Hall, Pamela; Clancy, Stephen. 2009. *The Florida Statewide Inventory of Onsite Sewage Treatment and Disposal Systems (OSTDS). A Report on the Status of Knowledge of the Number and Location of OSTDS in each County and Best Management Practices for Improving this Knowledge.* Accessed online at http://www.doh.state.fl.us/environment/ostds/research/researchreports.htm. Page 15.

20 Briggs, Gerald R; Barranco, Ed; Hammonds, David. Florida Department of Health. 2008. *Report on Range of Costs to Implement a Mandatory Statewide 5-Year Septic Tank Inspection Program.*

21 See footnote 18. Page 15.

reduce the number of OSTDS utilized County-wide. Existing inventories of residential systems, abandonments, and locations are not sufficient. DERM regulates businesses utilizing OSTDS to ensure only domestic wastes are disposed in those systems, but many businesses still use OSTDS. Regulators note that until sewer connections are available along all commercial corridors, redevelopment will be somewhat restrained by continued use of OSTDS by businesses. Improved tracking of commercial corridors dependent on OSTDS is recommended. The County has successfully restricted new industrial waste discharges to the ground and has also implemented risk-based inspections of OSTDS facilities located within sensitive areas near public drinking water wells.

The County is currently working to improve the NORC process, including NORC database management, and tracking which new sewer accounts result from septic tank conversions. The County is working to identify new methods for identifying OSTDS densities within and associated property addresses to facilitate more septic-to-sewer conversions. Further research is necessary to determine the most cost-effective way to ensure that those homeowners and business owners that can connect to the sewer system, do connect. Low income homeowners and small businesses may need financial assistance to pay initial sewer connection fees and to comply with new state septic system inspection requirements. Additional public investment to complete the sewer system within the Urban Development Boundary and reduce the number of OSTDSs will result in lower risk to public health and long-term protection of critical ground and surface water resources. Therefore, investment in these critical projects is highly recommended.

Policy Relevance. All of the policies under this objective are directive in nature and continue to be relevant. Therefore, the policies of this objective will be retained.

One of Miami-Dade County's Major Issues for the 2010 EAR process is climate change and expected incremental sea level rise. The Florida Department of Health's Onsite Sewage Treatment and Disposal Program estimates that in 2009, there were approximately 213,000 onsite sewage treatment and disposal systems ("OSTDS" include septic tank and drain field systems) in Miami-Dade County.[22] The state has done research on the effectiveness of septic systems installed in places that are flooded seasonally. They have written that there may be reduced functioning of septic systems when soils are inundated; effluent and pathogens may move more easily and quickly to surface water, causing public health and environmental problems.[23] Policies that anticipate the impact of sea level rise on the numerous active septic systems in the County may be appropriate for this Subsection. (CDMP Policy WS-4C already states that septic tanks shall not be permitted where seasonally high water table will impair proper functioning.) Existing programs and funding sources intended to reduce the number of active OSTDS may be augmented and prioritized.

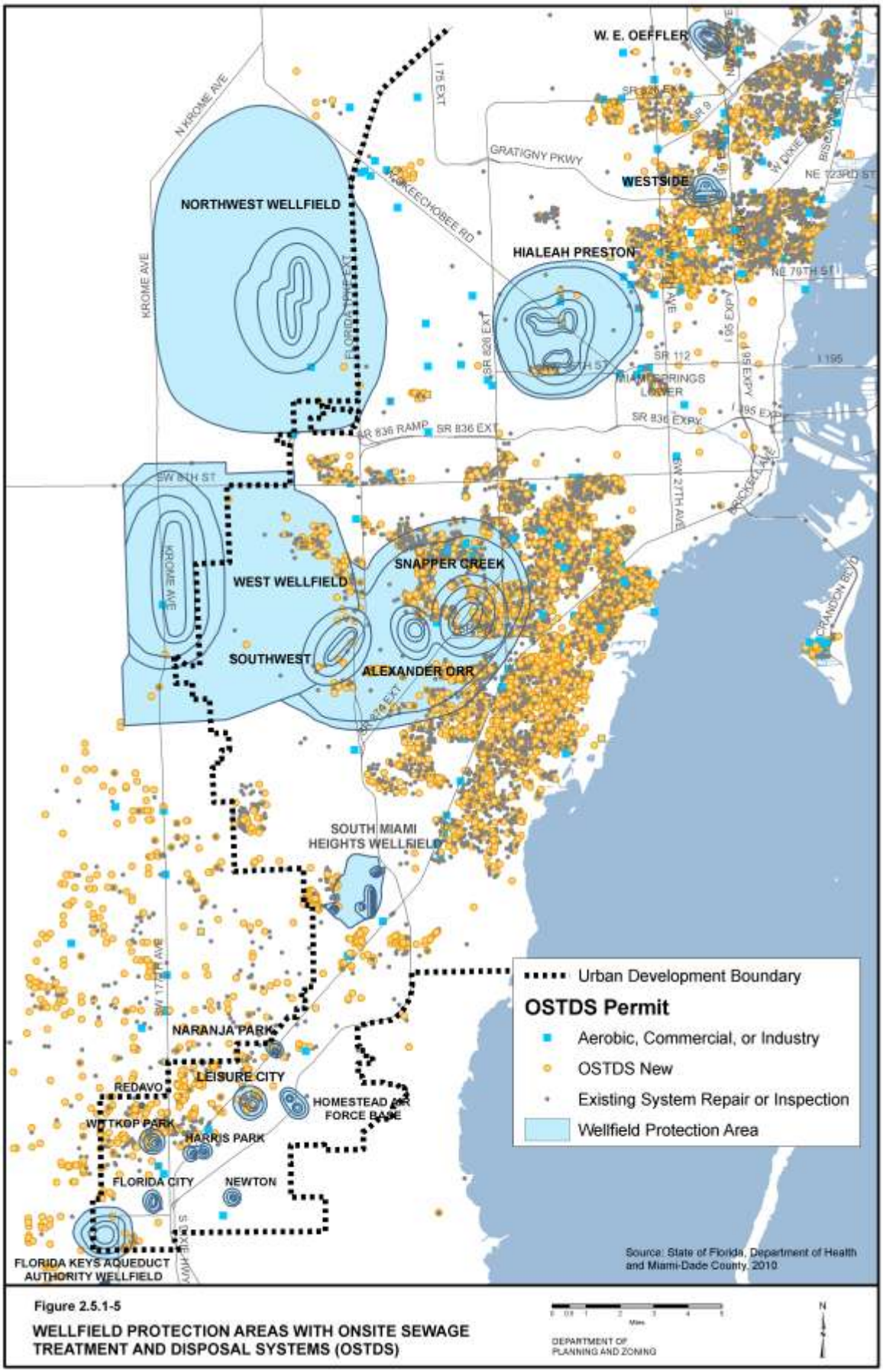
Objective WS-5
Develop and implement a comprehensive water conservation program to ensure that a sufficient, economical supply of fresh water is available to meet current and future demand for potable water without degrading the environment.

CDMP Monitoring Measure. Recommended measurements include: average water use per capita; percent water unaccounted for; peak day to average day water demand ratio; amount of water and wastewater that is reused or reclaimed within Miami-Dade County on an annual basis. This data is published annually by WASD so no alternative measure is recommended.

Objective Achievement Analysis. The requirements of Section 163.3191(2)(l) F.S. are addressed by this analysis, in addition to the Aquifer Storage and Recovery discussions in the analysis of Objective WS-6. Section 163.3191(2)(l) requires a discussion of alternative water supply projects, including conservation and reuse, to illustrate that water needs to serve existing and new development will be satisfied.

[22] Florida Department of Health. Onsite Sewage Programs Statistical Data, Onsite Sewage Treatment and Disposal Systems Statistical Data. 2009. Accessed online at http://www.myfloridaeh.com/ostds/statistics/newInstallations.pdf.

[23] Brown, Mark; Annable, M; Delfino, A.; Jawitz, J.; Cohen, M.; Hall, E.; Harden, H.; Chanton, J.; Burnett, W.; Rose, J.; Paul, J.; Griffin, D.; Lipp, E.; David, J. August 2001. Final Report presented to the Florida Department of Health, "Determination of an Appropriate Onsite Sewage System Setback Distance to Seasonally Inundated Areas".


W. E. OEFFLER
NORTHWEST WELLFIELD
HIALEAH PRESTON
WESTSIDE
WEST WELLFIELD
SNAPPER CREEK
SOUTHWEST
ALEXANDER ORR
SOUTH MIAMI HEIGHTS WELLFIELD
NARANJA PARK
LEISURE CITY
REDAVO
HOMESTEAD AIR FORCE BASE
WITTKOP PARK
HARRIS PARK
FLORIDA CITY
NEWTON
FLORIDA KEYS AQUEDUCT AUTHORITY WELLFIELD
N KROME AVE
KROME AVE
I 75 EXT
GRATIGNY PKWY
OKEECHOBEE RD
SR 826 EXT
SR 836 RAMP
SR 836 EXT
SR 836 EXPY
SR 112
I 195
I 95 EXPY
NE 79TH ST
NE 123RD ST
SW 8TH ST
SW 27TH AVE
BRICKELL AVE
CRANDON BLVD
SW 177TH AVE
Urban Development Boundary
OSTDS Permit
Aerobic, Commercial, or Industry
OSTDS New
Existing System Repair or Inspection
Wellfield Protection Area
Source: State of Florida, Department of Health and Miami-Dade County, 2010
Figure 2.5.1-5
WELLFIELD PROTECTION AREAS WITH ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS (OSTDS)
DEPARTMENT OF PLANNING AND ZONING
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Implementation of the Water and Sewer Department's water conservation program and newly approved water use restrictions has been successful. In December 2009, WASD reported that the County's finished water demand was 35 million gallons per day (MGD) lower than what was projected for 2009 in the County's Water Use Permit. The Table 2.5.1-9 illustrates that per capita water usage has notably decreased for the period 2003-2009 compared to the prior reporting period of 1995-2002. Daily per capita (per person) water usage was at 179 gallons in 1995 and has decreased to roughly 142 gallons for 2009. The Table 2.5.1-9 also shows that the peak day to average day ratio for this reporting period (2002-2009) is lower than during the last reporting period. This indicates that spikes in water consumption were less frequent and smaller in volume; this measure is a second indication that water conservation efforts have been successful.

Table 2.5.1-9
Historical Finished Water Use 2003-2009

Year	Population Served	Max Day Use MGD	Average Annual Use MGD	Gallons Per Capita Per Day	Peak to Average Ratio
2003(1)	2,134,223	369.10	344.91	161.61	0.93
2004	2,164,465	388.40	346.11	159.91	0.89
2005	2,194,768	387.70	347.04	162.61	0.90
2006	2,225,040	381.70	348.03	160.79	0.91
2007	2,235,179	357.80	322.27	144.18	0.90
2008(2)	2,213,833	332.80	313.37	141.55	0.94
2009	2,238,700	346.00	318.98	142.48	0.92

MGD = Million Gallons per day

Source: Miami-Dade Water and Sewer Department, 2009
(1) Population data for 2003 through 2006 represent projections by TAZ prepared by MDWASD on 06-29-07 using the 2005 TAZ population projections provided by DP&Z.
(2) Population data for 2008 and 2009 represent projections by TAZ prepared by MDWASD on 11-14-08 using the 2008 TAZ population projections provided by DP&Z..

The County's ongoing conservation efforts comply with conditions of the County's 20-Year Consolidated Water Supply Water Use Permit (WUP) issued by the South Florida Water Management District. The County approved a Water Use Efficiency Plan (Plan) in 2006 that outlines the County's water efficiency measures and best management practices that should save up to 20 million gallons a day of water through 2027. An Advisory Committee was established in 2007 to develop water conservation guidelines to comply with the WUP. The Advisory Committee included representatives from various County departments and stakeholders including the American Society of Landscape Architects, South Florida Builders Association, Sierra Club, Latin Builders Association, Tropical Audubon Society, Association of Cuban Engineers, South Florida Regional Planning Council, Dade County Farm Bureau, South Florida Water Management District and the Greater Miami Chamber of Commerce.

The Advisory Committee's indoor and outdoor water conservation recommendations led to the approval of new regulations that support regional water conservation goals. Effective January 1, 2009, new regulations were implemented per Ordinance 08-100 to require efficient water fixtures, appliances, and other water saving features in new developments. In April 2009, the Miami-Dade Board of County Commissioners (BCC) approved the Permanent Landscape Irrigation Restrictions Ordinance that limits landscape irrigation to two days per week. In May 2009, the BCC amended landscape regulations (Landscape Code, Chapter 18A) to follow Florida Friendly Principles and more strict water-efficiency guidelines in homes, common areas and rights-of-way (Landscape Code, Chapter 18B). Florida Friendly landscape principles help to preserve Florida's natural resources and protect the environment; more information on these landscape principles can be found at http://www.floridayards.org/. (Detailed information about the County's water conservation program is available at http://www.miamidade.gov/conservation/.) The County's new outdoor conservation regulations require:

- The installation of rain switches, such as soil moisture sensors when irrigation systems are provided.
- At least 30 percent of the landscaping must consist of native plants (and only 30 percent of that can be palms).
- At least 50 percent of plants must be low-maintenance and drought-tolerant.
- At least 80 percent of the plants must be listed in the Landscape Manual, the Street Tree Master Plan or the University of Florida's Low Main-

tenance Landscape Plants for South Florida list. This list is Florida Friendly based and customized to South Florida by the University of Florida.

- Mulch meeting Florida Friendly Landscaping guidelines must be applied and maintained.

A separate monitoring measure for Objective WS-5 is the amount of water and wastewater that is reused or reclaimed within Miami-Dade County on an annual basis. Currently, the County continues to reuse approximately the same amount of water/wastewater as was reported in the last EAR. Approximately 16 million gallons per day (MGD) of wastewater is reclaimed and used for process water at the County's three regional wastewater treatment plants (WWTPs) and for irrigation at Florida International University's Biscayne Bay campus.[24]

However, the County is in the process of significantly increasing its use of wastewater as required by its Water Use Permit (WUP). The WUP has 58 limiting conditions including a requirement that the County reuse 170 million gallons of water per day (MGD) by specified timelines. In addition, the permit specifies that if the County's freshwater withdrawals from the Biscayne Aquifer total more than 347 MGD, then the County must utilize alternative water supplies to augment withdrawals above the base condition water use. The alternative water supply projects included in the County's WUP include a Reverse Osmosis Water Treatment Plant and canal and groundwater recharge. The alternative water supply that will be used to recharge the Biscayne Aquifer will be highly treated reused or reclaimed wastewater.

The WASD reports that the County intends to reclaim and reuse up to 282 MGD of wastewater[25] and is developing a reuse plan that will address water and sewer projects to satisfy requirements of the Ocean Outfall legislation discussed above. The County's progress towards compliance with annual reclaimed water requirements is summarized below (as reported by WASD in their January 2010 Compliance Highlights Report to the South Florida Water Management District):

- Hialeah Floridan Aquifer Reverse Osmosis Water Treatment Plant pilot testing continues. The City of Hialeah has had some delays but completion is estimated for December 2010.
- The County's WUP permit has been modified to postpone Upper Florida Blending at the Hialeah/Preston and Alexander Orr Jr. Water Treatment Plants. The SFWMD is evaluating water quality issues related to blending and will determine whether the wells will be needed for additional water supply.
- A High Level Disinfection facility is under construction now at the South District Wastewater Treatment Plant; this facility will further treat wastewater through microfiltration, Reverse Osmosis, and Ultraviolet filtration. When completed, highly treated wastewater exiting this facility will be utilized for aquifer recharge.
- South District Water Reclamation Plant project is on schedule. Nutrient removal research is advancing and Ion exchange will be used for ammonia removal. Groundwater models are being used to choose aquifer recharge options at the Miami Metrozoo site.
- West District Water Reclamation Plant siting and design work are ongoing. The final design will reflect system-wide wastewater transmission and treatment facility plans and will help implement State of Florida ocean outfall legislation requirements.
- North District Water Reclamation Plant is now scheduled to be completed in 2025.
- Central District Water Reclamation Plant will include a pipeline to the Village of Key Biscayne with a connection to the Crandon Golf Course. Reclaimed water piping in the Village of Key Biscayne has been installed. This reuse project has also been deferred to 2025 to coincide with ocean outfall legislation deadlines.
- The Biscayne Bay Coastal Wetlands Rehydration Pilot Project is a component of the Comprehensive Everglades Restoration Plan and detailed information on this project is available on the County's website at http://www.miamidade.gov/wasd/water_wetlands.asp. This pilot project will determine whether

[24] Miami-Dade Water and Sewer Department, Miami-Dade Consolidated PWS Water Use Permit No. 13-00017-W, Compliance Highlights, January 2010.

[25] WASD asserts that this reuse goal is contingent upon the permitting and completion of Florida Power and Light Company's proposed new nuclear units 6 & 7 for the utilization of approximately 90 MGD of reused water and the feasibility of the Biscayne Bay Coastal Wetlands Rehydration Project for approximately 75.7 MGD of reused water.

it is feasible to treat wastewater from the South District Wastewater Treatment Plant at a proposed new South District Water Reclamation Plant and then used to rehydrate the estuarine ecosystem that includes coastal wetlands and Biscayne Bay. If implemented, this rehydration project could utilize up to 75.7 MGD of finished reclaimed water.

- The Florida Power and Light Turkey Point Plant may utilize up to 90 MGD of reclaimed water to help cool proposed new nuclear units 6 & 7. Reclaimed water would be piped from the South District Wastewater Treatment Plant south to Turkey Point. This use is contingent on the successful permitting of the new nuclear units, among other factors.

The final recommended monitoring measure for Objective 5 is the percent of water unaccounted for in the WASD distribution system. In February 2007, WASD published a report entitled, "Unaccounted Water Loss Reduction Plan", and developed a "Real Water Loss Reduction Plan". These plans were required by the South Florida Water Management District (SFWMD) through the Miami-Dade County Interim Consumptive Use Authorization and Agreement (2006), and then formalized as a condition (#46) of the County's 2007 Water Use Permit ("WUP"). The WUP also requires annual reports on water distribution system losses and monitoring. The WUP specifies that the County's proposed water loss reduction activities should achieve losses of less than 10 percent of treated water produced by WASD on an annual basis. If losses are greater than 10%, the County is required to describe additional actions that will be implemented to reduce water losses to less than ten percent.

WASD explains that unaccounted for water includes "real water loss" and "apparent water loss"; the explanation of these concepts provided in the following paragraph is based on WASD's Unaccounted Water Loss Reduction Plan (Executive Summary).

Real water loss is the physical loss of water from the transmission or distribution systems (underground water line infrastructure), that is caused by leaks, breaks, and overflows. Real water loss further burdens the region's limited water supply by depleting the Biscayne and Floridan aquifers, and increases water production costs. Elements of the County's Real Water Loss Reduction Plan include implementation of capital improvement projects such as rehabilitation and replacement of aging pipes, system management improvements such as shortening leak response time, and utilization of new technologies such as Geographic Information Systems (GIS) to identify deficiencies and improve system performance.

Apparent water loss is described by WASD in the following way:

> "Apparent losses are the paper losses that occur in the utility operations due to customer meter inaccuracies, data errors in the billing process, and unauthorized water consumption or water theft. This water is consumed but is improperly measured and underpaid. These losses reduce utility revenue and lead to distortion of true customer consumption."

Water loss estimates are provided below in Table 2.5.1-10. The County's annual water loss report discusses discrepancies between County water loss estimates and SFWMD estimates and states that water loss accounting methods will be fine-tuned through consultation with the SFWMD. Water loss data indicate that water supply totals have slightly decreased, but real water losses have increased almost at the same pace. The County plans to further investigate the reason for these losses. Planned activities to reduce water loss include leak detection program enhancements, piping replacement program enhancements, improved methods for calculating fire department use of water, development of appropriate water meter sizing criteria, and reduction in billing data error and analysis.

Table 2.5.1-10
Water Loss Percentages, 2006-2009

Calendar Year	SFWMD Water Audit Percent water loss	County Water Audit Percent water loss
2006	21%	17.5%
2007	22%	17.8%
2008	24%	20%
2009	Between 23-26%	21.2%

Source: WASD and SFWMD, 2010.[26]

[26] Malcolm Pirnie, Inc.,for Miami-Dade Water and Sewer Department. 2009 Annual Water Loss Reduction Plan Implementation Status Report. March 2010. Pages 2-7 through 3-3.

Policy Relevance. All of the policies under this objective are directive in nature and continue to be relevant.

WS-5E and WS-5F: These policies will be modified to include the dates of newly adopted ordinances/ and sections of the Miami-Dade County Code (Section 18A and 18B) that include water use efficiency requirements for new development and landscape and irrigation requirements. Reference to 1995 ordinance should be removed.

Objective WS-6
Miami-Dade County shall undertake timely efforts to expand traditional sources of raw water and develop new alternative raw water sources and projects to meet the County's water supply needs.

CDMP Monitoring Measure. Recommended measures include: reserve capacity of raw water and capacity of the aquifer storage and recovery system. No alternative measurements are recommended.

Objective Achievement Analysis. This analysis of Aquifer Storage and Recovery also satisfies the monitoring measure in Objective 2 that requires a discussion of the reserve capacity of raw water in the County system. Reserve capacity of finished water is discussed in Objective 2 analysis.

The County's Water Use Permit, issued by the SFWMD, requires that the County develop alternative water source options, including water conservation and alternative water supply, to satisfy projected water demands. Alternative water sources include salt or brackish water desalination plants, the reuse of wastewater (reclaimed water), storage of surface water (including the use of surface reservoirs or underground wells), and the storage and use of rainwater. The SFWMD determined that the Lower East Coast region of Florida is an area where the historical source of water, the Biscayne Aquifer, would not be able to keep pace with water demands on the resource while continuing to support regional ecosystems, unless careful water planning occurs.[27]

In addition to reclaimed water projects, WASD plans to augment withdrawals from the Biscayne Aquifer through Aquifer Storage and Recovery (ASR) projects. ASR is a technique that entails injecting water underground for storage with the intent of pumping or recovering the water during seasonal or multi-year drought periods when there are water shortages. The injected water can be groundwater or surface water, treated to different levels, or reclaimed wastewater.[28] The County will only be using Biscayne Aquifer groundwater from the Southwest and West Wellfields for its aquifer storage systems that will be treated prior to injection using an Ultraviolet disinfection process. Water recovered from the ASR wells will be routed to the Alexander Orr, Jr. Water Treatment Plant for treatment and distribution. Water proposed for injection and storage is described in Table 2.5.1-11, Aquifer Storage and Recovery: Projected Water Storage Quantities, for each of the five ASR wells proposed for Miami-Dade County. It should be noted that as of December 2009, no cycling plan had been completed for these ASR wells and no full recharge and recovery processes have occurred.

Table 2.5.1-11
Aquifer Storage and Recovery:
Projected Water Storage Quantities by Year (million gallons)

	2010	2011	2012	2013	2014
ASR-1-W	337.68	922.32	771.12	771.12	771.12
ASR-2-W	337.68	922.32	771.12	771.12	771.12
ASR-3-W	337.68	922.32	771.12	771.12	771.12
ASR-4-W	337.68	922.32	771.12	771.12	771.12
ASR-5-W	337.68	922.32	771.12	771.12	771.12
Total Projected Storage Per Year	1,688	4,612	3,856	3,856	3,856

Source: Miami-Dade County Water Management District. April 2010.

The United States Environmental Protection Agency has designated the regulatory authority over ASR wells to the Florida Department of Environmental Protection. ASR wells are regulated to avoid impacts to underground sources of drinking water, such as the Biscayne Aquifer. Fluid movement from

[27] South Florida Water Management District, Water Supply Planning. Accessed online on June 2010, http://www.sfwmd.gov/portal/page/portal/xweb%20-%20release%203%20water%20supply/water%20supply%20planning.

[28] South Florida Water Management District, Aquifer Storage and Recovery. Accessed online on June 2010, http://www.sfwmd.gov/portal/page/portal/xweb%20-%20release%203%20water%20supply/aquifer%20storage%20and%20recovery.

ASR wells that may adversely affect human health is prohibited. The EPA summarizes potential impacts to underground sources of drinking water at www.epa.gov/safewater/asr/index.html. To meet standards, the County constructed Ultraviolet (UV) Disinfection Systems at the County's West and Southwest Wellfields to treat water for use in ASR wells.

The County is also working to achieve this objective through compliance with policy WS-6F and CIE-5C (CIE, Capital Improvements Element), by ensuring that no Certificate of Occupancy will be issued for the development approved through CDMP Application No. 5, April 2005-2006 cycle, until it is served by a reverse osmosis water treatment plant (or by another water supply source authorized under the County's WUP or as otherwise agreed upon with the SFWMD and incorporated into the County CIE Schedules of Improvement). Miami-Dade County and the City of Hialeah signed a Joint Participation Agreement in December 2007 to construct the Hialeah Floridan Aquifer Reverse Osmosis Water Treatment Plant (RO Plant). The RO Plant is described in the current CDMP Capital Improvements Schedule adopted in December 2009 as part of the April 2009/2010 CDMP Amendment Cycle. The three phase project is included in Table 2.5.1-6 and below.

i) Hialeah Floridan Aquifer Reverse Osmosis (RO) Water Treatment Plant Phase 1 (10 MGD). Estimated completion date: 2012.
ii) Hialeah Florida Aquifer Reverse Osmosis (RO) Water Treatment Plant Phase 2 (5 MGD). Estimated completion date: 2017.
iii) Hialeah Florida Aquifer Reverse Osmosis (RO) Water Treatment Plant Phase 3 (2.5 MGD). Estimated completion date: 2028.

The County is working to comply with statutory requirements included in Section 163.3180(2)(a) of the Florida Statutes and policy CIE-5D by developing a "Water Allocation Program" that will be utilized to authorize new development dependent on adequate water supply. Policy CIE-5D requires that WASD implement a system that links water supplies to the permitting of new development.

Modification of Monitoring Measure.
The monitoring measure for Objective WS-6 should be modified to be consistent with the County's Water Use Permit.

Policy Relevance.
WS-6E: This policy will be revised to be consistent with the reuse project requirements included in the County's Water Use Permit from the South Florida Water Management District (2007-2027). This policy should be revised to acknowledge that wastewater reuse reduces withdrawals from the aquifer in addition to recharging the aquifer.

Objective WS-7
Miami-Dade County shall create a Water Supply Facilities Work Plan that identifies and develops those water supply projects necessary to meet the County's projected water demands for a 20-year period.

CDMP Monitoring Measure. Recommended measurements include: Consistency between the water supply projects identified in the Water Supply Facilities Work Plan and those listed in Miami-Dade County's Water Use Permit(s), the *Lower East Coast Regional Water Supply Plan,* and the Capital Improvements Element of the CDMP. A second measure would be a comparison of the projected 20-year water demands with the projected water supply projects identified in the Work Plan.

Objective Achievement Analysis. Section 163.3177(6)(c) of the Florida Statutes requires that local governments prepare and adopt a Water Supply Facilities Work Plan (Work Plan) into their comprehensive plans within 18 months after the water management district approves a regional water supply plan or its update. The Lower East Coast (LEC) Water Supply Plan update was approved by the South Florida Water Management District (SFWMD) SFWMD on February 15, 2007. The deadline for local governments within the LEC's jurisdiction to amend their comprehensive plans to adopt a Work Plan was August 15, 2008. The Miami-Dade County Work Plan (Work Plan) was adopted in April 2008, ahead of the 18 month deadline. The adopted Work Plan is consistent with the County's 20 year Water Use Permit and the South Florida Water Management District's (SFWMD)

Lower East Coast Regional Water Supply Plan. The Work Plan includes population and water demand projections, existing water sources and facilities, alternative water sources, water conservation and reuse plans and capital improvement project schedules.

Every five years, the SFWMDs Lower East Coast (LEC) Regional Water Supply Plan is updated, and these updates trigger a requirement that the County's Water Supply Facilities Work Plan be updated within 18 months to reflect LEC modifications. (The next LEC update is expected to occur in 2012.) The County's Water Supply Facility Work Plan projects are also reported in the Capital Improvements Element of this document.

In accordance with Section 373.0361 of the Florida Statutes, the County submits annual LEC Entities' Progress Reports to the SFWMD. The progress reports include the latest water supply development project information including any modifications to the County's WUP.

Modification of Table 1, Alternative Water Supply and Wastewater Reuse Projects 2007-2030

The County Water and Sewer Department (WASD) has applied to modify its Water Use Permit (WUP) with the SFWMD. As a result of the County's water conservation program and water use restrictions, the County's finished water demand is 35 million gallons per day lower than what was anticipated when the WUP was submitted to the SFWMD. The County's average per capita water usage has dropped (see Table 2.5.1-9 above) from 160.79 gallons per person per day in 2006 to 142.48 gallons in 2009. As stated above, the County's Water Use Permit base condition for raw water use is 346.37 million gallons per day. Projected usage above that base condition amount must coincide with County timelines to provide Alternate Water Supplies through projects such as reverse osmosis and aquifer recharge (through the use of reclaimed wastewater).[29] Since the County's finished water demands will not surpass base conditions until a date later than anticipated in 2006, and for other reasons listed below, the County requested the following modifications:

- Removal of Alternative Water Supply Projects listed in Table 1, 20A, Floridan Aquifer Blending at Alexander Orr, Jr. Water Treatment Plant, and 20C, Floridan Aquifer Blending at Hialeah-Preston Water Treatment Plant due to water quality issues.
- One year delay of the Hialeah Reverse Osmosis Water Treatment Plant, Floridan Aquifer Wellfield and South District recharge projects, to provide time to complete these projects in a cost-effective way.
- Deferred implementation of North and Central District Wastewater Treatment Plants' reuse projects to the compliance date in the Ocean Outfall legislation to facilitate a comprehensive and cost-effective reuse plan that is integrated with Outfall legislation compliance planning.

Some of the construction timeframe dates in Table 1 also should be modified to coincide with information in the document entitled, Exhibit 30 "Reuse Projects and Deadlines", revised on April 16, 2010, that was included in the County's Request for Information letter to the SFWMD, dated April 19, 2010.

Policy Relevance.

WS-7A. This policy will be revised to reflect the adopted Water Supply Facilities Work Plan date of April 2008. Modifications are also needed to update "Table 1, Alternative Water Supply and Wastewater Reuse Projects 2007-2030", that are referenced in Policy WS-7A, and included on page V-11.1 and V-11.2. Any changes to the WUP should be reflected in Table 1.

[29] WASD Documents from 2009 and 2010: Exhibit 28, MDWASD Finished Water Demands and Water Supply Projections 10/30/2009, Comparison of WUP Projections and updated Per Capita Projections; Exhibit 29, Alternative Water Supply Project Development Deadlines Tied to increased Withdrawal Above the Base Condition Water Use; and Exhibit 30, Reuse Projects and Deadlines.

2.5.2 Solid Waste Subelement

The purpose of the Solid Waste Subelement is to provide for an integrated Solid Waste Collection and Disposal System with the principle responsibilities of collection, transfer, disposal and recycling of municipal solid waste. Miami Dade-County's Department of Solid Waste Management (DSWM) primarily provides solid waste services to account holders of single - family residential units and a small number of commercial and multifamily units in the unincorporated portions of the County. The Department presently holds long term interlocal agreements with 18 municipalities to provide solid waste disposal services and 11 municipalities for curbside recycling. The Department also ensures regulatory compliance in issues regarding solid waste through the Enforcement Division, which continues to be proactive in addressing and investigating occurrences of trash on the rights-of-way and illegal dumping.

The Department is currently developing a Solid Waste Management Master Plan (Plan) that will meet the waste reduction, collection, recycling, transfer and disposal needs for Miami-Dade County for the next fifty years. The goal of this Plan is to identify and develop activities, programs, facilities, and technologies that will provide sustainability, resource conservation, source reduction, recycling, and diversion, disposal and collection options and ensure public health and environmental protection for the next generation of county residents.

The development of the plan began in June 2009 and will be completed in thirty-six months. The Plan will inventory, evaluate and assess the existing solid waste management system including, but not limited to the facilities, operations, contracts/agreements, financial state, regulatory environment, etc. and define long-range goals for the future solid waste management system in general terms regarding technologies, cost, customer convenience, environmental impacts, county-municipal relations, risk, etc. The goals and priorities are to be developed through an open and public consensus building process involving the community, county government, municipalities, haulers, regulators and various stakeholders. The Plan will identify and prioritize system needs in general terms as defined by the gap between the existing system and the long-term goals. It will develop corresponding criteria for evaluation of waste management alternatives.

The Plan, not to be confused with or substitute for the Solid Waste Subelement, will serve as a supplementary tool to guide the progression of the DSWM within County and State and Federal guidelines. In the interim, the 2009 Subelement strives to evaluate performance of the DSWM since 2003 as a stepping-stone towards future development.

Objective SW-1
In order to serve those areas where growth is encouraged and to discourage urban sprawl, the County shall plan and provide for solid waste disposal services on a countywide basis as provided for in this Subelement in conformance with the Land Use Element of the Comprehensive Development Master Plan.

CDMP Monitoring Measure: Planning and provision of solid waste services in concert and conformity with the County's Land Use Element of the CDMP.

Recommended measurements include: identification of solid waste disposal sites or fixed capital assets such as Landfills or Trash & Recycling Centers located outside the Urban Development Boundary (UDB); and, number and/or percentage of special collection events such as Household Hazardous Waste collections conducted outside of the UDB.

Alternative measure for solid waste: area outside of the UDB served by Miami-Dade County collection services. Source of alternative measure: Miami-Dade Department of Solid Waste Management atlas of solid waste collection routes.

Objective Achievement Analysis: In 2003, the DSWM served 3,446 residential accounts outside of the UDB collection service area which represented 1.22 percent of all residential accounts served in the County. In 2008, DSWM served 4,547 residential accounts outside the UDB collection service area, which composes 1.45 percent of all accounts served in the County. This represents a 29.91 percent increase in the number of residential accounts since 2003. The number of commercial accounts

outside of the UDB increased from 8 to 25 since 2003, and currently represents one one-hundredth of one percent of all County accounts.

Table 2.5.2-1
Miami-Dade County Solid Waste Management
Active Accounts in 2008

Urban Development Boundary	Residential		Commercial	
	Accounts	Units	Accounts	Units
Inside	307,657	317,866	832	915
Outside	4,547	4,689	25	25
	312,204	322,555	857	940
Total Active Accounts:		313,061		
Total Units:		323,495		

Source: Miami-Dade County DSWM, January 2008

Analysis indicates this objective has been achieved, notwithstanding the modest increase in the number of housing units outside of the UDB that are served by County refuse collection. The 1,158 additional residential units served since 2003 outside of the UDB represents an increase of 33 percent, while 76,995 units, a 33.3 percent increase were added to the service area as a whole. Consequently the number of residential units outside of the UDB increased in proportion to the service area as a whole, from 2,100 units (0.86 percent) in 1994, to 3,531 units (1.21 percent) in 2003, and now 4,689 units (1.45 percent) in 2008. Service is provided as a health and welfare measure – by providing the collection service, refuse is not left accumulating on properties or being dumped on vacant land or in canals, nor is a capital expense being incurred by DSWM outside of the UDB.

Policy Relevance: The policies under Objective SW-1 were reviewed for continued relevance. Listed below are those policies requiring slight modifications or other changes.

Policy SW-1A. The DSWM provides service to paying customers whether inside or outside the UDB. This policy, which refers to locations in the County receiving priority in the provision of solid waste management facilities and services, should be modified. The directive for avoiding provision of solid waste service to area outside of the UDB may be modified or eliminated, in that such service is not a capital expenditure. The provision of solid waste collection service is not generally recognized as one of the services that induces further development along the urban fringe, such as roads, water or sewer lines, or other infrastructure. Disposal services are Countywide, serving existing and future demand without the promotion of sprawl. Therefore, disposal facilities may be built outside UDB, in coordination with County guidelines to prohibit sprawl.

Objective SW-2
The County will implement procedures to ensure that any existing solid waste deficiencies that may exist are corrected and maintain an adequate disposal system for a minimum five year Level of Service capacity that will be available to meet future needs.

CDMP Monitoring Measure: Implementation of procedures to ensure adequate facilities and correct system deficiencies, including Level of Service (LOS) standards for solid waste management services.

The achievement of LOS standards is its own monitoring measures. For the entire objective, the following measures are recommended: annual amount of waste disposed of through the County disposal system in comparison with the capacity analysis of County disposal facilities prepared by the DSWM; per capita waste generation estimates; annual amount of waste disposed of or processed at each County disposal facility; annual amount of waste disposed of or processed at each County transfer facility; and, amount of waste disposed of or processed at private disposal facilities or exported out of the County. Because this information is monitored in the course of routine operations by the DSWM, no alternative measures are proposed.

Objective Achievement Analysis: The DSWM reports that a total of 1,617,529 tons of waste were disposed of in the period October 2007 through September 2008. The DSWM reported disposing of approximately 1,823,956 revenue tons in Miami-Dade County public facilities during FY 2007-08, and lesser amounts in Miami-Dade County private facilities and outside of the County. Calculation and reporting methods for waste accumulation were modified since 2003 and currently reflect tonnage disposed instead of per capita waste generation.

Miami-Dade County owns and operates three landfills, as shown in Figure 2.5.2-1, *Solid Waste Loca-*

tions and Service Area Boundaries. The South Dade Landfill is a Class I garbage landfill that is permitted to accept garbage, trash, and special wastes such as asbestos, sterile medical waste, sludge, shredded tires, pathological waste (dead animals), ash, and contaminated soil. The North Dade Landfill is a Class III landfill that is permitted to accept only waste that is not expected to produce leachate which poses a threat to public health or the environment, such as trash, yard trash, shredded tires, and construction/demolition debris. The Resources Recovery Facility (RRF) is owned by the County and operated under a management agreement by Montenay-Dade, Ltd., an affiliate of Montenay Power Corp. The RRF converts garbage into refuse-derived fuel. Garbage and trash are processed into refuse-derived fuel and then burned in four boilers that produce steam to turn two turbine generators. Energy produced from burning the fuel is enough to power the plant and supply the average power needs of approximately 45,000 households per year. The Ash Landfill, located at the RRF, is a site for the final disposition of ash produced by the RRF and also some ash from a cogeneration facility in Palm Beach County. Also located at the RRF is a Recyclable Trash Improvements facility, which produces fuel pellets for cogeneration uses.

During FY 2007-08, almost 486,491 tons were disposed of at the South Dade Landfill and 203,310 tons were disposed of at the North Dade Landfill. The Resource Recovery Facility was utilized to dispose of 570,064 tons, and almost 173,854 tons were disposed of at the Resource Recovery Ash Landfill (2008 Comprehensive Annual Financial Report).

A total of 183,810 tons of waste were disposed of contractually to Waste Management Inc. of Florida. Under long-term waste disposal contracts with Waste Management, the DSWM must deliver a minimum of 100,000 tons per year to the Medley Class I landfill.

Miami-Dade County operates three regional transfer stations where collection vehicles unload waste for an interim period that permits collection vehicles to minimize the amount of time that the vehicles are unavailable to collect solid waste (Annual Report). The transfer stations are strategically located throughout the County and were designed to serve several purposes within the overall solid waste management system. These purposes include reduction of travel distance and transport time for waste collection vehicles, reduction of waiting time and traffic congestion at the DSWM disposal facilities, allowance for operating flexibility by providing short-term storage capacity for solid waste prior to disposal, and enabling the DSWM to comply with various waste delivery obligations without directing municipal or private haulers to specific disposal facilities. Table 2.5.2-2 shows the solid waste amounts processed at the transfer stations between 2007 and 2008. The DSWM also has ongoing transfer operations at the RRF and at the South Dade Landfill for the transport of waste and waste derived by-products such as yard trash, tires, ash, rejects, and process unders, between facilities.

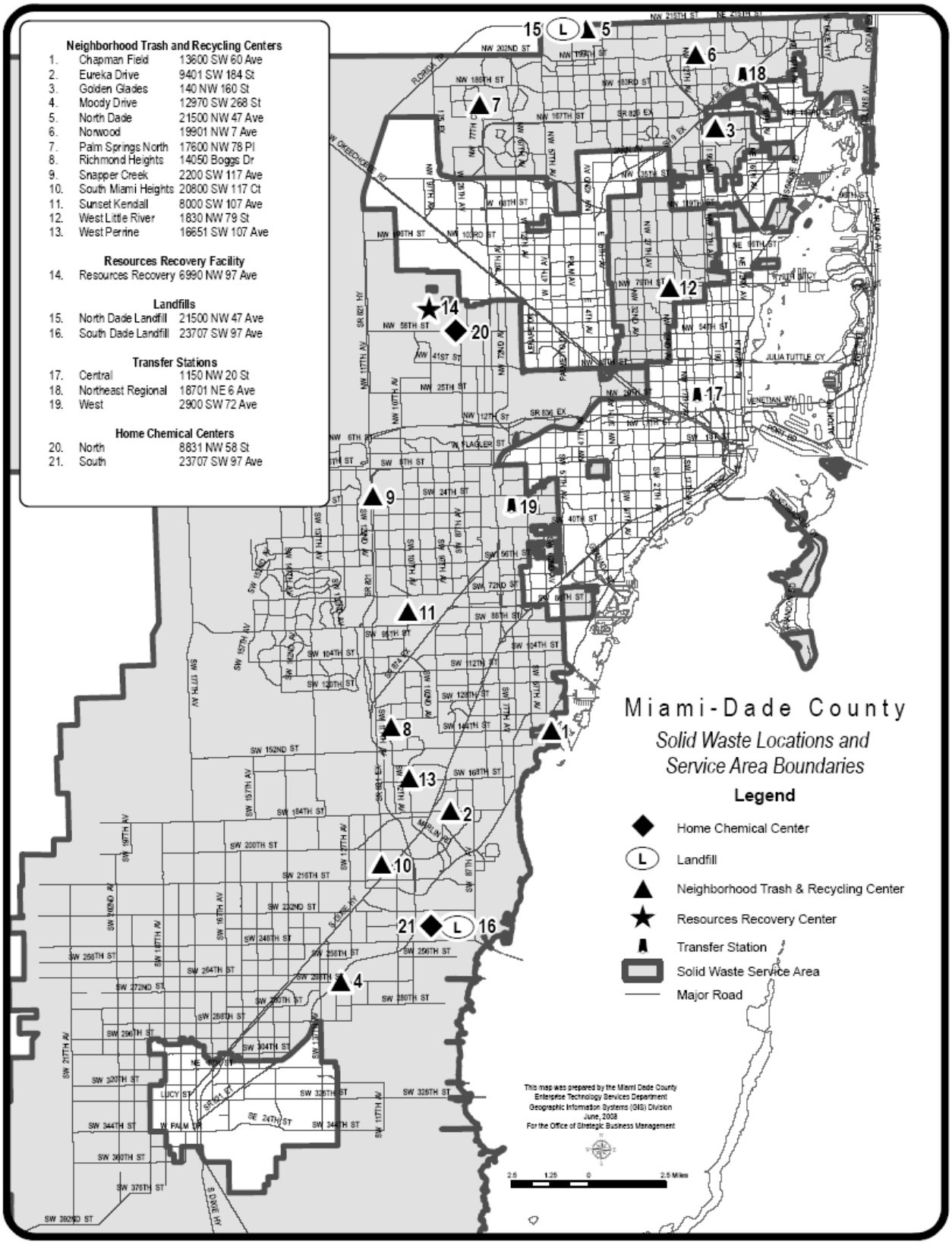


Figure 2.5.2-1
Solid Waste Locations and Service Area Boundaries

According to Table 2.5.2-2, the Annual Amount of Waste Processed at Miami-Dade County Transfer Stations generally decreased from FY 2007-08, with the greatest decrease (18.45 percent) occurring at the Central Transfer Station. This may be due to aggressive recycling and reuse efforts promoted by the County, but much more to economic changes as patrons are not purchasing as much, and therefore are not disposing as much waste. Level of Service is interpreted within the County in accordance with Policy SW-2A. State Statute obligates the County Solid Waste Management System to collectively maintain disposal capacity sufficient to accommodate waste flows committed to the System through long-term interlocal agreements or contracts with municipalities and private waste haulers, and anticipated non-committed waste flows, for at least five years. The overall decrease of waste disposed and future initiatives to promote conservation efforts perpetuate the ability of DSWM to maintain an adequate level of service. The issue is further addressed in discussion to the projection of capacity.

Table 2.5.2-2
Annual Amount of Waste Handled
At Miami-Dade County Transfer Stations, FY 2007-08

Transfer Station	FY 2007 Total	FY 2008 Total	Difference 2007-2008	Percent Decrease 2007-2008
Central TS	201,156	164,036	37,120	-18.45%
West TS	279,726	264,633	15,093	-5.40%
Northeast TS	226,760	221,052	5,708	-2.52%
TS Total	707,642	649,721	57,921	-8.19%

Source: Miami-Dade County DSWM, 2008

Table 2.5.2-3 is based upon a facility capacity analysis prepared by DSWM in 2009, projected over the next ten years to 2019, for the three disposal facilities - the Ash Landfill, and the South and North Dade Landfills - that are owned and operated by Miami-Dade County, in addition to the Contracted Disposal Service through Waste Management Incorporated (WMI). According to DSWM consultants, "the projection is based on the demand generated by those parties (municipalities and private haulers) who have committed their waste flows to the System through interlocal agreements, long term contracts and anticipated non-committed waste flows, in accordance with the LOS standard." The table presumes an annual disposal rate of 155,000 tons for the Ash Landfill, 151,000 tons for South Dade, 219,000 tons for North Dade, and 250,000 tons for the WMI contract for a total of 775,000 tons total landfilled per year.

As the table indicates, the County has adequate capacity to meet LOS through 2016, two years longer than the 5 year requirement as specified in Policy SW-2A. This determination is contingent upon the continued ability of the County, its disposal service contract providers to obtain and renew disposal facility operating permits from the applicable federal, state, and local regulatory agencies, and the assumption that waste tonnages will not grow.

Table 2.5.2-3
Solid Waste Management Disposal Facility Available Capacity
From Fiscal Year 2009-2010 through Fiscal Year 2018-2019
Ending Capacity

FISCAL YEAR	Ashfill*	S. Dade**	N. Dade***	WMI**** Contract Disposal	Total to be Land-filled
2009 - 10	212,259	2,042,471	1,694,664	250,000	775,000
2010 - 11	57,259	1,891,471	1,475,664	250,000	775,000
2011 - 12	0	1,642,730	1,256,664	250,000	775,000
2012 - 13	0	1,336,730	1,037,664	250,000	775,000
2013 - 14	0	1,030,730	818,664	250,000	775,000
2014 - 15	0	724,730	599,664	250,000	775,000
2015 - 16	0	168,730	380,664	0	775,000
2016 - 17	0	0	161,664	0	387,730
2017 - 18	0	0	0	0	161,664
2018 - 19	0	0	0	0	0
Total Remaining Years****	2	7	8	0	7

* Ashfill capacity for Cell 19 (Cell 20 is not included). When Cell 19 is depleted Resources Recovery Plant Ash and Okeelanta Ash will go to South Dade Landfill.

** South Dade includes Cells 3 and 4 (Cell 5 is not included). Assumes unders from Resources Recovery consumes capacity whether or not it is used as cover.

*** North Dade capacity represents buildout of the facility.

**** Maximum Contractual Tonnage per year to WMI is 500,000 tons, 250,000 tons to the Medley Landfill and 250,000 tons to the Pompano Landfill in Broward County. WMI disposal contract ends September 30, 2015

All capacity figures are derived from the Capacity of Miami-Dade County Landfills draft report prepared by the Malcolm Pirnie based on the actual January 2009 survey with actual tons from January 2009 through July 2009, and projected tons for August and September 2009.

According to the DSWM, capacity analysis depends upon the degree of compaction and also the differential densities of municipal solid waste. A U.S. Environmental Protection Agency (EPA) publication notes that waste density figures (which in itself are functions of mass and volume of materials) along with waste composition and compaction figures can be used in estimating landfill capacity. The practical effect is that, over a period of years in which population, technology, societal

trends, and waste composition changes, any estimate of time left until landfill capacity is reached will change and such estimates are likely as well to be different from year to year. It must also be noted that according to DSWM, system capacity includes the amount of waste that can be disposed of contractually with the private sector, in some cases outside of Miami-Dade County.

County disposal facilities have adequately handled the solid waste that has been generated by the collection system and private and municipal customers of DSWM. Disposal facilities, along with transfer stations and Trash and Recycling Centers, exhibited sufficient capacity and provision for future demand, or needs, is being provided by the County.

Policy Relevance: The policies under Objective SW-2 were reviewed for continued relevance. No changes or modifications were recommended for this objective or subsequent policies.

Objective SW-3:
The County will provide an adequate level of service for solid waste facilities to meet both existing and projected needs as identified in this plan through implementation of those projects listed in the Capital Improvements Element. All improvements for replacement, expansion or increase in capacity of facilities shall conform with the adopted policies of this Plan including level of service standards for the facilities.

CDMP Monitoring Measure. Provision of capital improvements to the solid waste management system in conformity with applicable plans and the Capital Improvements Element (CIE) of the CDMP.

The measurements recommended are the identification and value of solid waste management capital projects, including source of funding, listed in the Miami-Dade County Capital Budget and in the CIE.

Objective Achievement Analysis: Solid Waste Management capital projects listed in April 2009 Cycle CDMP Amendment Application, updating the Capital Improvements Element amount to $169,122,000.

Analysis indicates that progress has been made in achieving the objective. The solid waste portion of the County's capital budget is small as befits a disposal system that is largely in place with requirements for ongoing maintenance and replacement items. Continued development within the UDB reduces available and suitable locations for future disposal facilities and DSWM reports that future disposal capacity may lie in contractual arrangements with private contractors for extra-Miami-Dade County locations. Other future capital costs are likely to be associated with transfer stations, recycling facilities, and landfill closure and environmental monitoring or remediation, and not on the large scale that landfills represent. Another factor that makes analysis of capital costs difficult for the solid waste system, and for public projects generally, is the nature of such projects. Large projects requiring large capital expenditures typically occur at intervals, with large amounts of capacity being proposed, constructed, and coming on-line at certain points, but then lasting for lengthy periods when capital spending can be reduced. So comparing capital expenditures for any one class of projects against an entire capital budget may not entirely reflect the reality of the DSWM spending (p 2-174).

Policy Relevance. The objective and policies under Objective SW-3 were reviewed for continued relevance. According to Administrative Rule 9J-5.011(2) (b)2, Objective SW-3 seeks to "Address coordinating the extension of, or increase in the capacity of, facilities to meet future needs" through the achievement of maintaining a minimum five year level of service capacitity for existing facilities, in areas non-specific to capital improvements. Therefore, it is recommended to delete Objective SW-3, and add to Objective SW-2 measures based on annual disposal tonnage trends that impact the level of service and need to be addressed through new capital projects. Once the Level of Service standard is explicitly defined under Objective SW-2, it is proposed that the objective be deleted but that the policies that further implement the Level of Service through capital projects be placed under a revised Objective SW-2.

Objective SW-4
Miami-Dade County shall provide for the management of solid waste in a manner which places a high priority on the maintenance of environmental quality and community quality of life through waste reduction and recycling.

CDMP Monitoring Measure: Use of the solid waste management system to promote environmental quality and community quality of life.

The measurements recommended are: quantity of each major class of waste product recycled within the County, quantity of compost and/or mulching products generated by the waste system, or explanation of reasons why such products were not generated, such as danger of the spread of citrus canker; quantity of products purchased by the County containing recycled material; CO_2 reduction as measured by the Department of Environmental Resources Management; and energy created through the incineration of refuse derived fuel.

Alternative measurements include: quantity or proportion of the County waste stream diverted from landfilling through recycling, composting, resources recovery and alternative packaging.

Objective Achievement Analysis: DSWM is required to submit municipal solid waste management data to the Florida Department of Environmental Protection (FDEP) annually. Each county is required to report the amount of municipal solid waste (MSW) disposed of at solid waste disposal facilities by type, the amount and type of materials from the MSW stream that were recycled, and the percentage of the population participating in various types of recycling activities. In June 2008, Miami-Dade County began the delivery of a residential single stream recycling service to more than 340,000 homes which replaced a program that had begun 18 years earlier. Previously, residents placed their paper in one bin and metals, glass and plastic in a second bin, then carried both bins to the curb every week on recycling day. The single stream program allows residents to place all recyclable materials (including additional materials not previously recyclable) in one wheeled cart (with a lid) and roll the cart to the curb every other week.

To implement the recycling program, the County had to procure the purchase and delivery of the carts, put in place contracts for the collection and processing of the materials, and develop and distribute the public information necessary to teach residents the "who, what, when, where and why" of the program. The number of tons collected increased dramatically as residents began receiving their carts. Table 2.5.2-4 lists DSWM's waste products collected and recycled, by tonnage; the proportion recycled by the residents in the DSWM service area and the total percent recycled per week in pounds. In December 2008, when almost all carts had been distributed, the tons collected in the single stream program were more than double the tons collected the previous December.

The Resources Recovery Facility (RRF) converts garbage into refuse-derived fuel. Garbage and trash are processed into resource-derived fuel and then burned in four boilers that produce steam to turn two turbine generators. Energy produced from burning the fuel is enough to power the plant and supply the average power needs of 45,000 households per year.

Progress has been made in achieving Objective SW-4. Measures indicate that residents of the County are recycling more.

Policy Relevance: The objective and policies under Objective SW-4 were reviewed for continued relevance. It is recommended to add a measure to include quantity of waste product recycled by the Department through its procurement process. It is also recommended to add to Policy SW-4B that Miami-Dade County shall maintain a recycling rate consistent with the Energy, Climate Change and Economic Security Act of 2008. The Department of Environment Resources Management (DERM) and the Department of Procurement Management (DPM) addresses alternative packaging quantity of products purchased by the County containing recycled material, and therefore should not be included as a measure.

Objective SW-5
Miami-Dade County shall provide for the safe and efficient disposal of wastes through the development and maintenance of an integrated solid waste disposal system utilizing proven technologies, appropriate regulation, and equitable and responsible financing practices.

CDMP Monitoring Measure. Initiation and maintenance of an integrated solid waste system.

The measurements recommended include: the relative amounts of waste managed through recycling, incineration, and landfilling, by both the public and private sectors, used as a measure of the level of "integration" of the solid waste management system;

Table 2.5.2-4
Recycled Waste Products Collected by Tonnage per Month
October 2007 – August 2009

MONTH	Inbound Tons*	Total Single Stream	Total Inbound Tons	Tons per Household	Lbs per household
Oct 2007	2,811.53	-	2,811.53	0.0082	16.40
Nov 2007	2,778.35	-	2,778.35	0.0081	16.20
Dec 2007	2,462.22	-	2,462.22	0.0072	14.36
Jan 2008	2,773.57	-	2,773.57	0.0081	16.18
Feb 2008	2,210.56	-	2,210.56	0.0064	12.89
Mar 2008	2,430.29	-	2,430.29	0.0071	14.17
Apr 2008	2,383.50	-	2,383.50	0.0070	13.90
May 2008	2,447.17	-	2,447.17	0.0071	14.27
Jun 2008	2,386.14	-	2,386.14	0.0070	13.92
Jul 2008	2,006.49	701.02	2,707.51	0.0079	15.79
Aug 2008	1,743.18	1,229.92	2,973.10	0.0087	17.34
Sep 2008	1,360.16	2,053.61	3,413.77	0.0100	19.91
Oct 2008	773.93	3,793.20	4,567.13	0.0133	26.64
Nov 2008	292.88	4,076.99	4,369.87	0.0127	25.48
Dec 2008	154.15	5,389.69	5,543.84	0.0162	32.33
Jan 2009	-	5,250.13	5,250.13	0.0153	30.62
Feb 2009	-	4,361.76	4,361.76	0.0127	25.44
Mar 2009	-	4,985.97	4,985.97	0.0145	29.08
Apr 2009	-	4,893.76	4,893.76	0.0143	28.54
May 2009	-	4,932.41	4,932.41	0.0144	28.77
Jun 2009	-	5,556.74	5,556.74	0.0162	32.41
Jul 2009	-	5,175.85	5,175.85	0.0151	30.19
Aug 2009	-	4,846.90	4,846.90	0.0141	28.27

* Includes residual Dual Stream

relative amounts of funding, provided by direct user fees, environmental fees, and capacity-related fees, as a measure of financing equity; solid waste management operating budget schedule of revenues and expenses for disposal system (available in DSWM annual financial report); and, proportion of operating and capital development costs of current and planned solid waste disposal facilities generated through user fees and sources other than County general fund revenues or fees or charges to County residents or firms for services other than solid waste collection and disposal. Because this information is available each year in the County's Annual Capital Budget and Annual Operating Budget, no alternative measurements are proposed.

Objective Achievement Analysis. An integrated waste management system is cited as including recycling, landfilling, and incineration. Table 2.5.2-5 illustrates the methods utilized in Miami-Dade County to dispose of waste. For Fiscal Year 2007-08, the majority of waste in Miami-Dade County, 59.25 percent, was landfilled. Slightly less than one-third or 32.25 percent, of the waste stream was incinerated while the smallest amount, 8.50 percent, was recycled.

Table 2.5.2-5
Method of Waste Treatment, Fiscal Year 2008

DSWM Facilities Including Resource Recovery Facility	Tons of Waste	Proportion
Total Recycling	150,295	8.50%
Total Incineration	570,064	32.25%
Total Landfilling	1,047,465	59.25%
Total Waste Generated	1,767,824	100.00%

Source: DSWM, Comprehensive Financial Annual Report, 2008.

The next table indicates fiscal information. Table 2.5.2-6 is the DSWM Capital Plan for Fiscal Year 2009-2010. The table illustrates Active Environmental Disposal Projects, Active Collection Projects and Active Disposal projects, the expenditures for those projects, and the source of revenue to pay for the projects. Disposal projects listed expend a total of $33,073,000. The capital projects are funded through disposal and collection system operating funds, which are generated from solid waste system user fees and charges, and bonds revenues (Debit Financing).

Analysis of the monitoring measures and other data indicates that there has been progress toward the objective. The disposal system relies on more than one method of disposal, which may indicate that the most appropriate method of disposal is utilized for different types of waste. The County's General Fund is not used to subsidize the solid waste disposal system but the actual users of the system provide disposal funding.

Policy Relevance: The policies under Objective SW-5 were reviewed for continued relevance. It is still relevant, but similar to Objective SW-2.

Objective SW-5 refers to providing for an integrated solid waste disposal system. A modification may be warranted to further clarify and expand on current language to place more emphasis upon "equitable and responsible financing" of the solid waste disposal system.

The objective should refer to equitable and responsible financing of disposal system costs, to be met through a combination of user fees, environmental protection fees, and capacity-related fees, without County general fund subsidy.

Recommendation: Measures reliant on the Capital Improvement Element tend to fluctuate, therefore it is recommended that Objective SW-5 be deleted, and added to Objective SW-2 measures that rely more so on the impact the level of service and need to be addressed through new capital projects. Once the Level of Service standard is defined under Objective SW-2, it is proposed that Objective SW-5 be deleted and the policies that further implement the Level of Service through capital projects be placed under a revised Objective SW-2.

Objective SW-6:
Substantially reduce or minimize the amount of household hazardous wastes and used motor oil that are disposed of in an unsafe or improper manner.

CDMP Monitoring Measure. Promote safe disposal of household hazardous wastes. The measurements recommended include: number of customers using household hazardous waste drop-off (including used motor oil) at the Permanent Collection Center, other satellite sites including Neighborhood Trash and Recycling Centers, and special collection events, and the amount of each major category of household hazardous waste disposed of. As a surrogate measure, the quantity of used motor oil recycled in the county can be used as a proxy for all hazardous waste disposed in a proper manner.

Objective Achievement Analysis. Table 2.5.2-7 and Table 2.5.2-8 below contains data from Figure 2.5.2-2, the Home Chemical Collection Program, dating from the year ending September 30, 1999 to September 30, 2008. Household hazardous chemicals are collected at the South Dade Landfill, 23707 SW 97th Avenue, and the Permanent Home Chemical Collection Center, 8831 NW 58 Street, a centrally-located facility which accepts oil-based paints, pesticides, solvents, pool chemicals, and other household items. The Permanent Center is the primary source for chemical refuse, while Neighborhood Trash & Recycling Centers only collect used motor oil.

Data analysis indicates that substantial progress has been made in achieving Objective SW-6. In recent years, the number of participants increased from the 2,000 to 3,000 range but is currently approaching 3,500 residents (Table 2.5.2-7). This may be due to more effective environmental education programs and distribution of information regarding the home chemical program.

Table 2.5.2-6
Solid Waste Management Capital Projects 2009-2010
(Dollars in Thousands)

Active Environmental Disposal Projects (Index Code Prefix: SWED0)

Project Name	Prior 09-10	Budget 09-10	Future Years	Budget Total	Disposal Operating Funds	Collections Operating Fund	Debit Financing	Total
Env. Improv.	0	100	500	600	600			600
ND E. Cell Closure	0	0	19,924	19,924	500		19,424	19,924
ND Gas PH 2	2,165	0	0	2,165			2,165	2,165
ND GW Remed.	0	80	1,420	1,500	1,300		200	1,500
RR Capital Imp.	1,900	600	500	3,000	3,000			3,000
RR C 19 Closure	0	0	3,000	3,000	343		2,657	3,000
RR 17/18 closure	1,628	3,100	272	5,000	5,000			5,000
SD Cell 3 Closure	11,678	1,860	192	13,730	3,239		10,491	13,730
SD Cell 4 Closure	0	0	14,600	14,600	1,299		13,301	14,600
SD Cell 5 Closure	0	0	15,730	15,730	160		15,570	15,730
RR Cell 20 Closure	0	0	5,000	5,000	5,000			5,000
SD GW Remed.	490	150	130	770	293		477	770
Cell 4 Gas/Odor	300	700	500	1,500	1,500			1,500
Virginia Key	28,540	395	16,715	45,650	650		45,000	45,650
Sub Total Environmental				132,169				132,169

Active Collection Projects (Index Code Prefix:SWEC0)

Project Name	Prior 09-10	Budget 09-10	Future Years	Budget Total	Disposal Operating Funds	Collections Operating Fund	Debit Financ-ing	Total
58 St Bldg.Renov.	0	600	50	650		650		650
Col.Fac. Improv.	0	100	500	600		600		600
T&R Improve	0	100	500	600		600		600
W/SW T&R	353	240	1,437	2,030		2,030		2,030
Sub Total Collection				3,880				3,880

Active Disposal Projects (Index Code Prefix: SWED0)

Project Name	Prior 09-10	Budget 09-10	Future Years	Budget Total	Disposal Operating Funds	Collections Operating Fund	Debit Financing	Total
3A Facility Building	200	1,680	670	2,550	1,275	1,275		2,550
Dis. Facilities Imp.	0	200	500	700	700			700
58 St. HC2	321	160	29	510	510			510
NE Tunnel Roof	107	443	50	600	600			600
NE Comp. Repl.	1,951	1,000	19	2,970	2,233	737		2,970
NE Surge Pit Roof	94	630	26	750	750			750
Replace Old Scales.	350	50	200	600	600			600
RR Cell 20 Const.	165	285	3,400	3,850	850		3,000	3,850
Scalehouses Exp.	172	300	428	900	900			900
SD Cell 5 Const.	1,108	572	11,235	12,915	1,665		11,250	12,915
Access from 87 Av.	100	200	50	350	350			350
West Improve.	235	415		650	650			650
2 new exit scales	0	75	75	150	150			150
Emerg. Generators	228	150		378	378			378
58 St. truckwash	95	25	880	1,000	500	500		1,000
Cen. Comp. Repl.	2,893	15	1,292	4,200	2,805		1,395	4,200
Sub Total Disposal				33,073				33,073
Total Budget Submittal				169,122				169,122

The amount of chemicals collected exhibited a fluctuating trend with and slightly decreased from Fiscal Years 2007-2008. In FY 2007, 373,270 pounds were collected, and the amount decreased by 7.29 percent to 346,046 in 2008 (Table 2.5.2-8). The measure should be revised to specifically focus on collection at the Permanent Center, as it the primary source of home chemical disposal for the County, and at special collection events with an alternative measure to include collection at the household hazardous collection centers. The measure should also be revised to address an 'alternate' measure as opposed to a 'surrogate' measure

Policy Relevance: All of the policies under this objective are directive in nature and continue to be relevant. Therefore, the policies of Objective SW-6 will be retained, although it may be possible to combine some of the policies.

No changes or modifications were recommended for this objective or subsequent policies.

Table 2.5.2-7
Home Chemical Collection Program Participants

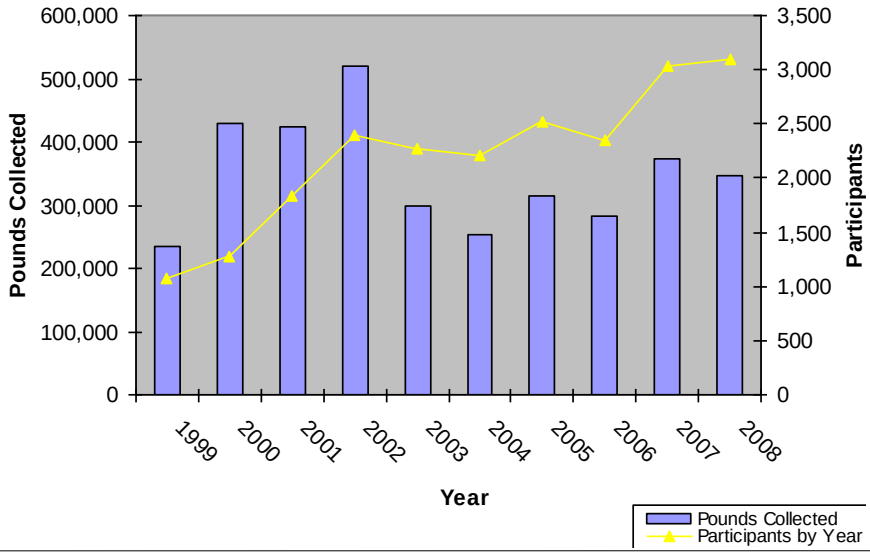
Location	Participants by Year (Fiscal Year Ending September 30 of Each Year)									
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MDCC-North	44	40	87							
MDCC-South	440	348	618	646	475					
South Dade Gov't Center						298	227			
Homestead	199	115	130	94	42	73		32	39	2
Permanent Center	474	769	1,005	1,538	1,656	1,738	2,170	2,317	3,001	3,092
Total Participants	1,067	1,272	1,840	2,393	2,265	2,207	2,520	2,349	3,040	3,094

Table 2.5.2-8
Home Chemical Collection Program Pounds Collected
1999 - 2008

Location	Pounds Collected									
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Florida International University - North				15,791	6,711	7,916	12,601			
MDCC-North	2,992	2,869	4,533					3	2.9	4.5
MDCC-South	29,877	27,959	29,844	99,418	21,941					
South Dade Gov't Center						13,484	23,335			
Biscayne Greyhound Track										
Homestead	5,609	18,628	8,513	11,726	6,698	8,629		1,974	3,218	700
Joe Robbie Stadium		50								
Permanent Center	195,960	380,196	380,228	394,389	264,360	224,015	277,722	279,493	370,052	345,346
Total Pounds Collected	234,438	429,652	423,118	521,324	299,710	254,044	313,658	281,467	373,270	346,046

Source: DSWM, Comprehensive Financial Annual Report, 2008
Notes: Area specific programs were discontinued in FY 1995 in favor of a permanent drop-off site
Mobile events for unincorporated areas were reinstated in 1999.
Permanent Center pounds collected includes used oil dropped off at Trash & Recycling Centers.
Permanent Center was not in service in 1998.
Conversion for used oil is 8 pounds per gallon.

Figure 2.5.2-2 Home Chemical Collection Program, 1999 - 2008



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2.6 RECREATION AND OPEN SPACE ELEMENT

The Recreation and Open Space Element has set Miami-Dade County's goal, objectives, and policies for meeting the present and future recreational needs for all residents and visitors. The following Evaluation and Appraisal Report will provide the necessary updates and analysis of data necessary to evaluate the achievements of objectives and policies of the Recreation and Open Space Element and identify problems and opportunities relating to major issues resulting from unforeseen circumstances and make recommendations for any corrective measures including changes to the goal, objectives and policies to address the issues. These may include adding or deleting policies and objectives, updating maps, and capital improvements proposals. This EAR will focus on the work needed to implement the *Miami-Dade County Parks and Open Space System Master Plan* (OSMP), by creating a new framework for livability and sustainability that better addresses the issues facing the community.

The existing Objectives, Policies, and Monitoring Measures for the Recreation and Open Space Element are listed below, followed by an analysis of the achievement of the objective and related policies. The analysis includes the data from the 2003 EAR which has been updated where necessary, based on current and available data, in order to evaluate the achievements of the objectives and policies. Where appropriate, estimates of future needs are projected to identify potential problems or changes that are needed in order to achieve the objective.

Objective ROS-1
Provide a coordinated system of countywide parks and recreational open spaces serving the entire County, and local recreation open spaces adequately meeting the needs of Miami-Dade County's unincorporated population, through the year 2010.

CDMP Monitoring Measures.

A. A comparison of the countywide park acreage in 2003, at the date of EAR report, and projected for the year 2010.

B. A comparison of the local recreation open space LOS at the date of EAR report, and projected for the year 2010.

Objective Achievement Analysis. Miami-Dade County is responsible for the provision of countywide recreational open space and of local recreational open space to unincorporated areas of the County. Currently, service areas for local recreation open spaces and park classifications, as determined by Miami-Dade Park and Recreation Department (MDPR), are the primary criteria used to determine future park locations and to conduct capacity evaluations. The service areas are based on park size, existing or planned facilities, and public recreation demand. Table 2.6-1 below summarizes the County's park classification criteria and service areas.

Countywide recreation open spaces are defined in the Recreation and Open Space Element of the CDMP as meeting the diverse recreational needs of Miami-Dade County residents and tourists on a countywide basis, and are classified as metropolitan parks, natural area preserves, special activity areas, district parks and greenways. Local recreation open spaces are described as meeting the close-to-home recreational needs of the residents of specific areas within the County, and are classified as mini-, neighborhood, single-purpose, community, and countywide parks used as local recreation areas. Local recreation open spaces also include designated public school and college playfields and portions of private recreation open space. Currently, a coordinated system of park and recreation open spaces is provided to Miami-Dade County residents and visitors.

The current park classification system is based on a suburban development context, primarily automobile dependent, and assumes the availability of large tracts of land for parks development. This current model will not work in a County that is experiencing much of its growth through redevelopment and increasing density. Therefore, the current classification system of parks should be changed with an emphasis on the equitable access criteria as described in the *Miami-Dade County Parks and Open Space System Master Plan, approved by Miami-Dade County Board of*

County Commissioners on February 19, 2008. The new model for parks acknowledges that the need for parks varies widely across the County depending on the development context, demographics, and lifestyles of a particular area. All monitoring measures for each objective in the Recreation and Open Space Element were analyzed with current data and all of the policies were reviewed for continued relevance.

Table 2.6-1
Recreation Open Space Classifications
Type of Recreation Open Space

	Countywide					Local			
Criteria	Metropolitan	Natural Area Preserves	Greenways	Special Activity	District Parks	Single-Purpose	Community	Neighbor-hood	Mini Park
Primary Orientation	Resource	Resource	Resource	Resource	User	User	User	User	User
Staff Available	Yes	Varies	No	Yes	Yes	Yes	Yes	No	No
Programs Available	Varies	Varies	No	Yes	Yes	Yes	Yes	No	No
Acres	Varies	Varies	Varies	Varies	200+	Varies	20-100	1-10	1/2

Source: (1) Miami-Dade Park and Recreation Department, 2010
(2) Miami-Dade Park and Recreation Areas – Summary of Park Classifications, July 2006

Monitoring Measure A. Countywide park acreage increased during the 2003-3009 reporting period. As Table 2.6-2 below shows, the County had in 2003 approximately 8,979 acres of countywide parkland. By 2009, this total increased by 2,222 acres or twenty-five percent, bringing the total to 11,201 acres of countywide parks. Furthermore, the number of countywide park sites increased by approximately 18 percent bringing the total to 87 park sites in 2009, up from 74 park sites in 2003. Table 2.6-2 below also shows that the largest increase occurred in Greenways, whose acreage increased by 38 percent during the 2003-2009 reporting period, bringing the current total to 137 acres of Greenways. In addition, the 2003 EAR reported a total of 20 sites serving as Greenways in the County; this total increased to 24 sites by 2009, representing a 20 percent increase during the reporting period.

It is important to note that District parks were reclassified to countywide parks (formerly classified as local parks) during the 2003 EAR-based amendment process, accounting for 1,804 acres of the 2,222 acres of countywide parks between 2003-2009 reported above. This reclassification came about because of budgetary transitions. A reduction of funding in the Unincorporated Municipal Services Area (UMSA) caused MDPR to begin funding regional services of District parks through countywide general fund allocations. Later, the Office of Strategic Business Management (OSBM) requested that the entirety of the parks be funded through the countywide general fund allocations. In order to maintain the integrity of the Recreation Open Space Element, the MDPR reclassified the entirety of District parks from local parks to countywide parks. The 2003 EAR reported a total of 1,503 acres of District parks in the unincorporated area of the County. This figure increased by 20 percent during the 2003-2009 reporting period, bringing the total to 1,804 acres of District parks.

Table 2.6-2
Countywide Park Acreage

Park Classification	2003		2009		Change	
	Acres	Sites	Acres	Sites	Acres	Sites
Metropolitan	3,765	15	3,964	15	199	0
Special Activity Area	3,460	26	3,598	26	138	0
Natural Area Preserve	1,655	13	1,698	12	43	-1
Greenway	99	20	137	24	38	4
District[1]	-	-	1,804	10	1,804	10
Total	8,979	74	11,201	87	2,222	13

Source: Miami-Dade County Park and Recreation Department, 2010
Notes [1] In 2003, District parks were classified as local parks acreage

Monitoring Measure B. The 2003 EAR reported a total of 5,063 acres of local parkland (District parks included). This total was reduced to 4,169 acres, composed of a combination of approximately 3,152 acres of local and designated portions of countywide parks, designated public school and college playfields and portions of

private recreation open space. Reductions in local park acreage were due, in part, because of incorporations that occurred in Miami-Dade County between 2003 and 2009 (see Table 2.6-3 below), in addition to loss due to the reclassification of District parks from local to countywide parks during the 2003 EAR-based amendment process.

Table 2.6-3 below lists the number of parks and amount of acreage transferred to municipalities as a result of incorporations that occurred in Miami-Dade County between 2003 and 2009.

Table 2.6-3
Parks Transferred to Municipalities, 2003-2009

Municipality	Park Transferred	Acreage
Doral	Doral Park	14.00
	Doral Meadows	14.00
	Miami West Park	80.98
Miami Gardens	Andover Park	2.87
	Brentwood Park	10.00
	Brentwood Pool	4.50
	Buccaneer Park	5.50
	Bunche Park and Pool	8.64
	Carol City Community Center	24.00
	Carol Park	5.66
	Cloverleaf Park	1.27
	Lake Lucerne Park	2.00
	Miami Carol City Park	16.61
	Myrtle Grove Park	7.69
	North Dade Optimist Club	4.13
	Norwood Park	8.94
	Risco Park	16.40
	Rolling Oaks Park	33.50
	Scott Park	9.70
	Vista Verde Park	11.91
Miami Lakes	Miami Lakes Park	7.80
	Royal Oaks Park	20.33
Palmetto Bay	Coral Reef Park	47.56
	Perrine Park	17.20
	Perrine Wayside Park	2.70
Cutler Bay	Bel Aire Park	5.29
	Cutler Ridge Park	12.88
	Franjo Park	5.27
	Lincoln City Park #2	.60
	Saga Bay Park	5.00
	Saga Lake Park	5.00
	Whispering Pines Park	1.37
Total		413.30

Source: Miami-Dade County Parks and Recreation Department, 2010

MDPR provides the Department of Planning and Zoning (DP&Z) with projections of local recreation open space twice a year. An analysis completed in September 2009 by MDPR includes projections to the year 2015 and breaks down parkland inventory and need based on Level of Service by Park Benefit District (PBD). According to the MDPR analysis, there will be approximately 4,243 acres of local recreation open space provided to the unincorporated population in 2015. As shown in Table 2.6-4 below, it is projected that acquisition of land for local parks in PBDs 1, 2, and 3, through the fiscal year ending September 2015, will add approximately 1,076 acres of land. The Miami-Dade County 2009/2010 Schedule of Improvements shows 108 projects for parks and recreation totaling $325.84 million to be expended during the 2009 - 2015 programming period (Schedule of Improvements, Table 6).

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

Objective ROS-1
The 2010 target date should be replaced with 2017

Monitoring Measures. The 2003 and 2010 target dates for the first monitoring measure should be replaced with 2010 and 2017 respectively. The 2010 target date in the second monitoring measure should be replaced with 2017.

Table 2.6-4
Projected 2009-2015 Local Recreation Open Space Level of Service

Park Benefit District	Projected 2015 Unincorporated Population (1) Plus Permitted Development	2009 Total Public Park Recreation Open Space Acreage (2)	2009-2015 Public Park Land Acres Addition (2)	2009-2015 School Playfield Acres Addition (3)	2015 Total Recreation Open Space Acres	Standard @ 2.75 Acres Per 1,000 (Acres)	Year 2015 Surplus/ (Deficit) Acres	2015 Percent of Standard
1	388,477	1005.65	414.73	9	1,429.38	1,068.31	361.07	133.80
2	626,893	1,619.43	409.36	4	2,032.79	1,723.95	308.84	117.91
3	178,198	526.78	251.95	2	780.73	490.04	290.69	159.32
Total	1,193,568	3,151.86	1,076.04	15	4,242.90	3,282.30	960.60	129.27

Sources: (1) Miami-Dade County Department of Planning and Zoning, Research Section 2010
(2) Miai-Dade County Park and Recreation Department, 2010
(3) Miami-Dade County School Board, Site Planning Department, 2009.

Objective ROS-2
Require the availability of adequate local recreation open space as a condition for the approval of residential development orders, and maintain an adequate inventory of recreational areas and facilities through 2010.

CDMP Monitoring Measures.

- Achievement of the LOS standard.
- A comparison of the proportionate share of the LOS standard comprised of public parkland at the date of the last Evaluation and Appraisal Report adoption and time of preparation of next Evaluation and Appraisal Report. [2010]

Objective Achievement Analysis. Miami-Dade County minimum level of service standard for the provision of recreation and open space is detailed in Policy ROS-2a(i) of the Recreation and Open Space Element. The policy states that 2.75 acres of local recreation and open space shall be provided per 1,000 permanent County residents; local recreation and open space of 5 acres or larger must exist within a 3 miles distance from the residential development; level of service will be calculated for each Park Benefit District; the minimum LOS standard shall not apply to rural and agricultural residences outside the UDB; and a Park Benefit District will be considered below standard if the projected deficiency is greater than five acres.

While the County continues to adequately satisfy the local recreational open space demands of current and future residents of the unincorporated area of the County, the overall level of service has declined since the preparation of the last Evaluation and Appraisal Report in 2003; therefore, this objective is being achieved. However, as population in the County continues to grow and land becomes scarcer, it may be exceedingly difficult to satisfy the required minimum level of service for local parks. Nevertheless, this objective has been achieved.

Monitoring Measure No. 1. The 2003 EAR reported that there were 5,063 acres of local recreation open space provided for meeting the level of service standard; at that time, that acreage met the level of service, which required 3,182 acres of local recreation open space based on the 2000 Census population estimate of 1,157,143 persons in the unincorporated area. The 2009 local recreation open space acreage and population located in the unincorporated portions of the three Park Benefit Districts (PBD) are compared in order to calculate current level of service for parks. Table 2.6-5 below shows the level of service for local recreation open space by Park Benefit Districts as of July 2009. Municipal facilities and incorporated area population figures were excluded from this analysis. Overall, there were 4,168 acres of local recreation open space or approximately 135 percent of the required 3,092 acres, counted in July 2009 for determining conformance with the level of service standard. In spite of an overall 15 percent decrease in the 'total' level of service for local parks since 2003, each Park Benefit District is operating above the adopted level of service for parks as of 2009, with a surplus of 1,076.6 acres.

Table 2.6-5
Local Recreation Open Space and Level of Service

Park Benefit District	2003 LOS	2009 Unincorporated Area Population	2009 Total Acres	2009 Required Acres	2009 LOS
1	153%	363,905	1,415.47	1,001	141.41%
2	154%	619,408	2,112.73	1,703	124.06%
3	199%	141,256	640.40	388	165.05%
Total	159%	1,124,569	4,168.60	3,092	134.82%

Source: Miami-Dade County Park and Recreation Department, July 2009

Monitoring Measure No. 2.
Policy ROS-2C directs the County to maintain at 70 percent its 2003 proportionate share of the total local recreation open space required, and to strive to increase this proportionate share standard to 80 percent by 2010.

In 2003, the County's proportionate share of local recreation and open space was 69.3 percent of the total 4,168 acres of local parks; in 2009, this proportionate share increased to 75.6 percent, which represents 3,151 acres of local parks (see Table 2.6-6 below). Furthermore, the 3,151 acres of local parks exceeds the 3,092 acres of required local parkland. As the data demonstrates, the County achieved and surpassed, between 2003 and 2009, the 70 percent proportionate share threshold and made progress in satisfying Policy ROS-2C's directive to increase the County's proportionate share of required local parks to 80 percent.

Table 2.6-6
Proportions of LOS

Site	2003 Acres	2003 LOS Proportion	2009 Acres	2009 Proportion	2009 Park Acres/LOS Standard
Parks	3,510	69.30%	3,151	75.60%	1.02
School	1,180	23.30%	753	18.07%	
Private	373	7.40%	264	6.33%	
	5,063	100%	4,168	100%	1.35

Source: Miami-Dade County Park and Recreation Dept., 2009

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

The 2010 target date for Objective ROS-2, Policy ROS-2C, and Monitoring Measure No. 2 should be replaced with 2017.

Objective ROS-3
Access to parks and recreational facilities will be improved in Miami-Dade County by 2010.

CDMP Monitoring Measures.

- The amount of funds expended for and number of capital projects improving on-site access for automobiles, bicycles, pedestrians, and mass transit to Miami-Dade County's recreation and open space facilities between 2003 and 2010.
- The number of projects and amount of funds expended for improving the handicapped accessibility of Miami-Dade County's recreation and open space facilities between 2003 and 2010.
- The number of projects and amount of funds expended for the acquisition and protection of Miami-Dade County's beaches for preservation and increased public access.

Objective Achievement Analysis. Since 2003, the Miami-Dade Park and Recreation Department has worked to facilitate improved access to community and district parks via the pedestrian, bicycles, transit and automobiles. MDPR and other County agencies have continued to expand access to parks and recreational facilities. Indications are that physical access to generalized park and recreational facilities has been provided at an acceptable level. Therefore, this objective has been achieved. However, much is needed to implement one of the OSMP's guiding principles, which is that every resident should be able to safely and comfortably walk, bicycle, drive and/or ride transit from their home to work, school, parks, shopping and community facilities. Therefore, a new monitoring measure should be added to Objective ROS-3 to measure the proximity of regional parkland to rapid transit stations and corridors in the County.

Monitoring Measure No. 1**.** This measure monitors the amount of funds expended for and the number of capital projects that improve on-site access for automobiles, bicycles, pedestrians, and mass transit to Miami-Dade County's recreation and open space

facilities between 2003 and 2010. The 2003 EAR reported on several improvements made to increase access opportunities by pedestrian, bicycle, mass transit, and automobile routes. A summary of these improvements is shown in Table 2.6-7 below. Greenways and trails were some of the major improvements, which provide access for both pedestrians and cyclists at an estimated cost of over $5 million during the 1995-2003 reporting period.

Table 2.6-7
Projects Providing On-site Access: 1995-2003

Means of Access	Project Type	Number of Capital Projects
Pedestrian	Greenways/Trails	1 / 7
Bicycle	Bicycle racks, Buses Greenways/Trails	22 Bike racks @14 Parks "Bike on Buses" Program
Mass transit	Bus stops/Shuttles	3
Automobile	Off-street parking	16

Source: Miami-Dade County Park and Recreation Department, 2009

The number of projects and amount of funding expended to improve on-site access to countywide recreation and open space facilities, between 2003 and 2009, are summarized in Table 2.6-8 below.

Table 2.6-8
Projects Providing On-site Access: 2003-2009

Means of Access	Project Type	Number of Capital projects	Dollar Value
Pedestrian	Greenways/ Trails/Walkways	83	$36,492,020
Bicycle	Course/Greenways/Trails	6	$4,908,185
Automobile/ Mass Transit	Off-street parking	43	$33,346,928

Source: Miami-Dade County Park and Recreation Department, 2009

Monitoring Measure No. 2. This measure monitors the number of projects and amount of funds expended for improving the handicapped accessibility of Miami-Dade County's recreation and open space facilities between 2003 and 2010. The 2003 EAR reported that funding for handicapped access projects, primarily through Community Development funding, declined for the period 1995-2003 from the previous period by 41 percent; from $3,995,000 reported through 1994 to $2,255,493 expended from 1995 through 2003 in 119 projects. MDPR has been able to continue funding handicapped access projects through standard construction of new facilities and renovation of existing facilities that relies on funding from the Safe Neighborhood Parks Bond, the Quality Neighborhood Initiative Bond Program, and Capital Outlay Reserve Fund allocations.

In 2008, after making improvements to comply with accessibility guidelines totaling $36,532 for Briar Bay Park, Miami-Dade County Park and Recreation Department retained a consultant team to have an additional 139 parks and recreational and cultural sites evaluated to identify improvements needed to comply with accessibility guidelines under the Americans with Disabilities Act (ADA) and several other accessibility standards. The Parks Accessibility Evaluation details the physical improvements that can be made to a selection of parks within the Miami-Dade County park and recreation system in order to reach compliance with Title II of the ADA and the Florida Building Code.

Additionally, Miami-Dade County appointed a Technical Advisory Committee comprised of a group of concerned Miami-Dade County residents to advise the consultant team during the course of the accessibility evaluation. The advisory committee's main role was to keep the process of the project transparent and to use their knowledge and experiences to shape the review process and barrier prioritization. The roles and responsibilities of the advisory committee included reviewing the project process and products; communicating concerns to and through the consultant team; meeting with survey teams in the field to partake in a park inventory; and helping in prioritizing the scope of work or repairing of barriers. For the 2003-2009 period, approximately $5,044,186 in construction costs were reported for accessibility improvements in compliance with ADA.

Monitoring Measure No. 3. This measure monitors the number of projects and amount of funds expended for the acquisition and protection of Miami-Dade County's beaches for preservation and increased public access. The 2003 EAR reported that funding for beach acquisition and preservation projects totaled $31,424,245, for the 1995-2003 period. There were 133 projects reported for that

period including wet slips, boat lanes, boat trailer parking spaces, and marinas on park sites.

Since 2003 to the current reporting period, MDPR reports 11 projects developed at a cost of $7,227,378 in improvements, including marinas and docks, which provide for increased public access.

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

Objective ROS-3. The 2010 target date should be replaced with 2017.

Policy ROS-3A. References to bicycles in this policy should be removed since they are not typically considered motorized transportation.

Policy ROS-3C. The reference to *The 1991 Americans with Disabilities Act* should include the phrase, "*as may be amended from time to time*".

Monitoring Measures**.** The 2003 and 2010 target dates in Monitoring Measure Nos. 1 and 2 should be replaced with 2010 and 2017 respectively.

Objective ROS-4
The County shall maintain a capital financing plan to enable provision of park and recreation open spaces and facilities through a variety of public and private sources.

CDMP Monitoring Measures.
- The on-going implementation and status of evaluations of the Park Impact Fee.
- The implementation status of any efforts to adjust the Park Impact Fee Schedule in response to changes in land costs, improvement credits and levels of service.
- The number of partnerships entered into between the County and community based organizations, special interest groups, and other outside agencies for facility improvements and recreational programs.
- The implementation status of strategies to: improve and expand the function of joint Park-School agreements; cooperative agreements entered into with homeowner associations or community groups for the provision and maintenance of recreation open space facilities, and; the creation of special taxing districts and/or alternative dedicated funding mechanisms for the provision and maintenance of recreation open space and facilities.
- The implementation status of priority recreation open space capital improvement projects funded through bond issues.
- The number of interagency partnerships entered into between the Park and Recreation Department and other County agencies since 2003 that: 1) provide for landscaping maintenance and resource management in parks and natural areas through the use of regulatory fines collected by the Public Works Department and the Department of Environmental Resources Management; 2) designate park sites as mitigation areas for environmental restoration; 3) restore natural areas through the investment of regulatory fines for environmental infractions; 4) improve physical access to recreational facilities and special events through public transportation programs; 5) support crime prevention in parks through the use of law enforcement and judicial assistance funds; 6) dedicate a portion of tourism development funds to support the maintenance, management, and improvement of park beaches and public attractions; 7) expand the use of youth and conservation service corps to assist with the repair and maintenance of parks, or; 8) other similar initiatives.
- Completion of the Recreation Open Space Master Plan update by the 2010 target date.

Objective Achievement Analysis. In 2006, the Board of County Commissioners adopted Ordinance No. 06-13 approving a 123% increase of the Park Impact Fee. The Park Impact Fee had not been increased since 1994 and likely did not reflect the actual cost of acquiring and improving parkland. The amendment also gave the MDPR Director the power to annually adjust the Park Impact Fee based on changes in the Consumer Price Index. The Park and Recreation Department indicated that the proceeds generated from the Park Impact Fee are not adequate to meet the demand for recreation and

open space. MDPR identified the need for additional dedicated funding sources (such as a sales tax initiative). Nevertheless, this objective has been achieved.

Regarding the update of the *1969 Recreation Open Space Master Plan*, an amendment to the CDMP during the April 2009 Cycle of Applications deleted Policy ROS-4G, which required the update of the aforementioned master plan by 2010. The new *Parks and Open Space System Master Plan*, which covers a 50-year planning horizon, was approved in 2008. The OSMP addresses, in a broad sense, the long range goals and overall vision for parks and recreational open space in Miami-Dade County. In general, while completion of the OSMP was accomplished, reclassification of the park types and reassessment of the level of service standards will be the final step toward meeting these goals. Ultimately, the OSMP needs a Capital Improvements Plan, which will require a detailed list of projects needed to implement the broad vision.

Monitoring Measure No. 1. Please refer to the response to Monitoring Measure No. 2 below.

Monitoring Measure No. 2. The 2003 EAR reported that the impact fee schedule was expected to be completed for submission to the County Commission that year. However, it was on January 24, 2006, after working with representatives of the development community and others, that the Board of County Commissioners amended the Park Impact Fee Ordinance (see Ordinance No. 06-13), providing for a fair fee assessment of all new residential construction within unincorporated areas. The fee assessment for the County, divided into three Park Benefit Districts, prescribes a fee amount that insures that local recreation open space is retained at a level of 2.75 acres/1,000 residents or higher. This fee is calculated to provide sufficient land and facilities for new and existing residents to meet their recreational demands.

Table 2.6-9 below shows the amount of funding provided by the Park Impact Fee from 1995 to 2003, and from 2004 to 2009. From 1995 to 2003, over $16 million was collected and 15 sites were purchased with impact fee funding (out of 42 total sites acquired by MDPR during the period). The amount of land contained in those 15 sites was 378 acres, or 42.8 percent of the 882 total acres acquired. From 2004 to 2009, a total of $10,590,039 in impact fees were used to purchase 11 of 19 sites acquired by MDPR. Approximately 89 acres, representing 31 percent of the 286.71 total acres acquired by the County, were added to the inventory of local parks. The remaining sites were obtained through a combination of dedications, transfers or acquisitions with other revenue sources. The largest acquisitions were at no cost to the County, which included the Larry & Penny Thompson Park expansion (135 acres), acquired through a Federal Surplus; and the Kendall Green, a 26-acre neighborhood park, that was acquired through dedication, also at no cost. The combined acreage of these two park sites accounts for over 56% of the total acreage acquired during this 2003-2009 reporting period.

Table 2.6-9
Park Impact Fee

	1995-2003	2004-2009
Funding	$16,781,000	$10,590,039
Number of Sites Acquired	15	11
Acres Acquired	378	88.93

Source: Park and Recreation Department, 2009.

Monitoring Measure No. 3. The 2003 EAR reported that the County entered into a total of 455 partnerships with community-based organizations (CBO), and 44 partnerships with other agencies, for a total of 499 partnerships to provide facility improvements and recreational programs. As of September 2009, it is estimated that the County maintains partnerships with CBOs that are equal to or exceed the number reported in 2003. It is noted that the database of the partnerships other that CBO's needs to be updated at least annually before reporting during the next EAR process.

Monitoring Measure No. 4. The 2003 EAR reported more than 100 agreements and dedicated funding mechanisms between MDPR, the Miami-Dade Public School District, homeowner associations and other community groups, for the provision and maintenance of recreation open space and facilities. As shown in Table 2.6-10 below, there are currently 49 joint Park-School agreements in which the

County and the School Board share recreation open space and facilities; as of 2009, MDPR reports another 9 agreements pending. Another 23 agreements exist between the County, Federal, State, and non-profit organizations to provide such services; 27 agreements are in place with other community groups providing restaurants, utilities, and golf course operations. Special Taxing Districts previously reported are limited to landscape maintenance and do not provide for recreation open space, facilities or programming at this time.

Table 2.6-10
Agreements for the Provision of Recreation Open Space, Facilities and Programming, 2009

Type of Agreements	Number of Agreements		Comments
	2003	2009	
Park/School	41	49	Nine Pending
Interagency	14	23	Federal, State, County, Non-Profit
Private	9	27	Restaurants, Utilities, Golf Courses, Tennis Operations
Special Taxing Districts	39	N/A	
Total	103	99	

Source: Miami-Dade County Park and Recreation Department, Property Management Park/School Inventory, Interagency Agreement Inventory, Special Taxing District Inventory, 2010.

The following two programs provide funding mechanisms for the provision and maintenance of recreation open space and facilities:

Parks Foundation of Miami-Dade

The Parks Foundation of Miami-Dade was founded in 2004 as a separate, independent, 501(c)3 non-profit corporation. Its mission, to support Miami-Dade Park and Recreation programs and projects to build a world-class parks system for residents and visitors alike. Funds are used for recreation scholarships, cultural initiatives, parks and facilities improvements, land acquisition and for preserving parks and green space among other initiatives.

Adopt-A-Park Campaign

The Adopt-A-Park campaign offers multiple green-giving opportunities for the broader community: financial gifts; in-kind gifts; sponsorship; support of special events; volunteering; or ongoing corporate partnership. The program intends to support increased public awareness of the importance of protecting our natural resources, generate pride in our park system and demonstrate a commitment to our community.

Monitoring Measure No. 5. The 2003 EAR reported that in 1996, the County passed a $200 million general obligation bond for the purpose of acquiring, renovating and developing park and recreation areas and facilities countywide. Over $135 million was directly allocated for Miami-Dade Park and Recreation Department projects and an additional $15 million was allocated through challenge grants.

In 1999, the County approved the Quality Neighborhoods Improvement Program I that allocated $26,685,000 million for the purpose of park improvements. These improvements included, but were not limited to, the development, upgrade, renovation and replacement of athletic fields, courts, playgrounds, and recreation centers. The County approved another allocation of funding ($18,370,000) in 2002 to the Quality Neighborhoods Improvement Program II for continued park improvement projects.

Building Better Communities General Obligation Bond (BBC-GOB)

In November 2004, the electorate of Miami-Dade County approved eight General Obligation Bond questions under the Building Better Communities Bond Program. Miami-Dade Park & Recreation Department presently manages 83 projects under the BBC-GOB program valued at $428,735,000, including:

- 72 projects under the Park and Recreational Facilities question, valued at $397,500,000;
- 4 projects under the Cultural, Library and Multicultural Educational Facilities question, valued at $15,000,000;
- 2 projects under the Public Services Outreach and Facilities question, valued at $10,500,000;
- 4 projects under the Bridges, Public Infrastructure and Neighborhood Improvements question, valued at $4,235,000; and
- 1 project under the Public Safety Facilities question, valued at $1,500,000.

The program is scheduled to be completed by Fiscal Year 2018/19.

Quality Neighborhood Improvement Program (QNIP)

The Quality Neighborhood Improvement Program, a non-ad valorem bond program established to fund capital improvements in the Unincorporated Municipal Service Area (UMSA), has been funded for a total of six cycles; the most recent in 2008. Miami-Dade Park & Recreation Department presently manages or has completed projects with a total value of $70,629,000. The improvements include, but were not limited to, the development, upgrade and renovation of recreation centers; athletic fields; basketball; tennis; skate courts; playgrounds; walkways; and vita courses. Since 2003, the total funding includes an increase in funding, under Programs I and II, of $5,115,000 and new awards under Programs III through VI of $20,456,000. The Department continues to propose projects for funding and is prepared to develop projects for funding under any subsequent bond issue.

Monitoring Measure No. 6. The 2003 EAR reported at least 35 interagency partnerships between MDPR and other County departments (see Table 2.6-11 below). The largest number of partnerships (20) were interagency acquisitions followed by the second largest category, mitigation. It was noted however, that the mitigation partnerships did not function specifically as "mitigation banks" but more correctly as areas that provided for offsite mitigation.

Table 2.6-11
Interagency Partnerships

Types of Partnership	1995-2003	2004-2009
Interagency	20	N/A
Other Interagency	2	30
Mitigation in Parks	10	17
Regulatory Fines	1	1
Transportation (MPO)	1	6
Volunteer Programs		105
NAM/EEL Maintenance		17
Tourism	1	N/A
Total	35	176

Source: Park and Recreation Department, 2009

In 1991, MDPR established Natural Areas Management (NAM) whose mission is to restore, protect and manage the County's naturally occurring plant and animal communities through resource management, inter-governmental environmental liaison, and community outreach, including, environmental education and volunteer programming to preserve these areas for present and future generations. Currently, NAM's volunteer program holds (on average) 15 events per year or a total of 105 programs for this reporting period.

Other examples of partnerships include a coordinated study with the Metropolitan Planning Organization (MPO) for 6 parks under the name *Safe Routes to Parks*, coordination and review of park plans regarding Crime Prevention Through Environmental design (CPTED) measures, and coordination with the various departments and agencies in the development and implementation of the goals and guiding principles of the Parks and Open Space System Master Plan. In addition, MDPR is working with the MPO and the Department of Planning and Zoning (DP&Z) to continue to work to achieve Transit Oriented Parks or TOPs. There is great potential for new transit station parks/urban plazas that would serve as the central gathering places for transit oriented developments (TODs). These public spaces could have a small service area radius of about one quarter of a mile, and serve local residents' needs for walking, meeting, informal play, and special events. Not only would they provide another outlet for recreation and social interaction, TOPs would also act as a place-maker and a form-giver to TODs.

Since 2003, MDPR reports that there has been two sources of regulatory funds, cash in lieu of mitigation and fines/penalties. In the County, there are 3 funds (monies from mitigation) that were used to complete restoration projects: the Tree Trust Fund (TTF), the Biscayne Bay Management Trust Fund (BBMTF), and the SAMP (Special Area Management Plan - Bird Drive Basin) Trust Fund. Also, projects have been completed by developers to satisfy mitigation requirements of regulatory agencies. Since 2003, there have been 17 mitigation projects including 2 SAMP projects, 1 TTF project, 2 BBMTF projects and 12 developer funded projects. In response to the budget shortfall

in 2002, it was decided that MDPR would apply to the Environmentally Endangered Lands (EEL) Program to place 17 of its critical nature preserves on the EEL 'A' List, which would make them eligible for management funds. By FY 2004, 16 of the 17 properties had been accepted onto the 'A' List. In FY 2007, the final site was approved.

Monitoring Measure No. 7. The 2003 EAR reported that there had been little progress in the completion of any updates to the 1969 Recreation Open Space Master Plan and that measures were being implemented to designate a process with funding to update the plan.

Since the most recent Evaluation and Appraisal Report (2003), Miami-Dade County Park and Recreation Department took the initiative to reposition the County's park system as a model park system in the 21st century, instill a renewed sense of pride and enthusiasm among our citizens and further our standards of innovation and park excellence by preparing *The Miami-Dade County Parks and Open Space System Master Plan*. Approved by the Board of County Commissioners in 2008, the OSMP established a vision for a seamless, sustainable parks and open space system to create a new, interconnected framework for growth; one that results in a more livable, sustainable community.

Consisting of existing and proposed parks, public spaces, natural and cultural places, greenways, trails and streets, the interconnected framework will form the foundation or "bone structure" of the County to accommodate growth while also improving the quality of life for residents. The new framework will encourage the revitalization of neighborhoods; allow for the orderly redevelopment of existing land uses in response to changing markets and demographics; and ensure greater environmental protection. It will also improve the social fabric of the County, providing equitable access to parks and open spaces, and providing more opportunities for residents to meet, socialize, and connect with one another.

The guiding principles of the OSMP (listed below), as well as the vision for a seamless, sustainable parks and open space system were proposed for incorporation and were adopted by the Board of County Commissioners as a new objective and related policies of this Recreation and Open Space Element as part of the April 2009 Cycle of Amendments. In addition to these changes, realization of the vision will require the added changes recommended here subsequent to and through an evaluation and analysis of the remaining objectives and policies of the Recreation and Open Space Element of the CDMP.

Miami-Dade County has a great existing parks system, which is recognized as a critical component in our community's quality of life. The following is the vision and guiding principles detailed in the OSMP to create an interconnected parks and open space system that is vital to the ecological, social and economic functions of Miami-Dade County.

Vision for a Seamless, Sustainable Parks and Open Space System.

GREAT PARKS are for everyone, and should provide a diverse and balanced system of active and passive recreational opportunities. The County's Vision is that residents of every neighborhood, urban, suburban, rural, incorporated and unincorporated, have equal access to places to walk, to exercise, to socialize and to engage in a healthy, active lifestyle;

GREAT PUBLIC SPACES often define the great cities of the world. As Miami-Dade County develops more densely, there will be a need for great, attractive, usable public spaces that provide an opportunity for meaningful recreation experiences. These can be anything from neighborhood plazas to great waterfront vistas and promenades;

GREAT NATURAL AND CULTURAL PLACES can be celebrated in a system of Zones (Clusters of Environmentally Endangered Lands and Cultural Resource Centers) that: provide a variety of education activities and programs; elevate the public's appreciation and understanding of the County's natural ecosystems and cultural amenities; engage the surrounding neighborhoods; and link the sites with the other elements of the open space system through streets, greenways, and water trails;

GREAT GREENWAYS, TRAILS, AND WATER TRAILS can form an interconnected system that: provides transportation alternatives and reduces traffic congestion; creates new recreational opportunities; increases property values; protects natural resources; and encourages tourism and business development. These trails strengthen connections across the County, from Broward to Monroe Counties, from the Atlantic Ocean to the Everglades; and

GREAT STREETS can be created through the redevelopment of existing arterial and collector roads to: create urban form and identity; improve aesthetics; provide for bicycle/pedestrian safety and comfort; and to improve the social, physical and economic environment for land uses along the corridors. To facilitate the creation of great streets, Miami-Dade County must move beyond vehicular performance-based street design and instead design streets that are defined by their role in the community. While all streets should have a minimum level of accessibility to all modes of transportation, not all streets require the same details.

Guiding Principles for the Parks and Open Space System:

- Equity – Every resident should be able to enjoy the same quality of public facilities and services regardless of income, age, race, ability or geographic location;
- Access – Every resident should be able to safely and comfortably walk, bicycle, drive and/or ride transit from their home to work, school, parks, shopping, and community facilities;
- Beauty – Every public space, including streets, parks, plaza, and civic buildings, should be designed to be as aesthetically pleasing as possible, and to compliment the natural and cultural landscape;
- Multiple Benefits – Every single public action should generate multiple public benefits to maximize taxpayer dollars;
- Seamlessness – Every element of the County, including neighborhoods, parks, natural areas, streets, civic centers and commercial areas, should be connected without regard to jurisdiction; and
- Sustainability – Every action and improvement of the Parks and Open Space System, including facilities, programs, operations and management, should contribute to the economic, social, and environmental prosperity of the County.

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

Objective ROS-4. A new policy should be added directing the County to seek Federal, State, and private grants, such as the Florida Recreation Development Assistance Program (FRDAP), to assist with the acquisition and improvement of parkland.

Policy ROS-4E. The proceeds from the *1996 Safe Neighborhood Park Bond* were exhausted in 2005. Therefore, reference to this program should be removed.

Objective ROS-5

Maintain a formal capital improvements planning program that improves and expands the park and recreation system through the acquisition of land, the renovation and restoration of facilities and natural areas, and the development of new park and recreation open space and facilities.

CDMP Monitoring Measures.

- A comparison of capital expenditures since 2003 with the capital expenditures priorities set in Policy ROS-5A.
- The number of recreation open space acres acquired by the County since 2003 through a combination of fee simple, shared fee, and non-fee simple methods.
- The implementation status of efforts to use a statistical analysis of LOS distribution to prioritize the acquisition of parkland.
- The number of park sites less than five acres in size and greater than 30 acres in size acquired by the County since the date of adoption.
- The total park acreage acquired through early site acquisition in areas planned for development inside the UDB in which heavy

parcelization has occurred since the date of adoption.
- The number of conservation partnerships entered into between the County and land acquisition organizations specializing in the purchase of urban open space for recreational use since the date or adoption.
- A comparison of the parklands acquired by the County since the date of the last EAR adoption with the acquisitions priorities set in Policy ROS-5B(vii).
- A comparison of capital expenditures for park repairs and upgrades since the date of the last EAR adoption with the priorities set in Policy ROS-5C.
- The number of projects and amount of funds expended for the following capital improvements since 2003: 1) repairs and projects increasing visitor safety; 2) hazard reduction; 3) facility upgrades and resource management; 4) accessibility improvements in compliance with ADA, and; 5) energy efficiency improvements.
- The number of new parks developed in recently established residential areas.
- The implementation status of strategies to reduce the number of undeveloped and underdeveloped park sites.

Objective Achievement Analysis. Policy ROS-5A lists criteria that the County must follow in its capital improvements expenditures for parks and recreational facilities. The criteria include acquisition of local parkland to maintain the adopted LOS standard for local recreation open space by correcting existing deficiencies and addressing future needs, and acquisition of countywide parkland suitable for compatible outdoor recreation, while preserving natural, historical, and cultural resources. A second criterion is to renovate, restore, and upgrade existing recreation open spaces and facilities, and a third is to develop new recreation open spaces and facilities within undeveloped or incomplete parks. This objective has been achieved.

Monitoring Measure No. 1. Over $273 million were spent in capital improvements expenditures between 1995 and 2003. Also, more than $27 million were spent in acquiring 42 sites that contain 882.41 acres during the period from 1995 to 2003. Furthermore, over $200 million was spent on existing park development; including renovation, restoration, and upgrading of recreation open spaces and facilities. Development of new recreation open spaces and facilities within undeveloped or incomplete parks was undertaken through the expenditure of nearly $37 million.

As shown in Table 2.6-12 below, MDPR reports that over $220 million was spent in capital improvements expenditures between 2003 and 2009. More than $13 million was spent during the same period in acquiring 19 sites that added 286.71 acres to the overall inventory. Over $164 million was spent on existing park development; including renovation, restoration, and upgrading of recreation open spaces and facilities. At the same time, development of new recreation open spaces and facilities within undeveloped or incomplete parks was undertaken through the expenditure of over $ 42 million.

Table 2.6-12
Capital Expenditures 2003-2009

Category	Dollar Value	Number of Projects	Acres
Land Acquisition	$13,100,743	19	286.71
Existing park Development	$164,248,000	472	undetermined
New Park Development	$42,940,000	169	undetermined
Total	$220,288,743	$660	-

Source: Miami Dade County Park and Recreation Department, Planning and Research Division Acquisition Database, 2009; Miami Dade County Park and Recreation Department, Finance Division: Capital Improvement Work order System Report, 2009.

Monitoring Measure No. 2. The 2003 EAR reported that the amount of parkland acquired through fee simple, shared fee, and non-fee simple methods had increased nearly eight-fold during the 1995-2003 reporting period, with acquisition of 882.41 acres. Using the same combination of methods of acquisition, MDPR acquired over 286 acres between 2003 and 2009. Of the 286 acres acquired during this reporting period, 56% of the acreage was obtained at no cost through developer dedication and via Federal Surplus.

Monitoring Measure No. 3. The 2003 EAR reported that in response to the policy to utilize statistical analysis of LOS distribution to prioritize parkland

acquisition, MDPR developed a computer-based system to track development activity within emerging residential development. In doing so, MDPR improved its ability to directly respond to recreational demands created by new development with new park and recreational facilities. The system first tracked all approved Development Impact Committee and Plat applications at the section level within the Unincorporated Municipal Services Area (UMSA). This allowed MDPR to know in advance the type, quantity, and layout of proposed development. Second, a calculation of existing and required local parkland deficiency was completed using present and projected population, existing and pending parkland and the required Level of Service for parks within specific geographic areas. This required the use of Geographic Information Systems (GIS) and statistical analysis to document not only the amount of land that was needed, but also the type of park (neighborhood, community, or district) that was most necessary for each area.

From 2003 to present, MDPR updates the LOS for each PBD and countywide bi-annually, using the method of analysis of LOS distribution described in the 2003 EAR report. The information is useful in determining where and what type of acquisitions are needed.

Monitoring Measure No. 4. In 2003, MDPR reported on number of park sites less than five acres in size and greater than 30 acres in size acquired by the County. The report stated that 25 neighborhood and community parks had been acquired since 1995, with the breakdown in size as shown in Table 2.6-13 below. Between 2003 and 2009, nineteen (19) park sites were acquired, most of which were 5 acres or less. Overall, current park acquisitions, in terms of size, are similar to parks acquired during the previous 1995-2003 reporting period, i.e., more smaller parcels acquired than those over 5 acres.

Table 2.6-13
Size Distribution of
Neighborhood and Community Parks Acquired
1996-2003 and 2004-2009

Park Size	2003	2009
Five Acres or Less	13	10
Ten Acres or Less/Greater than 5 Acres	3	4
Greater than 10 Acres/Less than 30 Acres	4	3
Greater than 30 Acres	5	2
Overall Total	25	19

Source: GIS Property Records, February 2003; Miami-Dade County Park and Recreation Department; Capital Improvement Work Order Report, Finance Division 2003-2010

Monitoring Measure No. 5. In the 2003 EAR, MDPR reported on the total park acreage acquired through early site acquisition, in areas planned for development inside the UDB, in which heavy parcelization has occurred since the most recent EAR adoption (2003). The report stated that out of 42 properties acquired between 1995 and 2003, thirty-nine (39) were identified as being within heavily parcelized areas deemed vulnerable to development. It was determined that without purchase, these parcels would have been lost to residential development. Between 2003 and 2009, over 286 acres (19 sites) were acquired. Of the total, 15 sites are located inside the UDB; the majority are located in areas of heavy parcelization. The limitation of developable land within the UDB would subject these areas to development as the current downturn in growth is reversed in the next few years.

Monitoring Measure No. 6. The 2003 EAR reported on number of conservation partnerships entered into between the County and land acquisition organizations specializing in the purchase of urban open space for recreational use. These partnerships included the Environmentally Endangered Lands (EEL) Program, the Trust for Public Land, the Everglades Community Association, the Florida Communities Trust and the National Park Service. Since 2003 to present, MDPR continues to work closely with the EEL Program in association with the Florida Communities Trust in the acquisition of Camp Matecumbe and the Conservation and Recreation Lands (CARL) for Camp Owaissa Bauer.

Monitoring Measure No. 7.
Table 2.6-14 below compares the parklands acquired prior to the preparation of the last EAR (2003), with those parklands acquired since 2003. Of the 19 sites acquired since 2003, none have been shoreline acquisitions, and all 19 sites have been compatible with outdoor recreation; in addition, all but one was acquired as 'multiple purpose sites'. Sixteen sites were determined vulnerable to development, with 3 sites identified as 'non-vulnerable'. Nine sites were contiguous or linked to existing recreation open spaces while 10 sites were not contiguous or linked. Finally, 5 sites were acquired with the cost shared between agencies, while 13 sites were acquired where the County alone bore the cost of acquisition. The remaining one site was a dedication by a private developer.

Table 2.6-14
Type of Acquisition, 2003-2009

	2003			2009		
Acquisition Priorities	No. of Sites	Acres	Percent	No. of Sites	Acres	Percent
Shoreline	2	100.28	11.4	0	0	0
Non-Shoreline	40	782.13	88.6	19	286.71	100
Compatible with Outdoor Recreation	39	784.53	88.9	19	286.71	100
Preservation Only	3	97.88	11.1	0	0	0
Multi-Purpose	39	783.63	88.8	18	285.95	99.73
Single-Purpose	3	98.78	11.2	1	0.76	0.27
Vulnerable to Development	39	875.94	99.3	16	139.82	48.77
Non-Vulnerable	3	6.47	0.7	3	146.89	51.23
Contiguous	20	174.24	19.7	9	31.8	11.09
Non-Contiguous	22	708.17	80.3	10	254.91	88.91
Acquisition Cost Shared	20	656.02	74.3	5	147.11	51.31
Acquisition by County Only	22	226.39	25.7	13	113.32	39.52
Total	252	5,294.46	100	113	1,693.98	100

Source: Miami-Dade County Park and Recreation Department, Planning and Research Division, Property Management Files, Project Files, 2009.

Monitoring Measure No. 8. (See response to Monitoring Measure No. 9)

Monitoring Measure No. 9. It was reported in the 2003 that the monitoring measures detailing projects and expenditures in accord with Policy ROS-5C have caused some problems. MDPR reported that departmental work orders did not have coding that permit the compilation of data anticipated by the monitoring measure. In the 2003 EAR, MDPR stated that the agency did not classify expenditures in such a manner. It was suggested that MDPR consider a change in the work order system that may be able to provide some measure of this item for the next Evaluation and Appraisal Report. According to MDPR, over $26 million in expenditures since 2003 were expended for repairs and for projects increasing visitor safety, hazard reduction, facility upgrades and resource management, accessibility improvements in compliance with ADA, and energy efficiency improvements.

Monitoring Measure No. 10. In the last EAR, MDPR reported on the number of new parks developed in recently established residential areas. Since 2003, there continues to be a lack of data for the measure of this item. This, as well as a number of additional monitoring criteria, is currently being reviewed for incorporation into the MDPR GIS database.

Monitoring Measure No. 11. The 2003 EAR reported that MDPR was able to develop many previously undeveloped or underdeveloped parks through the use of impact fees, the Safe Neighborhood Park, Quality Neighborhood Improvement Program, Community and Economic Block Grants, and through Capital Outlay Reserve funding. In the current reporting period, the strategies previously reported continue to be used to reduce

the number of undeveloped and underdeveloped park sites. As a result of the worldwide economic downtown in the last few years of this reporting period, MDPR is also pursuing funding through federal stimulus grants as they become available.

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

Policy ROS-5B**.** Item (ii) identifies five acres as the minimum size and thirty acres as the preferred size for new local parks. Monitoring Measure No. 4 tracks the acquisition of park sites less than five acres or greater than thirty acres. This monitoring measure should be updated to monitor the County's acquisition of parks greater than 5 acres in size. Policy ROS-5B(ii) indicates that sites under five acres will be considered within TNDs. However, the Land Use Element (CDMP, pg. I-39) indicates that 'public open spaces within mixed use TNDs shall comprise a minimum of five acres'. This language in the Land Use Element of the CDMP should be amended to be consistent with Policy ROS-5B.

Policy ROS-5C. To be consistent with the April 2009 Cycle Application No. 8, this policy should be updated to allow certain park sites to be designated as Heritage Parks.

Monitoring Measures**.** The 2003 date for Monitoring Measure Nos. 1, 2 and 9 should be replaced with 2010.

Objective ROS-6
Maintain and continue to implement the comprehensive resource management program for the acquisition and site-specific management of environmentally sensitive lands, coastal areas and historic sites within Miami-Dade County parks.

CDMP Monitoring Measures.

- The percentage of natural resource areas located in Miami-Dade County parks for which comprehensive resource management plans have been developed.
- The number of comprehensive resource management programs that have been developed for designated natural resource areas in Miami-Dade County parks since 2003.

Objective Achievement Analysis. The 2003 EAR reported that between 1995 and 2002, MDPR merged previously inventoried natural resource areas into adjacent park property, reducing the total number of natural resource areas to 53, of which thirteen were listed as individual Natural Area Preserves. The remaining 40 "natural resource areas" were contained within existing parks. As of 2009, the MDPR inventory of parks lists twelve Natural Area Preserves and maintains 40 natural areas contained within park sites. This objective is being achieved.

It is recommended that the objective and related monitoring measures be updated to recognize the *Natural Areas Management Plan* as the primary guide for the management and restoration practices of natural areas in Miami-Dade County, in coordination with the outcome of the plan proposed in Policy ROS-8F, which requires Miami-Dade County to develop a plan by 2014 to protect and preserve its natural and historic resources, while assuring that such resources provide access and educational opportunities to the public.

Monitoring Measure Nos. 1 and 2. The 2003 EAR reported that Comprehensive Resource Management Plans (CRMP) have been developed for six of the natural area sites. The CRMP is an all-encompassing plan for the management of individual natural resource areas. To date, there are 17 CRMPs for natural resource areas located within County parks. However, it should be noted that in 2004, the Miami-Dade County Natural Areas Management Plan was prepared and remains generally applicable to all of the natural areas within the county including the 40 park sites, as discussed in the *Objective Achievement Analysis* immediately above. The Natural Areas Management Plan, which is updated from time to time, acts as the overarching guide in the management and restoration practices in Miami-Dade County.

A significant initiative related to this objective was included in the *Miami-Dade County Parks and Open Space System Master Plan*. One of the

components of the vision for the *Open Space System Master Plan* is stated as follows:

> "*Great natural and cultural places can be celebrated in a system of Zones (clusters of Environmentally Endangered Lands and Cultural Resource Centers) that provide a variety of education activities and programs; elevate the public's appreciation and understanding of the County's natural ecosystems and cultural amenities; engage the surrounding neighborhoods; and link the sites with the other elements of the open space system through streets, greenways, and water trails*".

Implementation of this vision statement was provided for in the April 2009 Cycle of Applications, by amending the Recreation and Open Space Element to introduce Policy ROS-8F (See the description of this new policy in the *Objective Achievement Analysis* section above). The Plan will consider the designation of Environmental Zones (Eco Zones) and Cultural Zones. Eco Zones represent a cluster of natural areas connected together by greenways/biotic communities to provide a variety of environmental and educational activities. The Cultural Zones are thematically clustered cultural and historic sites that provide a variety of heritage education activities and programs.

The 2003 EAR also reported that historic sites are managed by individual park managers as part of MDPR's total recreational system. Historic resources are protected by ongoing maintenance, review of projects by historic preservation specialists, and through the requirement that capital projects receive approval by issuance of a "Certificate of Appropriateness." Historic sites typically include large pre-1950 parks with historic structures and landscapes that made up many passive parks built in the early days of the parks system.

On February 17, 2004, The Miami-Dade Board of County Commissioners approved Resolution No. 238-04, authorizing the designation "Heritage Park," specifically including the following parks:

- Matheson Hammock Park
- Greynolds Park
- Haulover Beach Park
- Homestead Bayfront Park
- Crandon Park
- The Deering Estate at Cutler

The designation Heritage Park would be distinct from, and in some cases in addition to, the historic designation. An additional goal of this designation is to build in a manner compatible with the cultural history of the park and to not overdevelop the site. Parks to be considered for this designation should meet as least one of the following criteria:

- Exceptional historic or archaeological countywide significance, either natural or cultural – a park that represents in a special way the past history, character or ecosystem of the County. (One such park is Greynolds Park, opened in 1936, the park was designed by William Lyman Phillips and built by the Civilian Conservation Corps);

- Exceptional resource values – a park that contains or is organized around resources that are a special part of South Florida landscapes and natural settings. (One such park is Crandon Park, which contains not only one of the best beaches in the State, but also the fossilized reef of the Bearcut Preserve; or

- Exceptional design and material characteristics – a park whose built characteristics and workmanship represents the works of a specific landscape architect or a specific period of design. (One such site is the historic landscapes and structures of the Charles Deering Estate).

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

<u>Objective ROS-6</u>
This objective should be updated to recognize the *Natural Areas Management Plan* as the primary

guide for the management and restoration practices of natural areas in Miami-Dade County.

Monitoring Measures. The language in Monitoring Measure No. 1 should be revised to include the number of parks designated as heritage parks, or parks recognized for cultural or archaeological or historic significance, which provide opportunities for access. Also, the 2003 target date in Monitoring Measure No. 2 should be replaced with 2010.

Objective ROS-7
Maintain and improve communications between Park providers and visitors to ensure that the population's expressed needs and desires provide direction in the further development and operation of the park system.

CDMP Monitoring Measures.

- The completion of an updated leisure interest survey by 2010.

- The implementation status of strategies to maintain and increase public participation in park planning, construction, and operational issues, and to increase the public's awareness of recreational opportunities.

Objective Achievement Analysis. The Park and Recreation Citizen Advisory Committee that was created pursuant to Ordinance No. 94-115 in 1994 continues to provide non-binding recommendations to MDPR and the Board of County Commissioners. Public participation in park planning, construction, and operational issues, and to increase the public's awareness of recreational opportunities in the County, has been accomplished as described in the "Monitoring Measure No. 2" section below. Evaluation of the monitoring measures indicates that the objective has been achieved.

Monitoring Measure No. 1. The 2003 EAR reported that a Leisure interest Survey was completed in 1998. Since 2003, an updated Leisure Interest Survey was conducted in 2008, the results of which have been used in the development of the Recreation Program Plan.

Monitoring Measure No. 2. The 2003 EAR reported that public participation in park planning and awareness of recreational opportunities were accomplished through the following activities: MDPR staff participation at Community Council non-zoning public meetings, through MDPR's website: http://www.co.miami-dade.fl.us/parks/, groundbreaking and ribbon cutting ceremonies, MDPR newsletters, Miami-Dade County Television Station (MDTV), and other means.

The most significant achievement since the 2003 EAR has been the preparation of the *Miami-Dade County Parks and Open Space System Master Plan*. Started in 2006, this initiative to reposition the MDPR as a Model Park System in the 21st century has instilled a renewed sense of pride and enthusiasm among our citizens and community leaders. One of the major initiatives undertaken was the "Speakers Bureau", which entailed training of over 60 staff of the Park and Recreation Department to take the OSMP presentation to municipalities, schools, chambers of commerce, etc. to share the components of the plan, answer questions, and bring back comments for consideration as the implementation measures were crafted. The OSMP was approved by the Board of County Commissioners on February 2008. It was realized that a plan as ambitious as the OSMP requires the cooperation and collaboration of various agencies. With this in mind, the South Florida Parks Coalition (SFPC) and its Charter were created. The SFPC is a forum that brings together city, county, state and federal agencies to identify objectives that will realize the vision of the OSMP. The charter is the "bill of rights" that identifies shared vision for all to adopt and implement.

Since the 2003 EAR, another major initiative has been the Great Parks Summit, which is held every two years (2006, 2008 and planned for 2010). This event includes invited speakers, local academics and park directors to describe the role of parks in the economic, social and environmental vitality of a community. Attendees are challenged to work on the implementation of the challenges presented during each Summit.

In addition to the Speakers Bureau, the Green Team (internal program) and Parklife Magazine (external publication), both offer educational information to the Parks' organization and the

community, respectively. In addition to providing the public with information about the efforts of the MDPR through the techniques described in the 2003 EAR, staff participated in unincorporated area meetings on issue identification during the current EAR process and also participated in neighborhood studies in conjunction with the efforts of the Planning & Zoning Department staff.

Data for this monitoring measure show that MDPR is using traditional as well as new and innovative methods and technologies in providing and soliciting information and viewpoints. Upon further analysis, MDPR is seen as responsive to community needs, subject to constraints placed upon the County and the Park and Recreation Department. These constraints include financial as well as lags that are to be expected in the design and development/construction phases of public projects.

Policy Relevance. All the policies under this objective were reviewed for continued relevance. Policies requiring changes are discussed below. Other policies continue to have relevance and should be retained.

Monitoring Measures**.** The 2010 target date in Monitoring Measure No. 1 should be replaced with 2017.

Objective ROS-8

On February 19, 2008, the Miami-Dade County Board of County Commissioners approved the *Miami-Dade County Park and Open Space System Master Plan*; this Plan satisfies Policy ROS-4G, which calls for an update to the 1969 Recreation Open Space Master Plan. The OSMP creates a long-term vision for a new, interconnected framework for growth; one that results in a more livable, sustainable community. Consisting of existing and proposed parks, public spaces, natural and cultural places, greenways, trails and streets, the framework for parks and open space will form the foundation for the County to accommodate growth while also improving the quality of life for residents. During the April 2009 Cycle of Applications to amend the CDMP, the Department of Planning and Zoning filed an application to amend the CDMP, creating a new objective, related policies and monitoring measures. The new Objective ROS-8 and related policies incorporated the guiding principles of the OSMP, as well as the vision for a seamless, sustainable parks and open space system into the goals, objectives and policies of the Recreation and Open Space Element of the CDMP. Realization of this vision will occur over time, requiring completion of the efforts described in the Goal, Objectives and Policies of the Recreation & Open Space Element. Because Objective ROS-8 and its related policies were created recently, there is no data to measure the effectiveness of the new objective, thus, DP&Z will not offer any analysis of the achievement of Objective ROS-8 for the 2010 EAR.

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2.7 COASTAL MANAGEMENT ELEMENT

This element addresses several issues pertaining to coastal management, namely: protection of coastal habitat and natural resources; public access to and awareness of coastal areas; preservation of traditional shoreline uses; protection of human lives and property from natural disasters; limiting public infrastructure in the coastal area; and historic resources in the coastal areas. The introduction to this element in the Comprehensive Development Master Plan (CDMP) focuses on protection of human lives and property from natural disasters and the new definition of the coastal high hazard area. The introduction should be reworded to include an overview of these other important issues relating to coastal management.

During the 2006 Florida Legislative session, the Florida Legislature adopted a new definition of coastal high-hazard areas and other changes to section 163.3178, F.S. (House Bill 1359) which necessitated a corresponding amendment to the CDMP. Accordingly, the Department of Planning and Zoning (DP&Z) submitted the appropriate CDMP text amendment in the April 2007 cycle. The effect of this CDMP amendment was to include the new definition of coastal high-hazard areas, as required by section 163.3178, F.S., in the Coastal Management, Land Use, and Capital Improvements Elements of the CDMP. This text amendment was adopted by the Board of County Commissioners on April 24, 2008.

Objective CM-1
Protect, conserve and enhance coastal wetlands and living marine resources in Miami-Dade County.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report the net change in coastal wetland area within Miami-Dade County.

Objective Achievement Analysis. The Department of Environmental Resources (DERM) performed an analysis of new acreage gained in coastal wetland area by reviewing their records for the Class I Permits. Results of DERM's analysis are presented in Table 2.7-1. Table 2.7-1 shows that five Class I permits authorizing the filling of approximately 2.96 acres of coastal wetlands were issued between 2003 and 2009. Of these, only 1.88 acres of the authorized impacts occurred as of the end of 2009. Additionally, 2.64 acres of the authorized impacts were to be mitigated for by the creation of approximately 7.25 acres and the enhancement of 0.40 acre of coastal wetlands, all of which occurred by the end of 2009. Mitigation for the 0.32 acre of impacts associated with project CC04-385 is to consist of the purchase of credits from Florida Power & Light's (FPL) Everglades Mitigation Bank, however neither the permitted impacts nor the purchase of mitigation credits occurred by the end of 2009.

It should be noted that approximately 32.7 acres of existing wetlands were enhanced as part of the listed projects, and that the listed projects do not include wetlands created and/or enhanced in the Everglades Mitigation Bank, or wetlands that were restored or enhanced to correct violations associated with unauthorized dredging and filling of coastal wetlands. It should also be noted that three of the listed Class I permits were issued for large, publically-funded wetland restoration projects. One of these (CC03-369) was out-of-kind mitigation to resolve a major seagrass destruction violation associated with a dredging project at the Port of Miami in the mid-1990s. It is especially noteworthy that the above list of permitted impacts to coastal wetlands does not include permanent impacts to approximately 17.02 acres of coastal wetlands associated with the construction of FPL's Turkey Point Unit #5 facility between 2005 and 2006. Although FPL was not required to obtain a Class I permit for this work under the Florida Power Plant Siting Act (Sections 403.501-518 F.S.) Federal and State mitigation requirements were met by FPL through the donation of approximately 307.86 acres of existing wetlands to the South Florida Water Management District and Biscayne National Park, use of 8.99 saltwater credits from the Everglades Mitigation Bank, the enhancement of approximately 64 acres of coastal wetlands, and the creation of approximately 2.42 acres of coastal wetlands and tidal waters. Although the impacts associated with the FPL project were adequately mitigated, there was a resultant net loss of coastal wetland area.

This notwithstanding, there has been a net increase in the acreage of coastal wetlands in Miami-Dade County since 2003, due primarily to the large scale wetland creation and enhancement projects listed above.

Table 2.7-1
Permitted Coastal Wetlands Impacts and Mitigation 2003-2009

Project Name	Permit Number	Acres Impacted	Acres Created	Net Acres Created
HRC-BJS Partners	CC03-055	1.01	2.00 0.40*	0.99
Miami-Dade County Park and Recreation Dept. - Matheson Hammock.	CC02-311	0.87	2.25	1.38
MBD Development	CC04-385	0.32†	0.00**	0.00
Miami-Dade County Park and Recreation Dept. - Chapman Field	CC06-255	0.6†	2.84	2.24
Miami-Dade Fire Rescue	2008-00041	0.16†	0.16	0.00
Virginia Key Restoration Project	CC04-274	0.00	32.20 12.30*	32.20
Chapman Field Restoration Project	CC04-112	0.00	~5.00***	~5.0***
Oleta SRA / Seaport Restoration Project	CC03-369	0.00	42.50 20.00*	42.50
Total		2.96	86.95	84.31

Source: Department of Environmental Resources Management, Coastal Resources Section, 2010.
* Enhancement of existing jurisdictional wetlands.
**Credit to FPL Mitigation Bank
***This project involved the restoration of eight acres of coastal wetlands, three of which were mitigation for impacts associated with CC06-255 and 2008-00041.
†Impacts permitted but have not occurred as of the end of 2009.

Based upon the data contained in Table 2.7-1 and the above, it can be concluded that the coastal wetland gains have outweighed losses and that Objective CM-1 was achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-1A: This policy should be expanded in regards to three Mangrove Protection Areas (MPAs) identified in specific sub-bullets. Under the first sub-bullet, the first MPA would include publicly owned mangrove wetlands within and adjacent to the Oleta River, including all mangroves within the Oleta River State Recreation Area. This expansion would extend protection to publically owned mangroves outside the Oleta River State Recreation Area. The second MPA to be expanded (under the thirteenth sub-bullet) would include nontidal mangrove and/or buttonwood forests within, adjacent, or landward of Biscayne and Everglades National Parks. The third MPA to be expanded (under the fourteenth sub-bullet) would also include nontidal mangrove and/or buttonwood forests within, adjacent, or landward of Card Sound, Barnes Sound, Manatee Bay and Florida Bay. This is necessary since all of these mangrove areas are proposed for regional restoration through several CERP and local projects and because the environmental values provided by these nontidal mangrove forests are similar to or greater than those other MPAs already protected under the MPA designation from a water quality and water storage perspective. Protection of these wetlands is critical to future efforts to mitigate sea level rise, for water management purposes relating to protection of the Biscayne Aquifer from salt intrusion and also to restore water quality including reducing salinities in nearshore areas of Biscayne Bay.

Policy CM-1I: This policy should be revised to indicate that only those materials which are appropriate for reef construction (and in accordance with State guidelines and County artificial reef policies) shall be used, in permitted areas. Sub-bullet "i" should be deleted, as the purpose of placing artificial reef materials is to put it in areas that will "support viable benthic communities"; materials would not be placed in areas that won't support appropriate benthic communities. Sub-bullet "iii" should be broadened to assisting in stabilizing sediments in areas. Because culverts and appropriate materials can be added to other areas, the specific reference to "Dumfoundling Bay" should be removed.

The monitoring measure should be expanded to include other metrics such as the total area of submerged aquatic vegetation and hard bottom communities impacted by permitted coastal construction projects versus the area created and the number of enforcement cases initiated that involved significant coastal wetland and marine resource impacts and how those violations were resolved through restoration, mitigation and/or penalties.

Objective CM-2
Protect, conserve or enhance beaches and dunes and offshore reef communities.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report area of restored beaches, expanded dune system and artificial reef sites, and the number of designated environmental protection areas.

Objective Achievement Analysis. The County continues efforts to maintain and restore coastal beaches and dune systems as well as expand and enhance coastal marine communities through creation of new habitat via placement of artificial reefs. As seen in table 2.7-2, from 2003-2009 six beach renourishment projects were completed along 4,450 linear feet of the County's coastline, resulting in 6.93 acres of restored beaches. The coastal dune systems provide significant habitat resources as well as protection of upland regions from severe storm impacts. The County's coastal dune system was enhanced along regions of the coast such as Sunny Isles and Virginia Key, resulting in 9.7 acres of restored and/or enhanced coastal dune system along County shoreline. DERM also worked to enhance areas that had past disturbances or to remove exotics, resulting in the restoration of approximately 133 acres of coastal wetlands.

Table 2.7-2
Beach Restoration and Coastal Habitat Restoration: 2003-2009 (in Acres)

Area	Beach Renourishment/ Restoration	Coastal Dune Upland Restoration	Coastal Wetland Restoration
Sunny Isles Beach	1.65	6.0	
Govt. Cut through Haulover Park	5.28		
Virginia Key		2.73	70
Northern Biscayne Bay			42
Central-Southern Biscayne Bay		1	21
Total	6.93	9.73	133

Source: Miami-Dade County Department of Environmental Resources, Natural Resources Regulation and Restoration Division, 2010

DERM continues its activities on the County's Artificial Reef Program, established in 1981. The number of permitted acreage and sites, established during the late 1980s to early 1990s, remains at 8,100 permitted acreage with 20 artificial reef sites. Between 2003 and 2009, the County's marine coastal habitats were expanded and enhanced by the addition of 36 artificial reef placements. These reef placements were a combination of vessels, limerock boulders, prefabricated concrete materials and appropriate steel materials, to create and enhance complex habitat for attached organisms and fish. These artificial reef placements could create a large area for marine habitat, as in the case of the 205-foot freighter "Ophelia Brian" which was sunk off of Key Biscayne to create the County's newest artificial reef in December 2009.

To protect these artificial reefs from recreational boaters and excessive human interaction, DERM in partnership with the Florida Department of Environmental Protection started its Mooring Buoy program in September 2009. Twenty mooring buoys

were installed in six popular natural reef sites, which allow recreational boaters, fisherman and divers to tie up their vessels to the buoys rather than damaging the fragile coral reefs by boat anchors. Funding options include donations that can be made to DERM's "Adopt A Buoy" fund for purchase and maintenance of buoys.

The Key Biscayne Special Management Zone, designated in 1991 and which contains 2,203.5 acres, remained the sole special management zone. No other environmental protection areas were designated.

DERM also monitors the coastal ecosystem for biological threats to our natural coastal communities resulting from the presence and growth of exotic and invasive species. DERM has identified the lionfish, an exotic species sighted on the County's artificial reefs, as an emerging threat to the native marine fisheries and reef habitats. The exotic stony coral "Orange Cup Coral" (*Tubastrea coccinea*) was found on artificial reefs throughout Southeast Florida within the last five years. As of this time, it has not been recorded extensively on natural reefs, although it does occur on natural reefs elsewhere in the Caribbean. This species is expanding its distribution throughout southeast Florida and the Caribbean.

Additional threats exist from Harmful Algal Blooms (HABs). HABs represent an assemblage of species that undergo rapid increases in abundance (e.g., "Bloom"). HABs include microscopic algae, responsible for "Red and Brown Tides" (among others), which have documented human health effects (causing respiratory distress and aggravation of respiratory conditions) as well as larger "macro-algae" such as the green alga *Caulerpa brachybus*, and the cyanobacteria (e.g., blue-green algae) *Lyngbya*. These species are known to grow in large dense mats, sufficient to smother other reef organisms like sponges, soft corals and hard corals. HABs are documented to occur all throughout coastal regions of the Gulf of Mexico and Florida coastal regions. Inputs from upland runoff and coastal discharges with elevated nutrients and other inducing compounds, are considered factors in allowing HABs to initiate. Although significant heavy macro-algal and cyanobacterial blooms have occurred in the adjacent regions to the north (Broward and Palm Beach Counties), and the causal species for the blooms are known to exist off Miami-Dade, blooms of this type have been infrequent in Miami-Dade to date.

Based on the coastal habitat restoration reflected in Table 2.7-2 and in the addition of artificial reef placements, this objective has been accomplished.

Policy Relevance: The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-2C: Although every attempt is made to minimize or eliminate impact to seagrasses, impacts to seagrasses can be mitigated. If there is sufficient justification showing that the impact to seagrasses cannot be avoided, some area of impact will be permitted and mitigation for that impact will be required. This policy should be reworded to be consistent with that regulatory policy and broadened to state that to the greatest extent possible offshore reefs and grass flats will not be impacted, and mitigated to the greatest extent possible. This policy could be strengthened by adding wording to qualify what can be used as borrow areas, such as areas having appropriate sand quality and sufficient buffer areas available for the protection of reef and seagrass resources.

Policy CM-2D: See previous comments regarding artificial reefs under Policy CM-1I. It is suggested that stronger wording be added to show how artificial reefs are used in resource management and for habitat creation.

Objective CM-3

Miami-Dade County shall continue activities to maintain or improve water quality in coastal and estuarine water bodies.

CDMP Monitoring Measure. The monitoring measure for this Objective will be that Miami-Dade County, in cooperation with State and federal agencies, will develop water quality antidegradation targets by 2010. A second measure will be the

number of pollution exceedances of water quality standards.

Objective Achievement Analysis. Since 2003, federal and state authorities are focusing on the establishment of specific criteria for nutrients on a statewide basis, rather than on the broader antidegradation narrative standards that apply to specific state-designated Outstanding Florida Waters such as Biscayne Bay. Excess nutrients, such as nitrogen and phosphorus, may lead to algal blooms, decreasing water clarity; and low dissolved oxygen, which in turn adversely affect seagrass habitat, fish and wildlife. Like the Everglades system, Biscayne Bay system is characterized by very low nutrient levels, and even small increases in phosphorus have led to ecological impacts.

The U.S. Environmental Protection Agency (EPA) proposed numeric criteria for freshwaters, including canals that discharge to coastal and estuarine water bodies, in January 2010. Miami-Dade County (County) is reviewing these to determine if they are appropriately protective. The Florida Department of Environmental Protection (FDEP) and the EPA are initiating a similar process to establish criteria for estuaries and coastal waters by January 2011. The County has requested to be included in efforts to collect available data and for review of proposed standards. Also, FDEP is in the process of developing rules that will establish new classifications for surface waters and a process for petitioning a change in classification. The County has reviewed and provided comments intended to assure that the new regulations will not allow degradation of surface water quality. However, antidegradation targets are related to state narrative standards for Outstanding Florida Waters. Local governments do not have the authority to establish state criteria, but may comment upon state or federal rulemaking. Federal and state authorities are focusing on the establishment of numeric criteria for nutrients on a statewide basis, rather than on Outstanding Florida Waters or the antidegradation narrative standards. This measure should be reworded with the 2010 deadline removed to indicate that the County will continue to work with State and federal authorities in creating numeric criteria for nutrients.

The County's water quality standards stem from the 1979 Biscayne Bay Surface Water Quality Monitoring Program, which is an ongoing program that carries out monthly surface water sampling at stations located throughout the County. The County continues to monitor water quality of the Biscayne Bay, its tributaries and the major drainage canals that lead to the Bay. The annual median of the results of these samples were compared to County and state water quality criteria to provide information as to the general state of the water quality relative to the established criteria. This procedure is similar to that used in the State of Florida's "Impaired Waters Rule" (Chapter 62-303, F.A.C.). Evaluation of the approximately 1,550 annual median values of regulated parameters throughout the County's monitoring network, show an average of 61 comparisons (or 3.9%) are in excess of the County or State criteria. It should be noted that from 2007-2009 the percentage of stations having the annual median value exceed the criteria has decreased from 10.25% (117 of 1,141 comparisons) in 2005-2006, to 0.65% (7 of 1,017 comparisons) in 2007-2008.

Long-term monitoring results show that existing state and local surface water quality standards are rarely exceeded in the Biscayne Bay system. As indicated in this Objective, the County's management strategy is to maintain or improve this excellent status. However, water quality could improve or decline for some parameters without exhibiting changes in the rate of exceedance of standards, particularly for contaminants for which there are no numeric criteria. As part of the ongoing interagency effort to restore and enhance the South Florida ecosystem, an algal bloom indicator was established to help assess the ecological status of Biscayne Bay and Florida Bay water quality. This measure documented an algal bloom of unprecedented magnitude and duration, beginning in late 2005 following a series of hurricanes and increases in nutrient concentrations. The bloom was most intense in Barnes and Card Sounds, south Biscayne Bay, and northeast Florida Bay and persisted for more than three years. As of 2009, the bloom had subsided and chlorophyll concentrations had returned to typical, low levels. It is recommended that the algal bloom indicator be applied as a measure for this objective.

However, this monitoring measure presents a "base level" assessment of the water quality, and does not really address what the water quality issues are. Compliance with water quality standards and criteria will not assure that water quality is maintained or improved. In some cases a particular standard may be two to ten times the level presently in the surface water, so that significant degradation can happen before a standard is violated. This measure should be modified to add chlorophyll—an indicator status, as it is more responsive to shifts in conditions, and may show changes prior to the change in the number of exceedences.

Another concern about water quality is the impact that mining activities may have on groundwater quality and quantity. The majority of the unincorporated land in the coastal area is in public ownership or designated as "Environmentally Protected Parks," "Environmental Protection," or "Parks and Recreation" in the CDMP and much of this land lies within Biscayne National Park. Due to this, mining activities are not allowed in this area. However, mining activities outside the coastal areas may still have an environmental impact, in terms of their proximity to wellfield protection areas or the saltwater intrusion line. Rock mining activities are discussed in further detail in the Conservation, Aquifer Recharge and Drainage Element.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-3B: This policy should be broadened to include not only funding but also enforcement actions in those areas that have problematic water quality. Other examples of areas that have problematic water quality could be included, such as: Arch Creek; or a Verified Impaired Water, a state designation for impaired surface waters such as Biscayne Canal.

Policy CM-3F: This policy may need to be modified to clarify the purpose of the policy, as it was questioned if it refers to "boat notches."

Policy CM-3N: This policy is too rigid, and should be rewritten without specified times and in more general terms.

Policy CM-3P: This policy should be reworded to indicate the County's continuing efforts to assist the state and federal authorities in developing antidegradation targets, and remove the deadline of 2010.

The monitoring measure also contains similar wording to CM-3P and should have the 2010 deadline removed, and add other new measures such as algal blooms and chlorophyll.

Objective CM-4
Miami-Dade County shall increase the acreage of benthic, coastal wetland and coastal hammock habitat that is publicly owned by 100 acres by the year 2010. Endangered and threatened animal species shall be protected and coastal habitats restored and managed to improve wildlife values.

CDMP Monitoring Measure. The monitoring measure for this Objective that focuses on wildlife will be the number of initiated wildlife and habitat studies and significant actions to implement regulations to protect coastal wildlife and habitat.

Objective Achievement Analysis. The County continues in its acquisition and management of environmentally sensitive lands in the coastal area. From 2003 to 2009, DERM spent $15,000 to acquire 4.5 acres of coastal wetlands under its Environmentally Endangered Lands (EEL) program. In its previous acquisition of coastal lands, 600 acres were obtained during 1995-2003 at a cost of $5,409,241. The goal of this objective to gain an additional 100 acres is no longer feasible, as the majority of coastal lands remaining are either in public ownership, on lists to be acquired, or protected through regulations. Regional agencies, such as the South Florida Water Management District (SFWMD), have also targeted coastal areas in the County for ownership for the Comprehensive Everglades Restoration Project (CERP). The County should broaden its acquisition attempts for coastal lands to include efforts by other agencies such as the SFWMD.

While state and federal authorities are the primary regulating authorities for threatened and endangered species, the County continues its efforts to protect endangered and threatened species. County efforts to protect manatees are addressed through Miami-Dade County's Manatee Protection Plan (MPP), implemented in 1995. DERM and scientific consultants collected new data on manatee distribution and causes of death, law enforcement, and boating activities and compliance. The data is to be used in an ongoing process to update or revise as necessary the MPP. The Board of County Commissioners, the Florida Fish and Wildlife Conservation Commission, and the U.S. Fish and Wildlife Service must approve revisions to the MPP. Manatees migrate over large areas in Florida, and the population on the east coast of the state is believed to be increasing at a slow rate. Their numbers in Miami-Dade coastal waters vary, but they occur year around and are most frequently and consistently observed in shallow seagrass beds of Biscayne Bay and its freshwater canals and tributaries. They are most abundant in cold weather, when they aggregate in larger numbers, especially in Little River, the Miami River, Tamiami Canal, and the Coral Gables Waterway. Over the past decade, the leading known cause of manatee death in Miami-Dade County is collision with watercraft, and the number of deaths per year by this cause has increased. Although the total number of on-water law enforcement officers has increased over the past decade, boater compliance with existing manatee protection and boating speed zones is poor in some areas. A past cause of manatee death, entrapment in water-control structures, has largely been eliminated since 2003 by improvements in flood gates constructed by state and federal authorities.

The Miami-Dade Parks and Recreation Department's (PARD) Sea Turtle Conservation Program conducts activities to monitor sea turtles, including protecting turtle nests and tracking numbers of hatchlings. PARD also hosts events to educate the public about these endangered species. One popular activity run by PARD's EcoAdventures program allows residents to watch turtles lay their eggs during nesting season (approximately late April through August) at beach sites such as Crandon and Haulover. From 2003-2008 approximately 4,860 residents attended these turtle nesting events, with over 2,149 residents attending in 2009. From attendance at these events, residents' participation fees were deposited into a trust fund. Other monies paid into the trust fund, such as for filming on County beaches, are used to help run the program and to conduct studies and outreach activities. Funding for public outreach is also available through grants from the state turtle license plate program. PARD also did public outreach through programs on various cable television channels.

Sea turtles face threats in the form of human encroachment and loss of habitat. Of special concern are the Leatherback, Green, and Loggerhead turtles. From 2003-2009, approximately 126,000 turtle hatchlings were released to the ocean. This was a decline from the previously reported 191,500 hatchlings released during 1995-2002. This trend reflects the statewide decline due to an illness affecting the adult female population of Loggerheads, and to less nesting reported in 2004.

PARD is also involved in coastal monitoring and allowed researchers to conduct studies in their coastal parks, which have included such research projects as mangrove studies and American crocodile and manatee surveys.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Objective CM-4: The objective could be reworded to be less specific to threatened and endangered species and expanded to include restoration or enhancement of coastal habitat and wildlife. This rewording should also remove the 2010 deadline and goal of 100 acres and state that the County will continue to acquire coastal lands and work with other agencies such as the SFWMD.

Policy CM-4B: This policy should include the following coastal wetland areas for wildlife corridors, namely: between Matheson Hammock and Turkey Point; in the South Dade Wetlands and Southern Glades Wildlife and Environmental Area; and within

the boundaries of Everglades National Park and Biscayne National Park.

A new policy should be added to include the County's efforts to restore coastal habitats, and refer to the protected species that may utilize these habitats.

CM-4 Monitoring Measure: This monitoring measure should be modified, as the County initiates no wildlife studies – they are done at the state and/or federal level. A more accurate monitoring measure instead could be areas of habitat restored, with reference to the protected species that may utilize them.

Objective CM-5
Miami-Dade County shall increase the amount of shoreline devoted to water-dependent, water-related, and publicly accessible uses.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report significant changes in the amount of shoreline devoted to water-dependent, water-related, and publicly accessible uses.

Objective Achievement Analysis. The County established the Shoreline Development Review Committee (SDRC) in 1983 to review shoreline projects within the County and those municipalities with shorelines along the Biscayne Bay and the Intracoastal Waterway. The boundary extends southward from the Broward County line to the northern boundary of Biscayne Bay National Park, as depicted in Figure 2.7-1. The SDRC reviews shoreline projects including bayside residential projects larger than single-family and duplex size, and certain commercial projects to ensure projects include public access facilities such as pedestrian walkways and viewing areas, and includes design guidelines for shoreline setbacks and visual corridors. If the project applicant is unable to meet the review criteria on-site, the SDRC recommends that public access be provided at a specified nearby public site or right-of-way; through contributions of land and/or materials; or a contribution to the Biscayne Bay environmental enhancement trust fund (mitigation fund).

From 2003-2009, the SDRC has reviewed 84 shoreline projects, which represents a 14.3% decline in applications compared to the 98 projects reviewed between 1995 and 2002. Figures involving the types of projects reviewed yearly by the SDRC are summarized in Table 2.7-3. Water-dependent or water-related uses, including marinas, docks, and recreation/attractions account for approximately 25% of the applications. Recreation/attraction uses include an art museum and County parks which provide public access. Non water-dependent or water-related uses include residential uses, mainly consisting of multifamily residential units, which account for over 66.6% of all applications. The majority of these multifamily residential units are governed by various municipalities and their zoning laws, which may not mandate that all shoreline uses be water-related or water-dependent. Many of these multifamily residential units do provide public access in the form of pedestrian walkways and/or viewing areas. Other non water-dependent or water-related uses include hotels, governmental, schools and commercial uses that account for the remaining 8.3% of the applications.

The monitoring measure could be more accurately reported by having the SDRC classify each project in Table 2.7-3 in terms of the public access. Each project could also be tracked to evaluate if on-site public access is granted. If no on-site public access is granted, tracking would note if nearby public access was granted, or if contributions were made to the mitigation fund.

Although the SDRC may require public access in the form of walkways and/or and visual corridors, there is still no method to address enforcement or non-compliance of this requirement. This was noted in the 2003 EAR and has not been addressed. Once the project has undergone SDRC review, the project plans are sent back to the municipality. It is then up to the municipality to ensure that the project is built according to what was presented to the SDRC. The County currently does not have staff or funds to perform follow-up inspections of the projects, to ensure that projects were carried out according to the plans given to the SDRC.

In addition, the County expects the municipalities in "a good faith effort" to bring proposed projects meeting the criteria within their municipal boundaries to the SDRC for review. However, anecdotal evidence suggests that at least one project that should have been reviewed did not undergo the required SDRC review.

Table 2.7-3
Shoreline Review Project Types
Years

Category	2003	2004	2005	2006	2007	2008	2009	Total
Residential	12	13	15	9	6	-	1	56
Hotel	1	-	-	-	-	-	-	1
Marina/Port	7	2	-	1	-	-	-	10
School	1	1	-	-	-	-	1	3
Commercial	-	-	1	-	-	-	-	1
Deck/Dock/Repairs	-	-	-	-	-	1	-	1
Governmental	-	-	-	-	-	1	1	2
Recreation/Attraction*			-	1	1	5	3	10
Total	21	16	16	11	7	7	6	84

Source: Shoreline Development Review Committee, 2009
* Uses include Miami Art Museum, Miami Circle, South Point Park, and Chapman Field Park.

Policies concerning the SDRC should be reworded to guarantee performance and increase coordination with municipalities. This may include activities such as sending out an annual letter and map informing municipal officials and planning departments of the SDRC and its requirements; requesting municipalities to compile a yearly list of shoreline projects, noting their setbacks, public access points, and SDRC review; and/or sending out yearly a list to appropriate municipalities, with their SDRC-reviewed projects and asking if the project has been completed according to the plans presented to the SDRC.

The mitigation fund that the code refers to could be used for enforcement activities or to purchase easements for public access. Different strategies for enforcing performance could include using funds from the mitigation fund to help in guaranteeing enforcement, increasing awareness of the SDRC, and ensuring coordination with municipalities.

Additional shoreline has been gained under the Environmentally Endangered Lands Program (EEL). From 2003 to 2009, DERM spent $15,000 to acquire 4.5 acres of coastal wetlands under its EEL program. Two coastal parks, Biscayne National Park and Everglades National Park, both offer educational and recreational opportunities to the public. The County's EcoAdventures program also has similar opportunities available in coastal locations to residents and is reviewed in Objectives CM-4 and CM-7.

Changes to section 163.3177(6)(a), F.S. were made by the Florida Legislature in 2005 requiring that the future land element of coastal counties must encourage the preservation of recreational and working waterfronts, and mandating strategies that will be used to preserve these working waterfronts. As defined in section 342.07, F.S., recreational and working waterfronts are defined as property that provides access for water-dependent commercial activities, or provide access to the public to the navigable waters of the state. These uses could include marinas, boat ramps, docks, boat repair/construction facilities, and commercial fishing facilities. As detailed in Objective CM-9, several County facilities are in this category, such as the County's coastal parks and marinas, including Black Point Marina, Homestead Bayfront Park, Crandon Park, and Haulover Park and Marina. A policy should be added to this element to include this new state requirement.

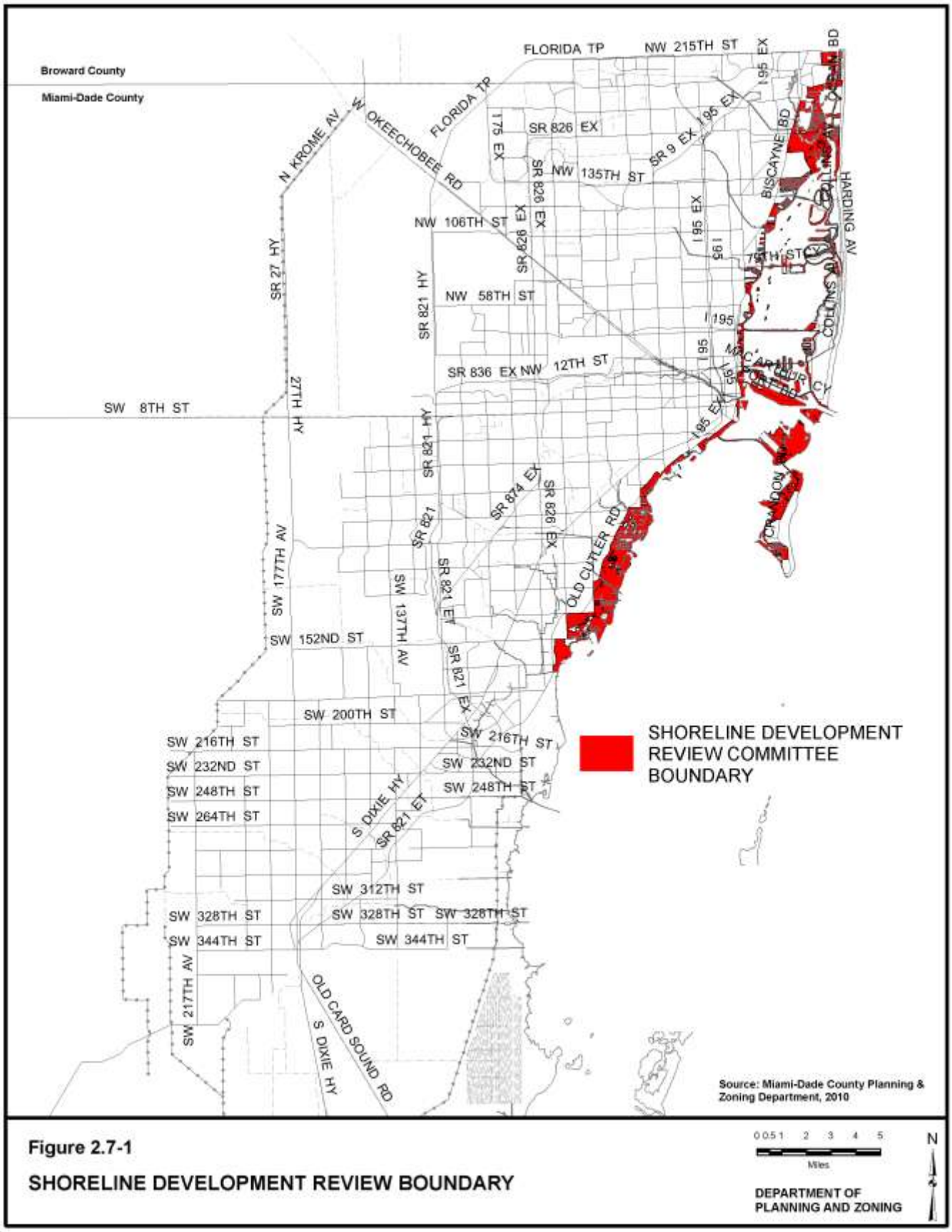


Figure 2.7-1

SHORELINE DEVELOPMENT REVIEW BOUNDARY

According to all relevant data, it appears that this objective was achieved. The compliance and enforcement provisions of the SDRC remain a problem and need significant strengthening and enforcement mechanisms implemented. Better tracking of public access granted in projects would help to more accurately measure this objective.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-5D: The 2003 EAR added in a deadline of 2010 and new wording about evaluating the effectiveness of the SDRC review process and developing compliance strategies. The 2010 date needs to be changed or eliminated. Wording to provide for compliance and enforcement mechanisms should be added.

Policy CM-5E: The County's Cooperative Extension Service suggested adding in new wording when looking to expand causeways, road rights of way, and canal easements at shorelines to include existing and proposed boating related launch and storage facilities.

Policy CM-5F: This policy, or a new policy under CM-10, could be reworded to require public and private marinas/water-dependent facilities to have a hurricane contingency plan, which could be required as a condition of the marina's yearly permit. Part (iv) (d) of this policy already recommends this "where applicable" for new marinas/water-dependent facilities.

A new policy should be added to incorporate the new state requirement for section 163.3177(6)(a), F.S. requiring that coastal counties must encourage the preservation of recreational and working waterfronts, and include strategies that will be used to preserve these working waterfronts.

Monitoring Measure: The monitoring measure could be modified to include better tracking for public access in projects reviewed by the SDRC.

Objective CM-6
Miami-Dade County shall preserve traditional shoreline uses and minimize user conflicts and impacts of man-made structures and activities on coastal resources.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report significant changes in traditional shoreline uses, user conflicts, and construction impacts.

Objective Achievement Analysis. There were significant changes in the use of certain shoreline areas within the County during the past seven years, primarily involving the conversion of properties with traditional water-dependent uses, such as commercial marinas and boat yards, to non-water-dependent residential use. This is particularly true within municipalities such as the City of Miami and City of Aventura where the County has little input in deciding how a property is developed except through the Shoreline Development Review process. All development, including residential structures larger than single family or duplex units, constructed along most of the County's coastline is subject to review by the Shoreline Development Review Committee (SDRC), which, as discussed in Objective 5, is responsible for enhancing and maintaining public access to shoreline areas through such requirements as pedestrian walkways, viewing areas, and boat docking facilities. The SDRC process is meant to ensure that public access to the shoreline areas of the County is preserved and enhanced regardless of a property's use. However, zoning and land use policies and regulations generally are the primary factors in determining whether "traditional" shoreline uses are preserved.

All work that extends into, over, or upon the tidal waters or coastal wetlands of the County requires a Class I Coastal Construction Permit issued by the Miami-Dade County Department of Environmental Resources (DERM). Projects that are issued a Class I permit are not required to be reviewed by the SDRC unless they are a large scale project. Prior to issuance of a Class I Permit, DERM staff works with the applicant to reduce any negative impacts the proposed project may have on coastal resources and to minimize and avoid adverse

effects on potential users. These extensive efforts prior to permit issuance have resulted in mitigation requirements for less than 11% of the Class I Coastal Construction projects permitted within the past seven years. Projects with impacts that cannot be avoided or mitigated on site are either denied or are permitted with a condition requiring mitigation elsewhere within the coastal areas of the County. The Class I permitting program also has a well development compliance and enforcement program that actively reviews and inspects permitted projects to ensure compliance with permit conditions and mitigation requirements, and inspects areas for unauthorized work and takes enforcement action when necessary. Table 2.7-4 summarizes the number of Class I Coastal Construction Permits issued each year.

Table 2.7-4
Coastal Construction Permits: Dec. 2002-2009

Year	Class I Coastal Construction Permits Issued	Number of Permits Requiring Mitigation*	Percent Requiring Mitigation
2002	17	5	29.4
2003	279	32	11.47
2004	311	41	13.18
2005	416	29	6.97
2006	320	41	12.81
2007	363	33	9.09
2008	284	13	4.58
2009	289	47	16.26
Total	2279	241	10.57

Source: Miami-Dade County Department of Environmental Resources, Coastal Resources Section, 2010
*Numbers exclude projects that require the placement of riprap to mitigate for adverse impacts to water quality associated with the installation of new and replacement seawalls and bulkheads. Riprap placement is a standard requirement of all such projects.

The SDRC and DERM review processes ensure that approved projects provide public access with minimal user conflicts and impacts to coastal resources. However, traditional shoreline uses have not always been maintained inasmuch as shoreline redevelopment is largely dictated by what municipal land use plans and zoning codes will allow. Therefore Objective 6 has been partially, but not completely, achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-6A: This policy should include a new deadline of 2017.

Policy CM-6G: This policy should be strengthened by rewording to include coordination with municipal zoning authorities, which can approve projects that have an effect on water-dependent or water-related issues within coastal areas.

Objective CM-7
Improve the public's awareness and appreciation of Miami-Dade County's coastal resources and water-dependent and water-related uses.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report significant changes to programs which provide public awareness through park and school programs, special events, or the print and electronic media.

Objective Achievement Analysis. Miami-Dade Park and Recreation Department (PARD) continues its EcoAdventures program, established in 1999. The EcoAdventures program consists of various activities held at County nature centers, state and national parks, and historic sites. These activities include kayaking, canoeing, biking, hiking, camping expeditions, nature camps, guided nature walks and birding tours. Of the County's six nature centers, several are water-dependent, including Greynolds Park Boathouse, Crandon Park Visitors and Nature Center, and Bill Sadowski Park. Besides water-related activities such as canoeing and kayaking, the public also can learn about coastal wildlife and habitat through lectures, tours, and presentations on sea turtles, birds and other wildlife. During fiscal year 2009, EcoAdventures was budgeted for $1,771,000.00 to promote public awareness. Despite budget reductions, EcoAdventures continues to make progress in heightening public appreciation and stewardship of the County's coastal resources and water-dependent and water-related uses.

DERM also provides funding and assistance with community-based organizations such as Fairchild Tropical Gardens and the Miami River Commission for environmental events. DERM also works with a public television station to air environmental programs, and through Miami-Dade TV produced videos that explain beach erosion, canal cleanup, and caring for trees. DERM also continued their sponsorship of their Adopt-A-Tree program, and County residents picked up over 12,730 trees in 2009, with over 110,000 trees given away since the program's inception in 2001.

Miami-Dade County sponsors Baynanza, an annual event held since 1982 to raise public awareness toward Biscayne Bay and the aquatic environment. Baynanza consists of events beginning in March and includes activities such as Little Havana Earth Day, River Day, photo contests, and culminates in the Biscayne Bay Cleanup Day each April. In 2009 over 8,500 volunteers participated in the Biscayne Bay Cleanup Day that resulted in over large amounts of trash cleaned up throughout 29 sites along the shoreline and islands of Biscayne Bay.

DERM educates the public about the harms of exotic and invasive plant species. Through a continuing partnership between DERM and PARD, volunteers assist to restore the County's natural areas by removing exotic plant vegetation, restoring native vegetation, and performing cleanup on Environmentally Endangered Lands (EEL) and County park sites. Volunteers are educated to identify various invasive non-native plants and help restore these natural areas while gaining awareness of these unique areas. PARD also has an extensive volunteer program that includes activities to help cleanup the shorelines and other coastal areas at locations such as Bear Cut preserve in Crandon Park, Pelican Harbor, and Haulover Park. PARD also works with and acts as host for shoreline and waterway cleanups with university and school groups, and community and volunteer organizations such as Hands On Miami. PARD also participates in national efforts such as National Public Lands Day in which volunteers work to clean up public lands.

In conclusion, this objective has been achieved, continues to be relevant and should be retained.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

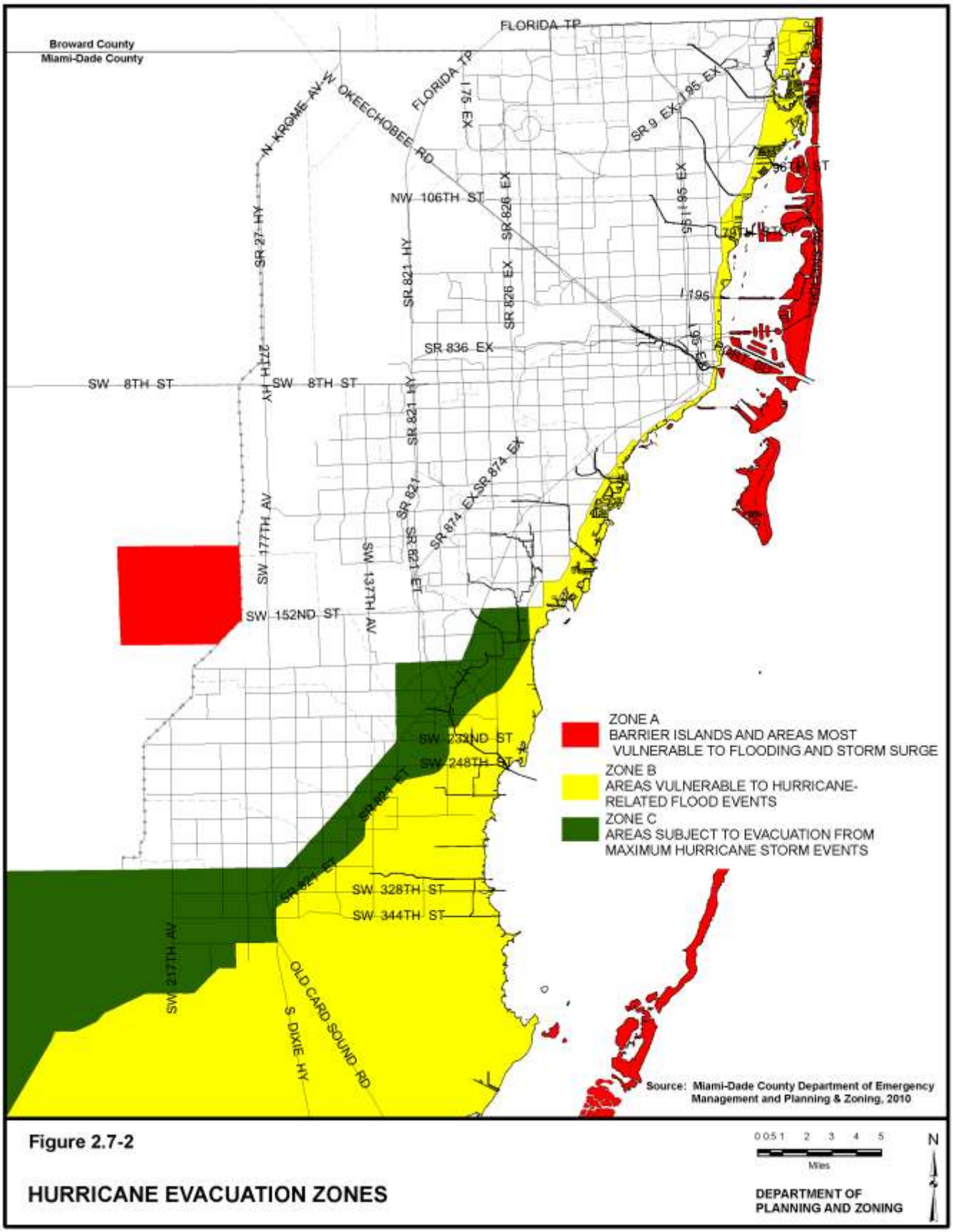
Policy CM-7G: This policy should be expanded to seek studies performed to support and sustain tourism, marina, and water-related uses. These studies would prove invaluable in implementing new state requirements (discussed earlier in Objective CM-5) regarding the preservation of recreational and commercial working waterfronts.

Objective CM-8
The existing time period required to complete the evacuation of people from flood vulnerable Coastal Areas and mobile homes prior to the arrival of sustained tropical storm force winds shall be maintained or lowered. Shelter capacity within Miami-Dade County shall be increased as necessary to provide a safe haven for storm evacuees.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report estimated change in evacuation time based upon model simulations and public shelter capacity within Miami-Dade County.

Objective Achievement Analysis. As referenced throughout this element, the wording and acronym need to be updated, from the Office of Emergency Management (OEM) to the Department of Emergency Management (DEM).

Prior to 2001, the County's hurricane evacuation zones were tied directly to hurricane categories. In 2001, DEM reanalyzed the County's evacuation plan and determined new hurricane evacuation zones – Zone A, Zone B, and Zone C. These evacuation zones as depicted in Figure 2.7-2 were designed in coordination with Broward and Monroe Counties to facilitate communication to Miami-Dade County residents about who is required to evacuate in the event of a disaster. These zones are not hurricane category storm specific so that DEM personnel can evacuate the appropriate evacuation zones based on the forecasted impact of the storm.


Broward County
Miami-Dade County
FLORIDA TP
N KROME AV-W OKEECHOBEE RD
SR 27 HY
NW 106TH ST
SR 821 HY
SR 826 EX
SR 836 EX
I 95
SW 8TH ST
217TH HY
SW 177TH AV
SW 137TH AV
SW 152ND ST
SR 874 EX
SW 232ND ST
SW 248TH ST
SW 328TH ST
SW 344TH ST
SW 217TH AV
OLD CARD SOUND RD
S DIXIE HY
ZONE A
BARRIER ISLANDS AND AREAS MOST VULNERABLE TO FLOODING AND STORM SURGE
ZONE B
AREAS VULNERABLE TO HURRICANE-RELATED FLOOD EVENTS
ZONE C
AREAS SUBJECT TO EVACUATION FROM MAXIMUM HURRICANE STORM EVENTS
Source: Miami-Dade County Department of Emergency Management and Planning & Zoning, 2010
Figure 2.7-2
HURRICANE EVACUATION ZONES
0 0.5 1 2 3 4 5
Miles
N
DEPARTMENT OF PLANNING AND ZONING

During the 2006 Florida Legislative session, the Florida Legislature adopted a new definition of coastal high-hazard areas and other changes to section 163.3178, F.S. (House Bill 1359) which necessitated a corresponding amendment to the CDMP. Accordingly, the Department of Planning and Zoning (DP&Z) submitted the appropriate CDMP text amendment in the April 2007 cycle. The effect of this CDMP amendment was to include the new definition of coastal high-hazard areas (CHHA), as required by section 163.3178, F.S., in the Coastal Management, Land Use, and Capital Improvements Elements of the CDMP. This text amendment was adopted by the Board of County Commissioners on April 24, 2008.

The CHHA is determined by the Sea, Lake and Overland Surges from Hurricanes (SLOSH) computer model developed by the National Hurricane Center and other federal agencies in cooperation with state and local offices of emergency management. The SLOSH model is used to estimate storm heights and winds resulting from historical, hypothetical, or predicted hurricanes. The South Florida Regional Planning Council (SFRPC) is currently working on a comprehensive regional evacuation study update that involves Miami-Dade, Broward and Monroe counties. This update will include new Light Detection and Ranging (LIDAR) elevation data, and SLOSH flood modeling, along with establishment of a regional evacuation transportation network. Section 163.3178 F.S. defines the CHHA as the area below the elevation of a category one storm surge line, as established by a SLOSH model. This update is expected to be completed in June 2010, and the County will review and update the new data.

Table 2.7-5 depicts the population estimates required to evacuate a given zone.

Local Evacuation

The County's evacuation policy is to "shelter in place"--to encourage people to seek safety but not to leave the County during a hurricane. This may include people traveling to: County shelters; to a local residence, such as homes of friends or relatives; or to hotels or motels. The SFRPC conducted the *2006 South Florida Regional Hurricane Evacuation Traffic Study Technical Support Document*, which modeled baseline scenarios based on behavioral assumptions and storm category strength. The results determined that in a category four or five storm, 45% of residents in Zone A would travel to a local residence and 50% of residents in Zones B and C would travel to a local residence.

The County's shelters are required to meet structural criteria to withstand high storm winds, and are located outside of areas where storm surge and flooding may occur. The results of the SFRPC scenario also show that in the event of a category four or five storm, 10% of all County residents would travel to a local shelter. The County's shelters include 56 shelters at public schools throughout the County with a current capacity of 85,484. This represents an increase over the previously reported figure in the 2003 EAR of 66,398. In that scenario that 10% of the evacuating population of 462,824 (as shown in Table 2.7-5) would utilize shelters, the resulting figure of 46,282 is well within the County's shelter capacity. The shelter capacity figure does not include the County's six special needs evacuation centers with a capacity of 3,000 for those who need special assistance, or the three new pet-friendly evacuation centers with a capacity for 1,500 persons and 260 pets.

In addition, the County is also exploring other options for securing temporary and long-term housing for residents, should an event similar to Hurricane Katrina occur and evacuees are left with few housing options. DEM maintains both a short-term and long-term post-event emergency sheltering plan, and is studying housing options such as hotels, travel trailers, mobile home, camp sites and cruise ships.

Regional Evacuation

Model simulations were prepared for a regional analysis by the SFRPC and published in their *2006 South Florida Regional Hurricane Evacuation Traffic Study Technical Support Document.* After further revisions using GIS data, the resulting hurricane evacuation time data was published by DEM in their June 2008 Comprehensive Emergency

Management Plan (CEMP) and presented as Table 2.7-6.

Table 2.7-6 is based on model behavioral patterns, evacuation zones and plans developed by the County for transportation modeling and clearance time calculations. The model used the scenario for clearance times for three levels of storm events (categories one through two, category three, and categories four through five). Low and high tourist occupancy rates are both factored in, to define the low and high range of tourist occupancy rates in the County. Along with behavioral assumptions incorporated into the model, critical links in the roadway were identified, and a clearance time calculated for each critical link. A critical link is a section of a roadway which is a limiting factor in hurricane evacuation, due to its capacity limitations or high probability of it becoming congested. The County's overall clearance time of 22.38 hours is defined as the number of hours it takes total evacuating vehicles to travel the most limiting critical link, which is US 41 (SW 8th Street/Tamiami Trail) westbound out of Miami-Dade. This time is under a high tourist occupancy scenario, and under category four or five storm conditions. This model which reports evacuation times by critical links represents a different methodology from previously reported evacuation times by evacuation zones. As the previous EAR reported evacuation time by evacuation zones, comparisons cannot be made due to this different methodology. The critical link analysis is crucial in hurricane evacuation modeling for County and regional evacuation transportation planning. As part of the County's evacuation plan, the County also provides public transportation to hurricane evacuation shelters. The County's Hurricane Evacuation Zones A, B, and C have designated transit pick-up sites including sites at mobile home parks, municipal city halls and libraries, community and shopping centers, and schools.

As mentioned earlier, SFRPC is working on a comprehensive regional evacuation study update that involves not only Miami-Dade but adjoining counties. This update will use new traffic modeling and establish a regional evacuation transportation network which will include the adjoining counties. This update is expected to be completed in June 2010, and the County will review and integrate the new data into the County's CEMP.

The County also factors in Monroe County in their emergency operations. The County serves as the receiving area for people evacuating Monroe County. The County has designated Florida International University as the shelter facility for Monroe County residents. An evacuation order by Monroe County can impact the County's transportation network, as Monroe County residents would mean additional vehicles on the roadways. The SFRPC's study update will examine this possible impact of Monroe County vehicle patterns on the County's transportation network.

The County's evacuation routes also have land use implications. As described later in Objective 9, the County directs development away from coastal areas. Among other unwanted consequences, any development in the coastal areas would also have an impact on evacuation routes, as more people would be required to evacuate in the event of a storm. This would strain not only the County's evacuation transportation network, but also affect evacuation for Monroe County residents travelling to the mainland. For those reasons and others, County policies discourage development in coastal areas.

The County works to maintain and improve evacuation routes. Of particular concern is the Card Sound Road evacuating route from the Florida Keys. DERM performed extensive work to clear the Card Sound Road area of illegal structures and debris, which may cause blockage on the road. DERM removed approximately 19,000 square feet of illegal overwater structures within the Card Sound Road area. These structures included illegal shacks, houses, and docks in the coastal area of Card Sound Road. DERM removed eight tons of debris along the shoreline bordering the roadway, and with the aid of the Florida Fish and Wildlife Conservation Commission removed marine debris within the area, including the removal of 68 derelict vessels.

Table 2.7-5
Population Evacuation Estimates

Storm Surge Evacuation Zone	Residents (2006)	Mobile Homes*	Low Season Tourist (2006)	Total	Cumulative	Cumulative Total
A	137,774	39,114	21,383	198,272	A	198,272
B	108,891	-	11,060	119,951	A &B	318,223
C	144,133	-	468	144,601	A & B & C	462,824
Total	390,798	39,114	32,911	462,824		

*Mobile Homes are located in different evacuation zones. However, since they need to evacuate for Tropical Storm and Hurricane Category 1, they are added to the Zone A.
Source: Department of Emergency Management, Comprehensive Emergency Management Plan, June 2008

Table 2.7-6
Evacuation Clearance Times and Vehicle Estimates (Hours)

Critical Roadway Segment	Clearance Times A		Clearance Times B		Clearance Times C	
	L	**H**	**L**	**H**	**L**	**H**
I-95 northbound at Ft Pierce	20.89	27.86	39.64	50.36	44.50	58.25
Florida Turnpike northbound at Glades Rd in Palm Beach County	22.14	30.00	42.14	55.71	47.21	62.71
I-95 northbound out of Miami-Dade	8.53	10.07	14.17	16.23	17.23	19.33
Florida Turnpike northbound out of Miami-Dade	9.43	11.23	16.00	18.43	19.07	21.53
I-75 west/northbound out of Miami- Dade	5.25	5.78	7.28	8.09	10.04	10.84
US 27 northbound out of Miami- Dade	7.28	8.31	11.47	13.28	14.83	16.64
US 41 (SW 8th Street/Tamiami Trail) westbound out of Miami-Dade	8.95	10.66	15.43	17.82	20.05	22.38
Lehman Causeway	7.06	7.74	7.26	7.98	9.26	9.98
Sunny Isles Causeway	4.73	5.07	4.73	5.07	6.73	7.07
Broad Causeway	8.06	8.72	8.28	8.94	10.28	10.94
Kennedy Causeway	8.56	9.02	8.56	9.02	10.56	11.02
NW 79th at I-95	12.24	13.15	15.76	16.76	17.76	18.76
Julia Tuttle Causeway	6.20	6.53	6.20	6.53	8.20	8.53
Venetian Causeway	7.28	7.50	7.28	7.50	9.28	9.50
MacArthur Causeway	11.39	11.86	11.39	11.86	13.39	13.86
Homestead Ext. of Fl. Turnpike south of US 27	6.03	6.73	8.90	10.23	14.10	15.47

H: high tourist occupancy; L: low tourist occupancy
Clearance Times A: based on category one or two storm event; Clearance Times B: based on category three storm event; Clearance Times C: based on category four or five storm event.
Source: Department of Emergency Management, Comprehensive Emergency Management Plan, June 2008.

Objective 8 has been achieved, based on the more detailed methodology of modeled evacuation times, actions taken to improve evacuation routes, and the increase made in public shelter capacity.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Objective CM-8: This policy could be reworded to include DEM's existing programs assisting Miami-Dade County residents in emergency events (i.e. transport for special needs groups, shutter program). This objective could be divided into two objectives: evacuation times and shelter capacity, and DEM's programs to assist its residents.

Policy CM-8: Regarding the wording that all public shelters "should be wheelchair accessible," this should be reworded to state that all public shelters are ADA compliant.

Policy CM-8N: This policy required includes the requirement for mobile home parks without on-site shelters to submit their evacuation plans to DEM. However, this requirement is not in Chapter 33, Article XII governing Mobile Homes and Mobile Homes Parks, or in Chapter 8B pertaining to Emergency Management, in the County code. In the event of a disaster, all mobile home park residents are advised to evacuate, regardless of their location. Perhaps this policy should be rewritten to reflect this.

The monitoring measure might be revised to include DEM's other activities to help the public in the event of an emergency, such number of people enrolled in their Emergency Evacuation Assistance Program (EEAP), transport provided for special population groups, and DEM's shutter program.

Objective CM-9
Miami-Dade County shall continue to orient its planning, regulatory, and service programs to direct future population concentrations away from the Coastal High Hazard Area (CHHA) and FEMA "V" Zone. Infrastructure shall be available to serve the existing development and redevelopment proposed in the Land Use Element and population in the CHHA, but shall not be built, expanded, or oversized to promote increased population in the coastal high-risk area.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report land use plan amendments, population change, and infrastructure improvements in the CHHA.

Objective Achievement Analysis. Section 163.3178(2)(h), F.S., defines the coastal high hazard area (CHHA) as the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm model. The County is mandated to work with the local planning council (South Florida Regional Planning Council) with their development of a Statewide Regional Evacuation Study program, which will include an updated SLOSH model using the most current demographic, land use, evacuation and LIDAR (Light Detection and Ranging) data available. The South Florida Regional Planning Council is currently working on the study and new maps, which should be completed in June 2010. Any updates will be made to the corresponding policies and maps upon completion of the study.

Table 2.7-7 in the 2003 EAR depicted County-owned or leased buildings in the CHHA, using the old definition of the CHHA as consisting of the barrier islands. The new definition of the CHHA only depicts the areas that are most likely to be affected by a storm surge, and includes only select portions of the barrier islands, namely Fisher Island, Haulover Park in Sunny Isles, a portion of Key Biscayne and Virginia Key, and portions of coastal lands to the east and south of the Town of Cutler Bay. As mentioned, the SFRPC is currently updating its SLOSH model, which is expected to be completed in June 2010.

The SLOSH model does not include such factors as rainfall amounts, river flow, or wind-driven waves. Since the updated SLOSH model from the SFRPC study is not available, a more comprehensive analysis of County property in coastal areas is depicted in Table 2.7-7 showing County-owned buildings in all of the barrier islands, and in the unincorporated southern part of the County, from

Key Biscayne on south, within one thousand feet of the coast, until the County line. This was performed using GIS analysis, with supporting documents from GSA and Public Works. As shown in Table 2.7-7, Park and Recreation Department owns the majority of the buildings, which serve as public access to coastal areas. GSA, Water and Sewer, Public Works, Human Services, Fire Rescue, and Library Department own the remainder, which serve as existing infrastructure and provide services for the existing population in the coastal area.

Table 2.7-7
Miami-Dade County Owned Buildings in the Coastal Area

County Department/Description	Address	Building Size (Sq. Ft.)
Virginia Key Wastewater Treatment Plan	3989 Rickenbacker Cswy.	1,481
Park & Recreation	6702 Crandon Blvd.	3,768
Key Biscayne Public Library	299 Crandon Blvd.	7,209
Park & Recreation - Haulover Beach	13700 Collins Ave.	33,274
Park & Recreation - Crandon Park	7200 Crandon Blvd	242,089
Public Works	13401 Collins Avenue	4,020
Park & Recreation	3400 Rickenbacker Cswy.	114,246
Park & Recreation - Black Point Marina	24775 SW 87 Ave.	64,296
Park & Recreation - Homestead Bayfront Park[1]	9698 SW 328 St.	10,937
GSA	710 Alton Rd.	16,344
GSA	720 Alton Rd.	8,500
Human Services - Family Health Clinic	615 Collins Ave.	4,537
Fire Rescue Dept.	175 172 St.	15,625
Public Works	350 Sunny Isles Blvd.	15,273
Fire Rescue Dept.	65 Fisher Island Dr.	4,596
Park & Recreation - Chapman Field Park	13600 Old Cutler Rd.	6,934
Park & Recreation - Matheson Hammock Park	9610 Old Cutler Rd.	1,757
Park & Recreation - Matheson Hammock Park	9610 Old Cutler Rd.	9,111
Park & Recreation - Matheson Hammock Park	5400 SW 96 St.	4,066
Park & Recreation - Matheson Hammock Park	9610 Old Cutler Rd.	5,959
Deering Estate[2]	16701 SW 72 Ave.	24,688
	Total	598,710

Notes
[1] Homestead Bayfront Park - includes buildings at the Dante Fascell Visitor Center, for Biscayne National Park
[2] Deering Estate - is State-owned but managed by Miami-Dade County Park & Recreation Department
Source: General Services Administration (GSA), Real Estate Division, 2010

Using the same methodology used for Table 2.7-7, County infrastructure was examined in the unincorporated sections of the barrier islands, and from Key Biscayne on south, within one thousand feet of the coast, until the County line. From 2003-2009 no new roadways, expansion of roadways, or drainage improvements occurred. There is a roadway project to widen SW 27 Avenue from Bayshore Drive to U.S. 1 and includes the addition of bike lanes, on-street parking and storm drainage system. This project has programmed funding and is currently in the design stage. Other than regular maintenance and renewal and replacement of equipment and structures, the County's Virginia Key wastewater treatment plant did not undergo any capacity expansion since 2003. The excavation of approximately 1.18 acres of upland fill occurred at the County's Haulover Marina. This was to expand the public access to the marina facilities.

The City of Miami is in the process of developing a Master Plan for their jurisdictional area on Virginia Key. Pending City transmittal and adoption, the County will scrutinize the plan to see if it is compatible with existing conditions, which include environmentally protected lands and the County's Virginia Key treatment plant.

The local utility provider, Florida Power and Light's (FP&L) Turkey Point plant is located in the coastal area, and began its operations there in the early 1970s. From 2003-2009, FPL expanded its unit number 5 at Turkey Point. This consisted of permanent impacts to approximately 17.02 acres of coastal wetlands in association with creation of a fill pad to support a new gas-fired power generation plant. FP&L plans to add two new nuclear reactors onto is existing Turkey Point plant, to meet the public interest demand for electricity. This is currently in the planning stages, and the County (along with other regulatory agencies) will conduct a substantial review of the expansion for potential impacts upon the environment.

This Objective and policies also direct development away from these coastal areas. Policy CM-9A prohibits any land use plan map amendments or rezoning actions that would increase residential density in the coastal area. In the Capital Improvements Element, Objective CIE-2 requires that development in high hazard coastal areas will be retained at permitted levels, as of July 1, 1989. Consistent with these directives, there were no

CDMP amendments from 2003-2009 in this coastal area.

The CHHA definition does not coincide with the Federal Emergency Management Agency (FEMA) "V" or VE" Zones identified on FEMA's flood insurance maps. In 2009, FEMA updated the flood zone maps in order to more accurately reflect current flood risks for Miami-Dade County. Both the V and VE zones are defined as coastal areas with a one-percent or greater chance of flooding and an additional hazard associated with storm waves. The VE zone differs from the V zone by the availability of a base building elevation. These zones are located along the County's coastline and are not limited to the barrier islands. As mentioned earlier, the majority of the area in unincorporated Miami-Dade County in the barrier islands and coastal areas is in public ownership or designated as "Environmentally Protected Parks," "Environmental Protection," or "Parks and Recreation" in the CDMP and much of this land lies within Biscayne National Park.

Based upon the data reviewed and the County's coastal land management, Objective 9 was achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-9H: If a new element/objective on climate change/sea level rise is added, perhaps add in new wording that DEM may need to reevaluate their emergency management strategy, under a scenario that more areas may flood.

Objective CM-10

Reduce the exposure of life and property in Miami-Dade County to hurricanes through the planning and implementation of pre-disaster hazard mitigation measures. Pre-disaster planning for post-disaster redevelopment shall direct population concentrations away from the undeveloped designated Coastal High Hazard Areas and away from identified high-risk areas during post-disaster redevelopment.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report on the initiation or completion of the action reports for emergency response, recovery, and redevelopment. Changes in policies resulting from each after action report shall be evaluated.

Objective Achievement Analysis. Following the advent of Hurricane Andrew in 1993 and as authorized by Chapter 252, F.S., the County developed its Comprehensive Emergency Management Plan (CEMP). As outlined in Section 8B-2 of the County Code, the CEMP establishes the framework through which the County deals with various types of disasters. The CEMP outlines steps in emergency management starting from initial monitoring to post-disaster response, recovery, and mitigation. Extensive pre-disaster planning activities such as debris staging, emergency shelter capacity and management and public outreach are outlined in the CEMP. The responsibilities of crucial County agencies and actions to be taken by these agencies in the event of a disaster are also outlined.

From 2003-2009, the County's Emergency Operations Center (EOC) was activated on 19 occasions, 13 of which were storm events. As each EOC activation required sustained coordination among multiple County agencies and staff, an "After Action Report" was compiled. The After Action Report evaluated the effectiveness of existing policies and strategies, documented any issue encountered during EOC activation, and recommended any changes needed. Due to their many EOC activations and experience, DEM has resolved major issues--many issues detailed in their After Action Reports are minor and just require fine-tuning of policies.

As detailed earlier in Objective CM-8, the definition of the CHHA only includes select portions of the barrier islands, namely Fisher Island, Haulover Park in Sunny Isles, a portion of Key Biscayne, and portions of coastal lands to the east and south of the Town of Cutler Bay. All other lands lie within municipalities and will not be addressed here.

As mentioned earlier in Objective CM-5, the County continues in its acquisition and management of environmentally sensitive lands in the coastal areas.

From 2003 to 2009, DERM spent $15,000 to acquire 4.5 acres of coastal wetlands under its Environmentally Endangered Lands (EEL) program. DERM also assumed management for portions of several coastal parks and preserves. The natural areas section of select County coastal parks and preserves were placed under EEL management for upkeep and maintenance. These sites are listed in Table 2.7-8.

Table 2.7-8
Coastal Land Acquisition Management: 2003-2009

Description	Acres	Address
Arch Creek Park	8.5	NE 135 St. and U.S. 1
Charles Deering Estate	332	16701 SW 72 Ave.
Crandon Park	444	7200 Crandon Blvd.
East Greynolds Park	33	17530 W. Dixie Hwy.
Greynolds Park	53	17530 W. Dixie Hwy.
Matheson Hammock Park	381	9610 Old Cutler Rd.
R. Hardy Matheson Preserve	692	SW 112 and Old Cutler Rd.

Source: Department of Environmental Resources Management; EEL Program, 2009

Based on the County's CEMP, EOC activities, and coastal land management, this objective has been achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-10G: This policy should be reworded to include "and known archaeological sites" so those sites can be also be protected as well, and to clarify that debris locations should be pre-approved by DERM and Florida Department of Environmental Protection prior to their use.

Objective CM-11
During post-disaster recovery and redevelopment, Miami-Dade County shall implement its Comprehensive Emergency Management Plan (CEMP) and applicable CDMP policies and assist hurricane damaged areas with recovery and hazard mitigation measures that reduce the potential for future loss of life and property.

CDMP Monitoring Measure. The monitoring measure for this Objective will be to report on the successful implementation of projects developed and funded through Miami-Dade County's local mitigation strategy.

Objective Achievement Analysis. The Department of Emergency Management (DEM) is the County department charged with coordinating and performing emergency preparedness, response, and recovery. DEM aims to lessen the impact of man-made and natural disasters through planning, organization of resources and information, and mitigation.

As authorized by Chapter 252, Part I, F.S., the County's Comprehensive Emergency Management Plan (CEMP) serves as the County's guide to handling a variety of hazards, either natural or man-made. The CEMP establishes the framework to insure that the County and its municipalities are prepared to deal with these hazards. The CEMP outlines how the County will utilize resources and through specific activities help support emergency management efforts in preparation, mitigation, response, and recovery efforts.

The County continues its hazard mitigation activities. In 1998, the state of Florida sponsored the program called the Local Mitigation Strategy (LMS) and provided funding to each county to develop a strategy to mitigate damages from a local perspective. The LMS is funded by County funds, and by federal, state and regional agencies. The LMS Working Group is made up of representatives and/or staff from County departments, Miami-Dade municipalities, state and federal agencies, schools, colleges and universities, hospitals, and private and not-for-profit organizations. The LMS Working Group meets periodically to review hazard mitigation policies for effectiveness and prioritizes hazard mitigation projects for potential funding. Twice a year, the LMS accepts new project applications, updates existing projects, and removes projects already completed. Between 2003 and 2009, over $136 million dollars of mitigation monies were awarded to projects prioritized by the LMS. Table 2.7-9 provides a summary of projects funded between 2003 and 2009.

Table 2.7-9
Miami-Dade County Local Mitigation Strategy Projects, 2003-2009

Project Type	Number of Projects	Total Dollars Funded
Flood Mitigation	7	$27,127,000
Windstorm Mitigation	61	$104,235,400
Miscellaneous	8	$5,431,300
Total	76	$136,793,700

Source: Department of Emergency Management, 2010

The continuation of the LMS, and the implementation and funding of LMS projects as detailed in Table 2.7-9, indicates that Objective 11 has been achieved.

Policy Relevance. The objective and all of the policies were reviewed for relevance. Policies requiring changes are listed below. All other policies remain relevant and should be retained.

Policy CM-11B: This policy should be reworded to create a Redevelopment Committee to identify areas requiring redevelopment and implementing the redevelopment plan, along with public input.

Policy CM-11E: There are concerns that FEMA will not pay for reconstruction in the Coastal High Hazard Area (CHHA) but may pay to reconstruct the same facility if moved outside the CHHA. Regarding public acquisition of properties in the CHHA, there may be a problem with assigning a County agency responsibility for purchasing and maintaining the property. This policy should be modified to address these concerns.

Objective CM-12
Protect, preserve, and sensitively reuse historic resources and increase the number of locally designated historic sites and districts and archaeological sites and zones in the coastal area.

CDMP Monitoring Measure. The monitoring measure for this Objective will be the implementation of hazard mitigation measures for historical and archaeological sites. A second monitorial measure shall be the number of historical and archaeological sites in the coastal area.

Objective Achievement Analysis. Coastal areas were analyzed using the methodology defined in CM-9. Greynolds Park is included due to its location on the Intracoastal Waterway. From 2003-2009 four historic sites in the coastal area implemented hazard mitigation measures, namely at Crandon and Greynolds Parks, Deering Estate, and Vizcaya. At the Adventures Office in Crandon Park, the building was waterproofed to a height of three to six inches above the finished floor. Removable high metal flood panels for the doors were put in, along with new windows with hurricane shutters. New hurricane resistant doors and hurricane shutters were also installed in the cabanas and other buildings. At Greynolds Park, new impact resistant windows and hurricane resistant doors were installed in the Park Manager's office. At the Deering Estate, windows were resealed to prevent water intrusion, and additional plaster repairs were made in preparation for the repainting of several buildings, including at the Stone, Carriage, Power and Pump Houses. At Vizcaya, wind mitigation measures were performed to harden the courtyard canopy.

Table 2.7-10 shows the historic sites, districts, and archeological sites and zones in the coastal area designated by the Miami-Dade Historic Preservation Board. The table includes all property located in unincorporated Miami-Dade County, and in incorporated areas of Miami-Dade County except where the municipality has enacted its own historic preservation ordinance.

Table 2.7-10
Historic Sites/Districts, and Archaeological Sites/Zones in the Coastal Area

Site Name	Address	Designation Type*	Year of Designation
Atlantic Island Bridges	Atlantic Island	HS	1984
Bear Cut Archaeological Zone	Crandon Blvd.	AZ	1995
Calusa Playhouse	4000 Rickenbacker Cswy.	HS	1990
Cape Florida Lighthouse	2100 S. Crandon Blvd.	HS	1984
Charles Deering Estate	16701 SW 72 Ave.	HS	1985
Charles Deering Estate	16701 SW 72 Ave.	HD	2007**
Crandon Park Carousel	4000 Crandon Blvd.	HS	2000
Cutler Archaeological Zone (Charles Deering Estate)	16701 SW 72 Ave.	AZ	1985
Cutler Burial Mound Archaeological Site (Charles Deering Estate)	16701 SW 72 Ave.	AS	1985
Key Biscayne Archaeological Zone		AZ	1993
Matheson Worker's Cottage	7200 Crandon Blvd.	HS	1995
Sunny Isles Pier	16701 Collins Ave.	HS	1982
U.S. Coast Survey Monument	Crandon Park Golf Course	HS	2000
Watercourt Villa and Pergola	334 Atlantic Ave.	HS	1984
William K. Vanderbilt, Jr. Estate	1 Fisher Island Drive	HS	1987

Source: Historic Preservation and Archeological Resources, 2010
*AZ: Archaeological Zone; AS: Archaeological Site; HS: Historic Site; HD: Historic District
**Boundaries were redefined in 2007.

Based on the data regarding historical and archaeological sites in the coastal area, Objective 12 has been achieved.

Policy Relevance. The objective and all of the policies were reviewed for continued relevance and should be retained.

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2.8 INTERGOVERNMENTAL COORDINATION ELEMENT

Since the last EAR was conducted, the Intergovernmental Coordination Element (ICE) has undergone minor revisions. An application to amend the CDMP was filed in 2007, as the result of the 2005 Florida Legislature adopting revisions to the Growth Management Act, Chapter 163, Florida Statutes. These revisions required the adoption of modifications to several policies and the addition of one new policy. The new policy and modification address the Interlocal Agreement between Miami-Dade County and Miami-Dade County Public Schools and the new requirement of public school concurrency. An important part of implementing the ICE is the monitoring program for evaluating the progress and accomplishments of each objective. Each objective is listed below, followed by the monitoring measure(s) associated with each objective. The findings of each of the monitoring measure are detailed, including its accomplishments, successes and failures. Suggestions are included, where appropriate, for the need to revise policies and/or objectives.

Objective ICE-1
Maintain and improve coordination of planning, development and impact assessment among governmental entities with applicable responsibilities within Miami-Dade County's areas of concern.

CDMP Monitoring Measures. 1) Number and significance of comments made to and responses received from Miami-Dade municipalities in conjunction with review of amendments to the Miami-Dade County Comprehensive Development Master Plan and the comprehensive plans of the other entities. 2) Use of non-binding dispute resolution process when necessary to resolve disputes. 3) Increased frequency of planning workshops and level of attendance as indication of usefulness. 4) Increased frequency of joint meetings of technical committees of the Metropolitan Planning Organizations of Dade, Broward, and Palm Beach counties to deal with regional transportation issues. 5) Usage of Development of County Impact procedures to coordinate development with the inter-jurisdictional impact. 6) Status of off-site improvements completed pursuant to executed Campus Developments.

Objective Achievement Analysis. Policy ICE-1A addresses monitoring measure No. 1 listed above. This monitoring measure has been achieved. Miami-Dade County has continued to review planning documents transmitted to Miami-Dade County by municipalities. Since 2003, Miami-Dade County has reviewed over 100 municipal comprehensive plan amendments. Most of the documents reviewed consisted of municipal land use plan map amendments, EAR-based plan amendments, educational elements, and water supply plan amendments.

Monitoring measure No. 2 for Objective ICE-1 calls for the use of the South Florida Regional Planning Council's (SFRPC) non-binding dispute resolution process when necessary to mediate the resolution of conflicts with other local governments and regional agencies, or the use of alternative procedures, including agreements authorized by Section 163.3171(4), F.S., and other non-judicial approaches. There has not been a need for the County to use the SFRPC non-binding dispute resolution process, nor any other alternative procedures.

Policy ICE-1B concerning the increased frequency of planning workshops relates to monitoring measure No. 3. Few, if any, planning workshops were organized since 2003. The Miami-Dade Technical Planners Committee, consisting of the various planning jurisdictions in Miami-Dade County was formally established in January of 1999 and has been a successful group in the coordination and discussion of planning tools and new planning initiatives directed by the state. The Planners Technical Committee membership includes all municipalities in Miami-Dade County, the County, the South Florida Regional Planning Council, the Miami-Dade County Schools, Florida Department of Transportation, and the Florida Department of Community Affairs (DCA). In November of 2002, the committee was formally established through by-laws and officers were elected. The purpose of the committee is to address common concerns and share information regarding planning issues in

Miami-Dade County. The committee has been involved with a variety of planning issues since 2003. The committee coordinated the preparation of the mandated water supply plans, school concurrency including the uniform level-of-service standard, and Interlocal Agreement between Miami-County, the Cities of Miami-Dade County and Miami-Dade County Public Schools for Public School Facility Planning, Green Initiatives, and Model LEED Ordinance. The use of this committee in developing these initiatives has been an invaluable tool in the successful adoption of these initiatives.

Concerning monitoring measure No. 4, in 2003, the Florida legislature passed and transformed the Tri-County Commuter Rail Authority (Tri-Rail) into the South Florida Regional Transportation Authority (SFRTA). The new Authority was created with a vision to provide greater mobility in South Florida, thereby improving the economic viability and quality of life of the community, region and state. South Florida is served by Broward County Transit, Palm Tran (Palm Beach) and Miami-Dade Transit and the SFRTA, which operates Tri-Rail and which provides commuter rail service within the tri-county area. The authority's mission is to coordinate, develop and implement a viable regional transportation system in South Florida that endeavors to meet the desires and needs for the movement of people, goods and services. South Florida is expected to grow by nearly three million people over the next 20 years. Our existing regional road system is reaching capacity with few opportunities for further expansion. SFRTA is strategically planning needed projects to provide for the future regional mobility needs in South Florida. A dedicated revenue source is necessary in enabling the SFRTA to move forward with efforts to plan, develop and implement an efficient regional transportation network, in partnership with Miami-Dade, Broward and Palm Beach counties. South Florida can greatly benefit from better-funded projects and increased mobility, which is key to the area's continued economic vitality and sustained quality of life.

To enable the SFRTA to provide the regional transit projects, a dedicated source of funding of at least $50 million per year is required. These funds will: increase regional mobility and connectivity, attract Federal Transit Administration funding, provide greater return on investment for State and Counties, support sustainable economic growth, enhance quality of life, and accelerate transit expansion projects. This is the time for South Florida to support enhanced regional transportation, and transit alternatives. A dedicated revenue source is imperative in enabling the SFRTA to move forward with efforts to plan, develop and implement an efficient regional transportation network in partnership with Broward, Miami-Dade and Palm Beach Counties. As a united region, South Florida can greatly benefit from better-funded projects and increased mobility, which is the key to the area's continued economic vitality and sustained quality of life.

Regarding monitoring measure No. 5, the use of the Development of County Impact procedures to coordinate development with other jurisdictions has not been used by other jurisdictions in the last seven years. In 1975, Miami-Dade County adopted procedures whereby significant developments in municipalities with sub-development of Regional Impact thresholds could be taken under review and advisement by the County's Development Impact Committee, under Section 33-A, of the Code of Miami-Dade County. This review process is triggered by proposed changes in the respective municipalities zoning district boundaries. Since, for the most part, zoning for such development is often already in place only variances are required for approval, there has been little use made of this voluntary application process. Since the last EAR, there has been no development reported to have made use of this review process.

Regarding monitoring measure No. 6, Miami-Dade County and the Florida Board of Regents, on behalf of Florida International University, executed a Campus Development Agreement in May of 2007, implementing the requirements of Section 24.155(11)-(15), F.S., regarding campus master plans. The campus master plan outlines the proposed development required to meet students' academic, cultural, recreational and residential needs through the Year 2012. The Miami-Dade County Board of County Commissioners adopted Resolution R-356-07 in March of 2007. Said resolution required Miami-Dade County and Board

of Regents to enter into a development agreement upon the adoption of the campus master plan by the Board of Regents. The development agreement is in effect for five years, that is, until of 2012, unless extended by the mutual consent of both parties. The development agreement may be amended from time to time pursuant to Section 240.155(19), F.S. Pursuant to the development agreement the impacts of campus development on all public facilities and services was examined. It was determined that no improvements were required for the public facilities and services, as sufficient capacity is available to accommodate the impacts of the proposed campus development through the Year 2012.

Revisions in Section 163.3177, Florida Statutes, require recognition of airport master plans. The Miami-Dade Aviation Department recently made major amendments to the Aviation Subelement of Miami-Dade County's Comprehensive Development Master Plan ("CDMP") through CDMP amendments in the April 2007 and October 2008 Cycles. In addition, new requirements in Section 163.3177, Florida Statutes mandate dispute resolution process to be utilized for bringing to closure in a timely manner intergovernmental disputes.

Progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All the policies under this objective were reviewed for continued relevance. One policy requiring change is discussed below. Other policies continue to have relevance and should be retained.

Policy ICE-1H discusses the various coordination efforts between Miami-Dade County Board of County Commissioners (BCC) and Miami-Dade County Public Schools (M-DCPS). These include the Educational Element, The Joint M-DCPS/BCC School Overcrowding Working Group, the School Impact Fee, school site acquisition reviews and other appropriate means. With the exception of the M-DCPS/BCC School Overcrowding Working Group, these coordination efforts continue between the two entities, and should be retained in the policy. With regard to the M-DCPS/BCC School Overcrowding Working Group this should be removed from the policy as this group concluded its work in late 2004 and submitted its report and was accepted with some minor revisions by the Board of County Commissioners. Language should be added to this policy regarding the Education Compact between Miami-Dade County and Miami-Dade County Public Schools, as this is an ongoing effort. In 2006 the Education Compact was voted by both entities to be in the best interest of the residents and students of Miami-Dade County. As a result of this initiation, staff from both entities has identified areas of opportunity for collaboration and subgroups from both the county and schools have begun to work on the Compact. The subgroups included Procurement, Training and Development, Emergency Management, Facility Usage, Technology, Transportation Financing and Debt Management, Land Use, Communication and Policy and Legal support. In 2007 both boards had a joint meeting to provide an update on the status of the collaborative efforts. The County is in the process of updating the Education Compact with Miami-Dade County Public Schools. The updated Education Compact will represent the goals and objectives which are consistent with the long term strategic plans for each entity and improvements to the compact will be modified as such goals and objectives evolve for both entities. Miami-Dade County Public Schools currently has Education Compacts with nine municipalities, Coral Gables, Doral, Hialeah, Homestead/Florida City, Miami Beach, Miami, Miami Gardens, Miami Springs and North Miami and with Miami-Dade County.

A new policy should be added providing for the recognition of airport master plans pursuant to Section 163.3177, Florida Statutes.

Policy ICE-1I should be revised to comply with Section 163.3177, Florida Statutes regarding dispute resolution process.

Objective ICE-2
Coordinate with local, regional, and State entities with responsibility in the establishment of Level of Service Standards

CDMP Monitoring Measure. Continued use of areawide and unincorporated area local Level of

Service Standards as contained in the Capital Improvements Element of the Comprehensive Development Master Plan until properly amended.

Objective Achievement Analysis. Since the last EAR, Miami-Dade County has adopted public school concurrency. The 2005 Florida Legislature amended Chapter 163, Florida Statutes, requiring a public school facilities element, school concurrency and updates to the Interlocal Agreement for Public School Planning. In July 2008, Miami-Dade County adopted a level of service standard for public school facilities. Necessary amendments included revisions to the Educational Element, Intergovernmental Coordination and Capital Improvements Elements of the Comprehensive Development Master Plan (CDMP), and to the Interlocal Agreement for Public School Facility Planning. The amendments were approved and accepted by the State of Florida Department of Community Affairs in July 2009. A new Policy was added, ICE-2B. This new policy requires coordination with the Miami-Dade County Public Schools and other parties with the required Interlocal Agreement for Public School Facility Planning (ILA) and school concurrency. This coordination is necessary especially as it relates to any amendments to the established level of service standards and any amendments affecting public school concurrency. This monitoring measure has been achieved. The Level of Service Standards for all the concurrency services is contained within the Capital Improvements Element and in the appropriate elements of the CDMP, and has been adhered to. In conclusion, the objective and its monitoring measure remain relevant and should be retained.

Progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All policies under this objective continue to be relevant and should be retained. The following policies should be revised.

ICE-2B This policy should be revised to reflect the correct title of the Interlocal Agreement for Public School Facility Planning.

ICE-2D This policy should be revised to add Schools at the end of Miami-Dade County Public in the last bullet of the policy.

Objective ICE-3
Encourage the use of interlocal agreements and municipal boundary changes to improve coordination of local development and the effective and efficient delivery of local services.

CDMP Monitoring Measures. 1) Application of guidelines in review of municipal annexation requests. 2) Usage of formal agreements among the necessary governmental bodies to coordinate planning efforts.

Objective Achievement Analysis. Monitoring measure 1 refers to annexations and incorporations. Since 2003, there have been three (3) incorporations in Miami-Dade County, Doral and Miami Gardens which incorporated in 2003 and Cutler Bay which incorporated in November of 2005. Currently, there are a total of thirty-six (36) municipalities in Miami-Dade County, including unincorporated Miami-Dade County (See Figure 2.8.1). In November 2005, the Board of County Commissioners adopted Ordinance 05-192 which placed a moratorium on incorporations and annexations, this moratorium was lifted in March of 2007. 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 is in place 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.

Chapter 20 of the Code of Miami-Dade County, Boundary Change Procedure, which addresses annexation, 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 are notified. Also, various property descriptions, including land use, zoning and sketches of the locations must be filed with the Clerk of the County Commission. The municipality must describe in detail the character and amount of services, which the municipality would provide to the area if annexed. Also, the character and amount of services currently provided to the area proposed for annexation must be described for comparative purposes. 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. Generally, the guidelines referenced in Policy 3C have been applied to municipal boundary changes.

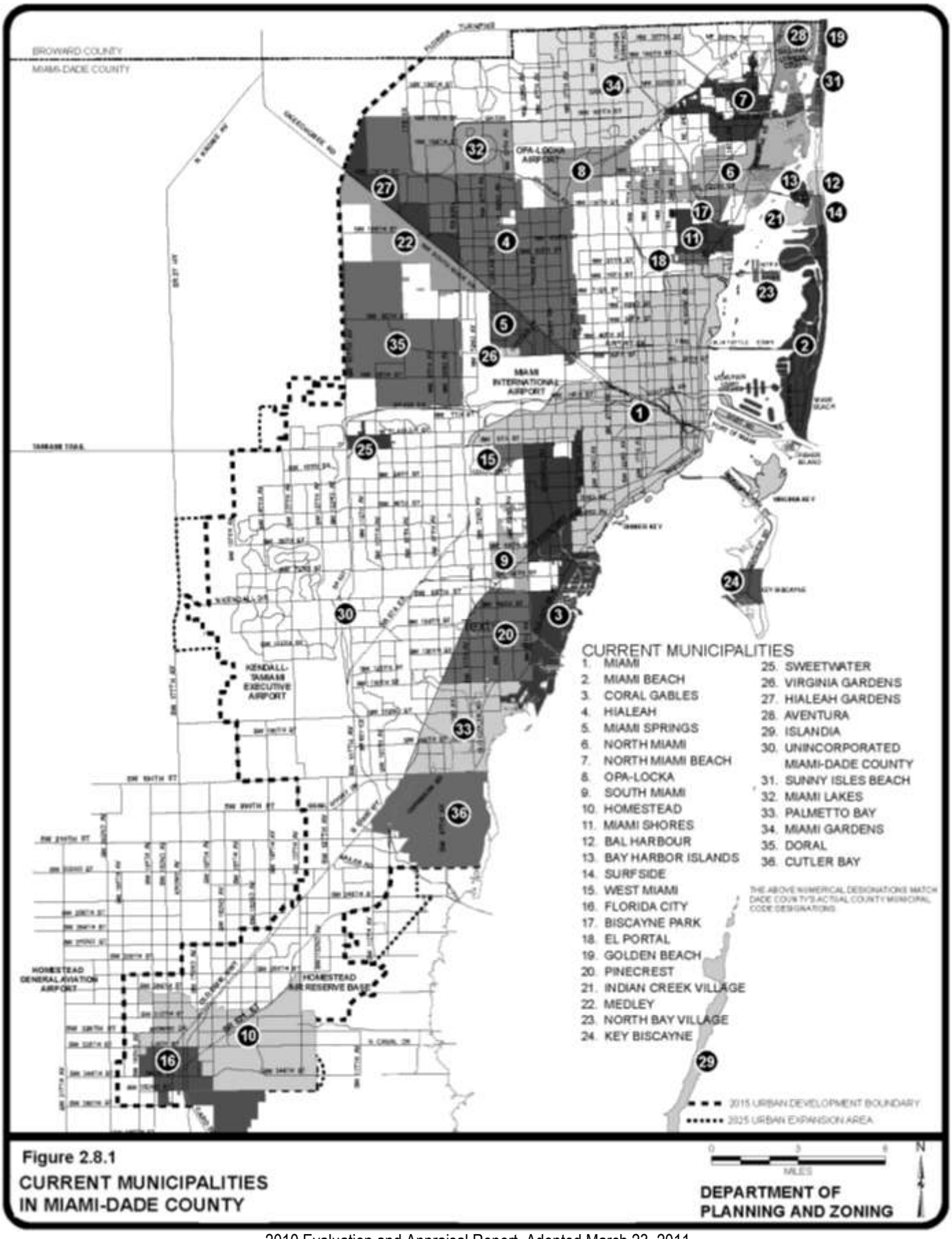

Figure 2.8.1
CURRENT MUNICIPALITIES IN MIAMI-DADE COUNTY

Monitoring measure No. 2 refers to the use of formal agreements among local governments to coordinate planning efforts. In 2005 the Florida Legislature amended Chapter 163, Florida Statutes, to require a public school facilities element, school concurrency and updates to the Interlocal Agreement for Public School Planning. Miami-Dade County adopted its Educational Element in 1996 though it did not have an adopted level of service standard for public schools. In July of 2008, Miami-Dade County adopted a level of service standard for public school facilities. This required amending the Educational Element, Intergovernmental Coordination and Capital Improvements Elements of the Comprehensive Development Master Plan (CDMP). In addition, the legislation required amending the existing Interlocal Agreement for Public School Facility Planning, to include the adopted level of service standard, and public school concurrency. These amendments were approved and accepted by the State of Florida Department of Community Affairs in July 2009.

The County currently has over 100 interlocal agreements with various cities and other entities for the delivery of services, which include transportation, police, fire and rescue, public school facility planning, libraries, etc.

Progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All policies under this objective continue to be relevant and should be retained.

Objective ICE-4
Maintain consistent and coordinated planning and management of major natural resources within areas with multi-government jurisdictional responsibilities.

CDMP Monitoring Measures.
Continued participation by County agencies in Comprehensive Everglades Restoration Plan (CERP) planning and management studies and coordinating committees.

Continued participation by County agencies in development of water supply plans as periodically developed by the South Florida Water Management District.

Objective Achievement Analysis. The first monitoring measure has been revised since the last EAR. Miami-Dade County continues to coordinate with State and federal agencies that are working on Comprehensive Everglades Restoration Plan (CERP) on selected projects that are most critical to ecological restoration and water management in Miami-Dade County. The CERP was submitted to Congress in 1999 and was approved in the Water Resources Development Act of 2000. CERP projects are funded, developed and implemented by the U.S. Army Corps of Engineers and South Florida Water Management District. CERP progress has been slow, due to funding constraints and legal challenges. It was originally estimated that the total cost of CERP would be approximately $8 billion and require many decades to complete. Current cost estimates are changing, but exceed original estimates.

The CERP provides a framework and guide to restore, protect, and preserve the water resources of Central and South Florida, including the Everglades. It covers 16 counties over an 18,000 square mile area. The CERP is also part of a larger effort to restore the ecosystem and provide for a sustainable South Florida.

It is recommended that the Monitoring Measure be revised from planning and management studies and coordinating committees to planning and management review teams. The reason for this change is the review teams consist of interagency from three levels of government, local, state and federal.

This second monitoring measure is new since the last EAR. The 2005 Florida Legislature enacted legislation with regard to water supply that amended Chapter 163 Florida Statutes and required a new Water Supply Facilities Work Plan be incorporated into the County's Comprehensive Development Master Plan. The purpose of the legislation was to: better coordinate local government comprehensive planning with water management districts' regional

water supply plans; establish a closer link between development decisions and the availability of water by requiring local government to determine whether adequate water supplies will be available not later than issuance of a certificate of occupancy; and provide for more comprehensive regional water supply plans, permitting incentives for development of alternative water supplies.

Miami-Dade County provided input on water supply projects by working with the South Florida Water Management District (SFWMD) during the update of the Lower East Coast Regional Water Supply Plan (LEC). As mandated by Florida water law, each regional water supply plan is based on at least a 20-year future planning horizon, and a completed update of each plan is required every five years. The LEC Plans was adopted by the SFWMD Governing Board in February 2007. Local governments had, by statute 18 months to incorporate the alternative water supply projects applicable to that jurisdiction into their comprehensive plans.

In the April 2007 CDMP amendment cycle, Miami-Dade County filed an application to amend the Water, Sewer and Solid Waste Element, including the addition of a 20-year Water Supply Facilities Work Plan. Miami-Dade County Water and Sewer Department developed a Water Supply Facilities Plan Report. The report identifies the projects list in the SFWMD's LEC Plan. This work plan will be updated on a five year basis. The timing corresponds to five-year updates of the County's 20-year water use permit. The County developed an allocation system to track water supply demands, which requires at the time of building permit issuance of a letter by WASD stating adequate water supply is available for the proposed development. Through this proposed water allocation tracking system, the County can better time the development of new water supply projects to assure the availability of water for future growth. Miami-Dade County's Water Supply Facilities Work Plan became effective in April 2008. WASD has been coordinating and assisting other jurisdictions in Miami-Dade County in updating their water supply plans, through a subcommittee of the Miami-Dade County Planners Technical Committee.

Progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All policies under this objective continue to be relevant and should be retained.

Objective ICE-5
Initiate and support cooperative inter-jurisdictional approaches to special intra-regional planning needs.

CDMP Monitoring Measure. 1) Continued participation by County agencies in the development and implementation of regional plans and programs. 2) Continued support by the County of cooperative initiatives for regional planning needs through membership on regional resource committees.

Objective Achievement Analysis. These monitoring measures were revised during the last EAR amendment cycle to better reflect the county's involvement in the development of plans impacting the County. The County continues to be involved in developing of plans and programs impacting the county and participates as member on numerous local and regional committees. The County participates on the South Florida Regional Planning Council as well as on Comprehensive Everglades Restoration Plan, Lake Belt Mitigation Committee, Florida Department of Environmental Protection, South Florida Water Management District, The Water Resources Advisory Committee, and the Miami-Dade County Climate Change Advisory Task Force-Built Environment Adaptation and Science Committee.

In conclusion, progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All the policies under this objective continue to have relevance and should be retained.

Objective ICE-6
Ensure coordination in the designation of new disposal sites for dredged spoil located in the coastal area for local governments with spoil disposal responsibilities.

CDMP Monitoring Measure. Increased participation by County agencies in the planning for new disposal sites for dredged spoil and in the processes for dispute resolution.

Objective Achievement. Policy ICE-6A addresses this monitoring measure. This objective has been partially achieved since there are few opportunities for the creation of new sites for disposal of fill in Coastal Areas. The Department of Environmental Resource Management (DERM) is responsible for enforcement of Chapter 24, of the Code Miami-Dade County, which established minimum requirements for disposal of dredged materials in coastal and upland areas, during emergencies and regular operations. All requirements of Chapter 24 are consistent with State and Federal regulations. All dredge and fill activities (Secondary Canal Dredging, Wetland Restoration Projects and Beach Renourishment Projects), conducted by DERM comply with all federal, state and local regulations. Unsuitable materials are disposed in existing upland lined landfills, according to the characteristics of the materials. Suitable materials are disposed on-site or employed in other restoration projects.

In conclusion, progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All policies under this objective continue to be relevant and should be retained. The following policy should be revised.

ICE-6B should be revised to reflect that all disputes are resolved through zoning and permitting process, as there are not many opportunities for disposal of dredged materials or new landfill sites. All dredged materials must go to an upland site, based on the physical and chemical characteristics of the material removed.

Objective ICE-7
Encourage the achievement of a coordinated strategy for regional economic development that addresses opportunities and threats and promotes assets in South Florida for sports and entertainment, international business, tourism and other economic development activities.

CDMP Monitoring Measure. Continued partaking by County agencies in the economic development planning efforts of State and regional agencies.

Objective Achievement Analysis. This objective has been partially achieved. In 2004, the County actively participated with other South Florida communities in the formulation of the Strategic Regional Policy Plan for South Florida, in cooperation with the South Florida Regional Planning Council (SFRPC). In particular, Miami-Dade County's input focused on the Wages & Affordability and Economic Expansion & Diversification sections of the plan. The primary thrust was to focus on the need to increase employment opportunities that provide better pay and benefits for the workforce. The plan called for the enhancement of County's assets in tourism, technology, sports, international business, and entertainment industries. To that end, Miami-Dade County participated with other South Florida counties and the SFRPC in the use of a dynamic regional economic impact model. This has been used to determine the regional impact of public expenditures in terms of jobs, income, and so forth in these industries and others.

Progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All the policies under this objective continue to have relevance and should be retained.

Objective ICE-8
Ensure adequate and timely shelter within the region for those residing in hurricane evacuation areas by encouraging all levels of government to work together.

CDMP Monitoring Measure. Continued participation by County agencies in regional planning meetings that address emergency management issues.

Objective Achievement Analysis. This objective has been partially achieved. The Miami-Dade County Office of Emergency Management (OEM) was established in 1968. Section 5 of the Code of Miami-Dade County addresses recovery and mitigation. The recovery phase of an emergency or disaster deals with the functional restoration of a community to the conditions prior to the disaster event. The County's Office of Emergency Management (OEM) is responsible for coordinating efforts within Miami-Dade County. Numerous County departments play a role in recovery efforts, these departments include, Building and Neighborhood Compliance, Fire and Rescue, Police, Water and Sewer, Community Action Agency, DERM, Public Works, Solid Waste, General Services Administration and other departments if necessary during short-term or long-term recovery. There are very few regional planning meetings, most of the meetings regarding emergency management issues are planned and coordinated by the County's Office of Emergency Management for the planning area of Miami-Dade County. The participants include the departments mentioned above along with municipalities and state and federal agencies, colleges, universities and schools (including the Miami-Dade County Public Schools), hospitals, not-for-profit organizations and private sector companies.

The Federal Emergency Management Agency has funded hundreds of hazard mitigation projects, including the tornados of March 27, 2003, the hurricanes of 2004, 2005 and Tropical Storm Fay in 2008. FEMA also delves deeply into mitigation as administrator of the National Flood Insurance Program to which all municipalities in Miami-Dade County are a part. The U. S. Army Corps of Engineers is responsible for restoration and renourishment of most of the County's beaches, maintenance of the Intracoastal Waterway, and some shared responsibility with the South Florida Water Management District for the canal and levee systems throughout the county. The South Florida Water Management District maintains canal, pumping, and drainage systems throughout the county and controls when control structures are opened and closed thus flood control mitigation opportunities exist to benefit all of South Florida. These structures, also mitigate against saltwater intrusion into the Biscayne Aquifer from which our drinking water is supplied. The United States National Park Service controls Everglades National Park that covers one third of the land area of Miami-Dade County and Biscayne National Park that covers over half of Biscayne Bay. The Florida Department of Environmental Protection oversees considerable flood plain management and also controls the state park system, two of which, lie within Miami-Dade County; state parks that are vulnerable to hurricanes and storm surge because of their locations, Oleta State Park located on Biscayne Bay and the Intra-coastal Waterway and Bill Baggs Cape Florida State Park located on Key Biscayne, a barrier island. The United States Department of Agriculture's Farm Service Agency provides assistance to the farming community similar to that which FEMA provides to counties and municipalities. Also, the Natural Resources Conservation Service (formerly Soil Conservation Service) helps with mitigation such as canal bank restoration and stabilization. The United States Forestry Service and the Florida Division of Forestry both keep fire trails and fire breaks open, conduct controlled or prescribed burns and assist with debris clearance, all of which mitigate and facilitate fire control by keeping fuel levels low.

The Florida Department of Transportation is a major participant in any mitigation endeavors undertaken throughout the county. They, along with the Miami-Dade Expressway Authority, maintain and control our major thoroughfares including the expressway system. They also control, along with Miami-Dade County Public Works, Florida East Coast and CSX railroads and the Town of Bay Harbor Islands, the twenty-three movable bridges that cross the Miami River and the Intracoastal Waterway.

The Florida Department of Transportation (FDOT) operates a series of electronic messaging signs and a highway radio station with Miami-Dade County. While owned and operated by FDOT, the system is readily available for use by the Office of Emergency Management during emergency conditions. FDOT

personnel located at the Miami-Dade County EOC coordinate this effort. A statewide mutual aid agreement exists and Miami-Dade County including all of the municipalities, except for the City of Islandia, are signatories to the agreement. (Note: Islandia lies within with Biscayne National Park therefore the National Park Service handles emergency issues within the city).

In 2000, the Miami-Dade Board of County Commissioners passed Resolution R-572-00 promoting program continuity. Because Miami-Dade County has a metropolitan form of government, this means that each of the municipalities within the county has also automatically adopted the Local Mitigation Strategy (LMS) unless they choose not to and to date, none have opted out. Miami-Dade County is active participant in the LMS program, which has been adopted by the Board of County Commissioners and approved by the Florida Division of Emergency Management. The LMS document fully outlines the methodology for hazard mitigation following an emergency or disaster in Miami-Dade County. The LMS Working Group is made up of representatives from all facets of the Miami-Dade community including county departments, municipalities, public and private not-for-profit organizations and the private sector. The LMS is updated semi-annually in June and in December. In order to streamline Working Group activities various committees may be formed, each addressing an area of concern. Initially, committees were formed to deal with flooding, evacuations, funding community education external policy, agriculture and wildfires. A steering committee of the working group was also formed.

In 2005, the Miami-Dade Board of County Commissioners passed Resolution R-710-05, which states that grant applications filed under the auspices of the Miami-Dade Local Mitigation Strategy no longer have to go to the Commission for approval, but instead authorizes the county manager to *—Apply for, receive, expend and amend applications for grant funds for projects listed in the Miami-Dade County Local Mitigation Strategy."*

In 2008, the LMS Working Group celebrated its 10th anniversary with over 300 completed mitigation projects at a value exceeding $250 million. As of this publication there are nearly $20 million in Pre-Disaster Mitigation (PDM) program projects that have now been completed and millions more in Hazard Mitigation Grants Program (HMGP) still in progress from the 2004 and 2005 hurricane seasons. The HMGP funding that became available as a result of the 2005 hurricanes has lead to significant mitigation advances now under construction. A catalog of completed LMS projects may be found at www.miamidade.gov/oem/lms.asp.

With regard to Policy ICE-8D, Miami-Dade County has a method of selecting shelters, or evacuation centers, using a rigorous checklist to identify both structural integrity and availability of human comforts, considering the type of emergency. In the County there are presently nineteen schools that have "Enhanced Hurricane Protective Areas" as required by code with more coming in the future. Miami-Dade County currently has more shelter space than is required.

In conclusion, progress has been made in achieving this objective and the objective and its monitoring measures remain relevant and should be retained.

Policy Relevance. All policies under this objective were reviewed for continued relevance. The policies are directive in nature, continue to have relevance and should be retained.

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2.9 CAPITAL IMPROVEMENTS ELEMENT

Introduction

The Capital Improvements Element (CIE) was established in 1988 as part of the Local Government Comprehensive Planning and Land Development Regulation Act pursuant to the provisions of Chapter 163, Florida Statutes (F.S.). The purpose of the CIE is to identify the capital improvements that are needed to implement the Comprehensive Development Master Plan (CDMP) and ensure that adopted Level of Service (LOS) Standards are achieved and maintained for concurrency related facilities. In order to assure that facilities are in place to maintain LOS standards, a 6-year schedule of capital improvements must address deficiencies and be financially feasible.

Since the last EAR, the 2005 Florida Legislative amended Chapter 163, Florida Statutes and imposed a new definition of financial feasibility. Among the proposed changes, the new statutory requirements call for sufficient revenues sources from "committed" funding for the first three (3) years, or "planned" funding for years 4, 5, and 6, of a 6-year capital program for financing capital improvements. While these statutory changes emphasize the need for a capital program that is financial feasible, the current fiscal and economic environment has made the development of such program extremely challenging.

Objective CIE-1

The CIE shall provide for necessary replacement of existing facilities, upgrading of facilities when necessary to maintain adopted level of services (LOS) standards, and for new facility investments which are needed and affordable in the future.

CDMP Monitoring Measure. Objective CIE-1 will be evaluated through the use of information compiled in the annual CIE Summary Table.

Objective Achievement Analysis. This objective has been achieved.

During the last seven years, Miami-Dade County has had a number of programs in place regarding the provision of public facilities which have served as both prime implementation mechanisms and monitoring devices. Overall, these programs turned out to be effective in furthering the goals, objectives, and policies of the CIE. For example, the CDMP annual amendment process was aimed at encouraging the provision of public facilities to meet existing needs and future expansion and served as an effective monitoring device. Beginning with the first adopted CIE in each amendment cycle, the Schedules of Improvements were modified as needed to reflect project additions, deletions, cost adjustments, program timing, revenue sources, and changes in titles or locations. This has assured that the CIE has remained fiscally feasible and provides for the capital improvements to achieve and maintain LOS standards.

All capital projects covered by the selected functional areas of the CDMP are included in the Six-Year Schedule of the Capital Improvements Element. Table 2.9-1 shows the Schedule of Improvements by functional area for the most recent six-year programming period (FY 2009-10 to FY 2014-15).

All of the relevant policies of Objective CIE-1 have been carried out commencing with adoption of the CDMP in 2003. A useful way to show this in quantitative form is Table 2.9-2. There, for the functional areas of the CDMP, the Capital Budgets for each year from FY 2003-04 through FY 2009-10 are shown. These are simply the aggregate values for all projects in the first year of the programming cycle. The project totals are sorted by purpose.

It should be noted that overall about one-third of all project expenditures were allocated to correcting existing deficiencies with the remainder to new facilities to meet existing deficiencies or serve future needs. The percentage varied by functional area and ranges from a high of 94.16 percent for Drainage to one among the lows of 7.27 percent for Water Facilities. These variations relate to the nature of the specific area. Drainage needs are localized and extensive, thus capital programming is on a "worst first" basis with little or no attention given to future problems. Constructing water facilities, on the other hand, requires that future growth be accounted for. When an existing deficiency is corrected, it is often cost effective to oversize facilities in anticipation of future needs.

Table 2.9-1
CDMP CAPITAL IMPROVEMENTS SCHEDULE

Expenditures/ Revenues
(In Millions of Dollars)

ELEMENT	Prior Years	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Six Year Totals	Future Years	Project Totals	Number of Projects
AVIATION											
	5,097.86	730.90	478.85	69.71	29.10	23.54	13.16	1,345.26	0.00	6,443.12	9
	5,110.98	748.12	465.89	97.33	11.86	8.20	0.74	1,332.14	0.00	6,443.12	
COASTAL MANAGEMENT											
	28.38	23.40	17.96	0.25	0.25	3.50	0.25	45.61	3.50	77.49	3
	28.56	23.22	17.96	0.25	0.25	3.50	0.25	45.43	3.50	77.49	
CONSERVATION											
	138.28	10.97	6.22	7.38	6.55	8.08	13.21	52.41	84.43	275.12	9
	203.73	11.08	5.21	4.31	4.35	5.93	11.04	41.92	29.47	275.12	
DRAINAGE											
	9.44	21.62	11.77	4.85	5.36	7.79	9.17	60.54	28.94	98.87	43
	10.11	20.95	11.77	4.85	5.36	7.79	9.17	59.87	28.94	98.87	
PARK and RECREATION											
	201.45	89.43	71.07	67.42	47.49	29.13	21.30	325.84	93.31	620.60	108
	245.22	68.87	59.19	60.42	42.99	29.20	21.40	282.07	93.31	620.60	
SEAPORT											
	100.79	42.61	140.11	79.81	64.65	98.96	47.64	473.78	0.00	574.57	29
	200.79	42.61	40.11	79.81	64.65	98.96	47.64	373.78	0.00	574.57	
SEWER FACILITIES											
	300.07	337.48	645.06	584.44	495.16	453.28	382.26	2,897.68	1,502.09	4,699.84	37
	405.73	266.66	617.15	580.34	494.45	452.57	381.56	2,792.73	1,501.38	4,699.84	
SOLID WASTE MANAGEMENT											
	25.62	14.43	36.50	32.27	2.93	1.32	15.66	103.11	40.43	169.16	35
	55.09	14.23	29.33	10.75	2.82	1.21	15.56	73.90	40.17	169.16	
TRAFFIC CIRCULATION											
	257.68	257.37	162.82	123.11	58.90	32.80	25.53	660.53	18.16	936.01	157
	273.55	242.04	162.68	123.51	59.30	33.20	23.93	644.66	18.16	936.01	
MASS TRANSIT											
	549.73	400.14	341.34	292.23	185.53	248.35	237.58	1,705.17	25.07	2,279.97	44
	550.68	399.19	341.34	292.23	185.53	248.35	237.58	1,704.22	25.07	2,279.97	
WATER FACILITIES											
	214.49	151.92	316.64	295.03	228.25	205.63	132.26	1329.73	130.60	1,674.82	20
	299.99	122.74	274.61	288.19	222.20	204.95	131.75	1244.44	130.39	1,674.82	
ALL ELEMENTS											
	6,923.79	2,080.27	2,228.34	1,556.50	1,124.17	1,112.38	898.02	8,999.66	1,926.53	17,849.57	494
	7,384.43	1,959.71	2,025.24	1,541.99	1,093.76	1,093.86	880.62	8,595.16	1,870.39	17,849.57	

Source: Miami-Dade County, Department of Planning and Zoning, Research Section from CIE Summary Table, FY 2009/10 to 2014/15.

Table 2.9-2
CDMP CAPITAL IMPROVEMENTS SCHEDULES
Capital Budgets by Fiscal Year

ELEMENT	Expenditures/ Revenues (In Millions of Dollars) 2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2004 - 2010	Percent
AVIATION									
Existing Deficiency	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Future Growth	737.82	743.31	716.60	654.39	833.89	618.79	730.90	5,035.70	100.00
	737.82	743.31	716.60	671.51	704.13	658.54	748.12	4,980.03	
Combined	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTALS	737.82	743.31	716.60	654.39	833.89	618.79	730.90	5,035.70	
	737.82	743.31	716.60	671.51	704.13	658.54	748.12	4,980.03	
Number of Projects	17	17	17	17	8	8	9	93	
COASTAL MANAGEMENT									
Existing Deficiency	0.18	0.27	0.80	0.87	1.51	4.93	2.76	11.32	8.53
	0.18	0.27	0.80	0.00	0.00	1.20	2.58	5.03	
Future Growth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Combined	2.25	35.00	16.00	6.85	22.00	18.60	20.64	121.34	91.47
	2.25	20.00	11.50	6.80	19.36	18.12	20.64	98.67	
TOTALS	2.43	35.27	16.80	7.72	23.51	23.53	23.40	132.66	
	2.43	20.27	12.30	6.80	19.36	19.32	23.22	103.70	
Number of Projects	2	2	2	2	2	4	3	17	
CONSERVATION									
Existing Deficiency	106.17	107.49	59.89	47.84	18.83	13.09	8.55	361.86	41.77
	93.34	89.32	45.93	30.20	16.08	13.09	8.66	296.62	
Future Growth	188.47	190.92	30.00	18.30	0.00	0.00	0.00	427.69	49.36
	188.47	182.00	30.00	5.15	0.00	0.00	0.00	405.62	
Combined	7.50	2.81	25.82	12.80	10.56	14.93	2.42	76.84	8.87
	7.50	2.81	21.98	5.62	2.51	8.63	2.42	51.47	
TOTALS	302.14	301.22	115.71	78.94	29.39	28.02	10.97	866.39	
	289.31	274.13	97.91	40.97	18.59	21.72	11.08	753.71	
Number of Projects	35	31	70	61	11	10	9	227	
DRAINAGE									
Existing Deficiency	5.61	5.90	5.29	1.00	13.70	11.55	20.62	63.67	94.16
	1.00	9.12	1.00	1.00	12.76	9.11	19.95	53.94	
Future Growth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Combined	0.00	0.00	0.00	0.00	0.00	2.95	1.00	3.95	5.84
	0.00	0.00	0.00	0.00	0.00	2.95	1.00	3.95	
TOTALS	5.61	5.90	5.29	1.00	13.70	14.50	21.62	67.62	
	1.00	9.12	1.00	1.00	12.76	12.06	20.95	57.89	
Number of Projects	2	1	1	1	52	53	43	153	

Table 2.9-2, CDMP CAPITAL IMPROVEMENTS SCHEDULES, Capital Budgets by Fiscal Year (continued)

Expenditures/ Revenues

(In Millions of Dollars)

ELEMENT	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2004 - 2010	Percent
PARK and RECREATION									
Existing Deficiency	1.17	0.74	0.72	3.85	3.97	4.07	2.99	17.51	3.18
	0.00	0.00	0.00	7.45	4.01	1.01	1.84	14.31	
Future Growth	0.00	0.00	0.00	2.30	11.25	0.45	0.00	14.00	2.54
	0.00	0.00	0.00	2.27	11.20	0.45	0.00	13.92	
Combined	49.65	56.97	78.93	73.22	82.87	90.73	86.44	518.81	94.27
	28.06	66.28	33.16	34.13	31.61	53.19	67.03	313.46	
TOTALS	50.82	57.71	79.65	79.37	98.09	95.25	89.43	550.32	
	28.06	66.28	33.16	43.85	46.82	54.65	68.87	341.69	
Number of Projects	38	44	130	141	141	142	108	744	
SEAPORT									
Existing Deficiency	89.11	102.40	63.90	22.28	19.02	27.76	25.53	350.00	49.74
	89.11	102.40	63.90	22.28	19.02	27.76	25.53	350.00	
Future Growth	63.92	29.56	58.91	10.99	6.51	123.53	9.92	303.34	43.11
	63.92	29.56	58.91	10.99	6.51	23.53	9.92	203.34	
Combined	12.25	7.04	3.52	2.00	7.00	11.38	7.16	50.35	7.16
	12.25	7.04	3.52	2.00	7.00	11.38	7.16	50.35	
TOTALS	165.28	139.00	126.33	35.27	32.53	162.67	42.61	703.69	
	165.28	139.00	126.33	35.27	32.53	62.67	42.61	603.69	
Number of Projects	30	28	45	31	30	33	29	226	
SEWER FACILITIES									
Existing Deficiency	34.54	47.37	35.28	37.86	13.99	8.97	39.19	217.20	19.28
	38.05	10.68	5.10	23.03	8.02	7.31	31.34	123.53	
Future Growth	0.30	10.45	32.05	19.93	49.52	98.65	180.81	391.71	34.77
	0.00	8.81	6.71	15.85	27.98	25.21	127.36	211.92	
Combined	80.62	78.84	74.53	62.58	65.02	38.54	117.48	517.61	45.95
	58.60	33.91	44.15	40.64	26.47	24.98	107.96	336.71	
TOTALS	115.46	136.66	141.86	120.37	128.53	146.16	337.48	1,126.52	
	96.65	53.40	55.96	79.52	62.47	57.50	266.66	672.16	
Number of Projects	26	26	25	33	33	33	37	213	
SOLID WASTE MANAGEMENT									
Existing Deficiency	1.00	1.65	1.44	1.42	1.21	0.10	0.00	6.82	4.48
	1.00	0.65	1.44	1.42	1.21	0.10	0.00	5.82	
Future Growth	1.50	0.20	0.00	0.00	0.00	0.00	0.00	1.70	1.12
	1.50	0.20	0.00	0.00	0.00	0.00	0.00	1.70	
Combined	11.07	12.93	10.22	40.12	14.28	40.65	14.43	143.70	94.40
	9.40	10.79	6.12	8.23	9.30	37.45	14.43	95.72	
TOTALS	13.57	14.78	11.66	41.54	15.49	40.75	14.43	152.22	
	11.90	11.64	7.56	9.65	10.51	37.55	14.43	103.24	
Number of Projects	23	27	33	39	39	36	35	232	

Table 2.9-2, CDMP CAPITAL IMPROVEMENTS SCHEDULES, Capital Budgets by Fiscal Year (continued)

Expenditures/ Revenues

(In Millions of Dollars)

ELEMENT	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2004 - 2010	Percent
TRAFFIC CIRCULATION									
Existing Deficiency	98.18	91.33	68.79	141.16	142.23	100.17	109.08	750.94	49.11
	74.16	81.93	63.07	114.39	143.76	91.27	93.76	662.34	
Future Growth	12.55	18.11	27.52	62.23	21.51	18.81	11.53	172.26	11.46
	5.55	14.91	18.81	51.54	18.31	18.81	11.53	139.46	
Combined	10.61	32.65	87.20	50.69	169.51	118.41	136.76	605.83	40.31
	9.19	17.82	81.03	55.25	165.73	112.88	136.75	578.65	
TOTALS	121.34	142.09	183.50	254.08	333.25	237.39	257.37	1,529.02	
	88.90	114.66	162.91	221.18	327.80	222.96	242.04	1,380.45	
Number of Projects	81	88	180	210	200	171	157	1087	
MASS TRANSIT									
Existing Deficiency	13.38	1.34	13.75	69.79	30.61	3.23	34.89	166.99	7.21
	11.19	1.34	199.55	6.05	127.30	3.23	34.89	383.55	
Future Growth	102.59	122.63	238.15	143.84	132.58	210.99	134.75	1,085.53	46.86
	123.83	160.68	445.61	65.64	218.00	209.71	133.80	1,357.27	
Combined	34.59	93.68	102.08	108.68	253.06	241.65	230.50	1,064.24	45.94
	24.22	77.33	263.13	96.94	423.10	263.09	230.50	1,378.31	
TOTALS	150.56	217.65	353.98	322.31	416.25	455.87	400.14	2,316.76	
	159.24	239.35	908.29	168.63	768.40	476.03	399.19	3,119.13	
Number of Projects	27	28	31	45	54	38	44	267	
WATER FACILITIES									
Existing Deficiency	3.83	4.11	4.69	6.52	11.20	7.82	12.50	50.67	7.27
	3.13	2.09	2.50	12.74	7.58	4.37	4.06	36.47	
Future Growth	0.00	0.00	0.65	11.42	12.67	2.60	0.00	27.34	3.92
	0.00	0.00	0.15	7.73	4.67	0.50	0.00	13.05	
Combined	79.64	68.63	87.27	76.21	68.92	98.54	139.42	618.63	88.80
	64.07	27.42	37.26	22.57	25.40	43.63	118.68	339.03	
TOTALS	83.47	72.74	92.61	94.15	92.79	108.96	151.92	696.64	
	67.20	29.51	39.91	43.04	37.65	48.50	122.74	388.55	
Number of Projects	24	20	20	23	19	20	20	146	
ALL ELEMENTS									
Existing Deficiency	353.17	362.60	254.55	332.59	256.27	181.69	256.11	1,996.98	15.15
	311.16	297.80	383.29	218.56	339.74	158.45	222.61	1,931.61	
Future Growth	1,107.15	1,115.18	1,103.88	923.40	1,067.93	1,073.82	1,067.91	7,459.27	56.72
	1,121.09	1,139.47	1,276.79	830.68	990.80	936.75	1,030.73	7,326.31	
Combined	288.18	388.55	485.57	433.15	693.22	676.38	756.25	3,721.30	28.30
	215.54	263.40	501.85	272.18	710.48	576.30	706.37	3,246.12	
GRAND TOTALS	1,748.50	1,866.33	1,843.99	1,689.14	2,017.42	1,931.89	2,054.19	13,151.46	
	1,647.79	1,700.67	2,161.93	1,321.42	2,041.02	1,671.50	1,959.91	12,504.24	
Number of Projects	305	312	554	603	589	548	494	3,405	

Source: Miami-Dade County, Department of Planning and Zoning, Research Section from CIE Summary Tables, 2004-2010.

At the bottom of the table, the values from the eleven functional areas are summed for each fiscal year. The seven capital budgets total to $13.15 billion, although this number is somewhat misleading since there is some degree of double counting. This is because projects scheduled in a given year may be deferred to a later year for some reason. However, the absolute size of the capital program is not that meaningful by itself. What is being demonstrated is the implementation of the enumerated policies.

The monitoring measure for the policy relating to the management of the County's long-term general obligation debt is specified by the following ratios in such a manner that:

1) The ratio of the debt service millage to the Countywide millage does not exceed 20 percent and

2) The ratio of the outstanding capital indebtedness to the taxable property base does not exceed 2.5 percent.

Tables 2.9-3 and 2.9-4 below, provide comparative statistics related to these two ratios. As shown in Table 2.9-3, in FY 2003-04, the first ratio was 4.77 percent and, in FY 2008-09, it was 5.89 percent.

Table 2.9-3
Property Tax Rates, Miami-Dade County, Florida
Fiscal Years 2004 - 2010

Fiscal Year	Countywide Operating (Millage)	County Debt Service (Millage)	Ratio of Debt Service to Countywide
2003-04	5.9690	0.2850	4.77
2004-05	5.9350	0.2850	4.80
2005-06	5.8350	0.2850	4.88
2006-07	5.6150	0.2850	5.08
2007-08	4.5796	0.2850	6.22
2008-09	4.8379	0.2850	5.89
2009-10	4.8379	0.2850	5.89

Source: Miami-Dade County, Finance Department, Tax Collector's Division. Miami-Dade County, Department of Planning and Zoning, Research Section, 2010.

Table 2.9-4 shows that the second ratio was 0.17 percent and 0.21 percent in FY 2003-04 and FY 2007-08, respectively.

Table 2.9-4
Outstanding Capital Indebtedness and
Taxable Property Base
Fiscal Years 2004 - 2010

Fiscal Year	Net Assessed Property Value *(in thousands)*	Net General Obligation Bonded Debt *(in thousands)*	Ratio of Net General Obligation Bonded Debt to Net Assessed Property Value
2003-04	$127,196,133	$221,554	0.17
2004-05	144,990,968	500,362	0.35
2005-06	172,342,449	478,471	0.28
2006-07	207,632,977	446,735	0.22
2007-08	239,086,092	504,341	0.21
2008-09	245,893,753	822,227	0.33
2009-10	N/A	N/A	-

Source: Miami-Dade County, Finance Department, Tax Collector's Division, Miami-Dade County, Department of Planning and Zoning, Research Section, 2010.

In terms of planning for and implementation of the County's infrastructure investments, Miami-Dade County gives explicit recognition to the requirements of new or expanded public educational and health facilities. Two types of infrastructure have primacy: 1) roads and 2) water and sewer. For the former, the database used in long range planning contains a variable with the location and pupil enrollment of existing and future public schools. For the latter, water and sewer facilities are planned by the Miami-Dade Water and Sewer Department. Any line extensions or hookups are developer responsibilities and the School Board is no exception.

With respect to schools, it can be noted that the School Board applies for review on all new schools and expansions with the zoning section of the County's Planning and Zoning Department. A concurrency review is conducted on these applications for their impact on the services.

Miami-Dade County Board of County Commissioners adopted a School Site Plan Review Resolution R-535-92 on May 5, 1992. The resolution authorizes and directs the County Manager to review and make recommendations regarding the consistency of proposed public educational facilities and site plans with Miami-Dade County's Comprehensive Development Master Plan and Applicable Land Development Regulations; approving procedures for such review; construction and opening of public educational facilities are coordinated in time and place with plans for residential development,

concurrently with other necessary services; the Miami-Dade County Development Impact Committee (DIC), consisting of various County agencies, review and make recommendations to the Miami-Dade County School Board on any and all proposed construction or expansion of public educational facilities. The County and school board have reviewed 25 school site plans in the past eight years.

In terms of expanded health facilities, during the period under review, there were several significant additions to public and private health facilities and a few new ones were constructed. A list of these facilities is shown in Table 2.9-5 below:

Table 2.9-5
Expanded and New Health Facilities
Miami-Dade County, Florida
2002 - 2009 and Beyond

Facility	Change	Size (SQFT)	Completion/ Anticipated Year of Completion
Miami Children's Hospital	Ambulatory Care Building	68,000	2006
Mount Sinai Medical Center	Medical Office Building	272,000	2007
Mercy Hospital	Emergency Department Pavilion	22,000	2007
West Kendall Baptist Hospital	New Hospital	282,000	2011
Jackson South Community Hospital	Expansion	157,000	2011

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

Policy Relevance. All policies under this objective are being reviewed for continued relevance and all should be retained in present form.

Other Considerations

Section 163.3191 (2), F.S., requires the EAR to contain appropriate statements regarding the financial feasibility of implementing the comprehensive plan and of providing needed infrastructure to achieve and maintain adopted level-of-service standards and sustain concurrency management systems through the CIE, as well as the ability to address infrastructure backlogs and meet the demand of growth on public services and facilities. Drainage, parks and recreation, sanitary sewer, portable water, solid waste, and transportation facilities, including mass transit, as well as public schools are the only public facilities and services subject to the concurrency requirements.

As reported in Chapter 2 of this report (Traffic Circulation Subelement), major congestion problems existed in a number of important travel corridors. Of a total of 626 roadway segments analyzed in 2010, 52 failed to meet the adopted LOS standard. For these roadway segments to meet their adopted LOS standards, it will be necessary to either improve their capacities or use other means to reduce congestion. Thirteen of the 52 failing segments are currently programmed or planned for capacity improvements either in the County's 2010 Transportation Improvement Program (TIP) or the Long-Range Transportation Plan to the Year 2035. Table 2.2.1.3 in the Traffic Circulation Subelement Section of this report identifies those roadway segments currently programmed or planned for capacity improvements.

In conclusion, roadway improvements programmed in the 2010 TIP are expected to improve the LOS in six of the deficient roadway segments, and improvements planned in the 2035 Long Range Transportation Plan are expected to improve the LOS in seven of the roadway segments. The remaining segments will affect development until roadway capacity and/or mass transit is improved to alleviate congestion. It should be noted that 22 of the deficient roadway segments are located inside the Urban Infill Area (UIA), situation that may prevent the widening of these roadways due to physical constraints or prohibited costs of acquiring the rights-of-way needed for capacity improvements. However, with the approval of the half-penny surtax by Miami-Dade voters in November 2002 to fund the People's Transportation Plan, Miami-Dade Transit will continue to improve the County's transit system through expanded service routes, increased headways and longer hours of operation, when feasible, and, therefore, help alleviate traffic congestion throughout the urbanized area.

Objective CIE-2

Development in high hazard coastal areas will be retained at permitted levels, as of July 1, 1989.

CDMP Monitoring Measure. Objective CIE-2 will be monitored by development records from the municipalities in the Barrier Islands.

Objective Achievement Analysis. This objective has been achieved. Since no records from the municipalities in the Barrier Islands were available to

assess the achievements of this objective, a surrogate measure, such as developments records from unincorporated Miami-Dade County, was utilized. All square mile sections in unincorporated Miami-Dade County that contain any land designated as a Coastal High Hazard Area (CHHA) were identified. This area includes the unincorporated portion of the barrier islands (Haulover Beach, Fisher Island, part of Key Biscayne); past Key Biscayne within 1,000 feet landward of the shoreline in the unincorporated portion of the County, until the County line. According to the Department of Environmental Resources Management (DERM), there are only a few such cases. Aerial photographs taken in 2003 and 2009 were carefully examined and it was determined that only two sections showed evidence of development activity over that period.

By far the largest major development within the CHHA area was the Unit #5 expansion at FPL's Turkey Point facility. This consisted of permanent impacts to approximately 17.02 acres of coastal wetlands in association with creation of a fill pad to support a new gas-fired power generation plant. While DERM did not regulate this activity, State and Federal dredge and fill permits were issued for the work. The second development was the excavation of approximately 1.18 acres of upland fill for the expansion of Haulover Marina. This created tidal waters from what was previously uplands area and was authorized by DERM Class I permit.

Policy Relevance. Policy CIE-2A and Policy CIE-2B under this objective were reviewed for continued relevance and both should be retained in present form. Policy CIE-2C has been revised recently to reflect changes in the Coastal Management section of Chapter 163, Florida Statutes. In compliance, Miami-Dade County has modified the CDMP to reflect the CHHA as determined by the most current SLOSH model available to the County. Objective CIE-2 will be monitored by checking developments records.

Objective CIE-3
CDMP land use decisions will be made in the context of available fiscal resources such that scheduling and providing capital facilities for new development will not degrade adopted service levels.

CDMP Monitoring Measure. Objective CIE-3 will be evaluated through the utilization of concurrency records.

Objective Achievement Analysis. This objective has been achieved.

In the period since Plan adoption, a good deal of effort has been made in linking operating and capital costs, better identification of revenue sources, extension of the capital planning horizon beyond the current six years, and most of all, improved accounting of the direct relationship between specific projects and LOS standards.

To a large degree, this effort is generally adhered to by the operational departments in the preparation of their capital programs. With respect to the achievement of CIE Objective 3, the capital facilities and infrastructure implications of land use and development plans and implications are analyzed and set forth with attention to the following:

1. Safety improvements and elimination of hazard.
2. Providing the necessary capacity to maintain and/or improve levels of service and quality of life in areas designated for redevelopment, infill development, and/or higher residential densities in accordance with transit oriented development plans, smart growth initiatives, and other strategies to accommodate population growth in existing communities.
3. Elimination of below-standard conditions and capacity deficits.
4. Demonstrated linkage between projected growth and facility service area.
5. Financial feasibility, including operating costs.
6. Coordination with the capital programming of other public agencies.
7. Contractual and/or mandated obligations.

During the last seven years, policies relating to concurrency requirements have been implemented in large measure. The Miami-Dade concurrency

ordinance is known as the Miami-Dade County Concurrency Management Program and was passed in July, 1989. It is Section 33G of the Code of Metropolitan Dade County and Sec. 33G-5 reads:

Accordingly, no development orders were issued where levels of service (LOS) for all public services and facilities are not met or exceed LOS standards or where the issuance of the development order would result in a reduction in the level of service for any service or facility below LOS standards.

Seven County agencies are involved in concurrency review. These are the Department of Planning and Zoning, Department of Environmental Resources Management (DERM), Fire and Rescue, Miami-Dade Transit, Park and Recreation, Public Works, and Solid Waste Management. Since 2008, Miami-Dade County Public Schools has been added as an eighth agency. It should be noted that DERM conducts the concurrency LOS standard reviews for water and sewer concurrency.

Development actions are grouped into three classes, Initial, Intermediate, and Final Development Orders to be reviewed for concurrency. These categories include the following:

Initial Development Order: Zoning District Boundary change includes Use Variance, New Use, Unusual Use Special Exception, Site Plan Approval, Modification of Zoning Covenant or Condition, and any Non-Use or Administrative Variance when such variance would increase the potential floor area or number of units.

Intermediate Development Order: Any Final Plat or Waiver of Plat approved prior to July 1, 1989, any Tentative Plat, or any Permit authorizing the alteration of land topography required pursuant to Chapter 24 or 28 of the Miami-Dade County Code.

Final Development Order: Any Final Plat or Waiver of Plat approved prior to July 1, 1989, most Building Permits, and any Certificates of Occupancy authorizing a change in use or an initial use of a parcel or structure where no other Final Development Order approved by ordinance is in effect.

In the County's Implementing Order 4-85, each concurrency review agency is required to maintain records regarding concurrency reservations, allocations and all inventories for the services for which it is responsible. In addition, each agency responsible for a concurrency service is required to ensure the adopted level of service (LOS) standard for the service is achieved and maintained. This information is distributed to the county's Concurrency Information Center, which is responsible for issuing concurrency information to the public. The information consists of existing and anticipated capacities of all level of service standards. The information reflects existing facility and service capacities, planned and committed facility and service capacity increases or extensions, and existing and committed service demands. The records include compiling and analyzing information on service and facility capacities and improvements plans and commitments provided by all concurrency review agencies, and information on active initial, intermediate and final development orders provided by County permitting agencies. The information is categorized and formatted in a form useful for CDMP updates, projections of facility capacities and formulation of concurrency statements.

This process assures that all development regulations are adhered to and CDMP provisions as well, since Planning and Zoning staff are involved at virtually every step. Their presence assures that the broader infrastructure provision priorities are adhered to, i.e. first priority within the UDB, second priority the UEA and essentially no incursions into the Agricultural or Open Land areas.

In terms of policies relating to the concentration of developments - either new or redevelopment – around centers of activity, as specified in the Land Use Element, Objectives LU-1, LU7, and LU-10, the majority of activity centers designated in the Adopted 2015 and 2025 Land Use Plan (LUP) map is located inside the UIA. Urban centers are areas designated in the LUP map destined to become hubs for future urban development intensification in Miami-Dade County, around which a more compact and efficient urban structure will evolve. Three scales of urban centers are planned: Regional, the largest, such as the downtown Miami central business district; Metropolitan such as Downtown Kendall in South Miami-Dade; and Community centers which serve localized areas, especially around Metrorail stations and bus stops along the exclusive Busway in South Miami-Dade. Nine Metropolitan and 35 Community

urban centers are located inside the UIA, and 16 Community urban centers are located outside the UIA. This objective promotes and encourages infill development and redevelopment.

In summary, these LUE objectives and policies, which relate to infill and redevelopment, have been and continue to be implemented. Since 1998, Miami-Dade County Board of County Commissioners has sponsored 17 charrettes for areas inside the UIA and RCEAs. A charrette is a combination of town meeting with a weeklong design studio. Master plans are prepared for the areas with the input of property owners, residents, interest groups and professionals in the planning field. The concepts and recommendations of the master plan are later implemented through the adoption of zoning ordinances. The first charrette, the Downtown Kendall Charrette, was held in June 1998, to build consensus of the future of the Dadeland Metropolitan Urban Center located in South Miami-Dade. The design group combined the input into a single plan, the "Downtown Kendall Master Plan", and in December 1999, the Board of County Commissioners adopted Ordinance No. 99-166, the Downtown Kendall Urban Center Zoning District, to implement the recommendations and concepts of the Master Plan. Between the 1999 adoption of the Downtown Kendall zoning ordinance and the adoption of the last EAR in 2003, the County approved eight mixed-use developments totaling 2,947 residential units and 241,886 sq. ft. of retail space. Since the last EAR, seven more development projects in the Downtown Kendall Urban Center District have been approved. Twenty-eight development projects totaling 4,439 dwelling units and 505,011 square feet of commercial uses have been approved in other urban centers since the last EAR.

Table 2.9-6 lists approved and pending area plan reports and related ordinances from FY 1999-00 to present

Miami-Dade Transit through its joint development program has been implementing Objective MT-2 by including in its request for development proposals the provision of mixed-use and affordable housing. Development proposals have been approved for South Miami, Brownsville, Northside, and Okeechobee Metrorail Stations. In total, 150,000 sq. ft. of market-rate rental units, 1,190 residential units, 178,000 square feet of office space, and 13,000 square feet of retail space have been proposed and approved for development. Negotiations are underway for development of other Metrorail stations. As explained above, all the Metrorail stations are designated Metropolitan or Community urban centers and located inside the UIA.

Other details regarding the implementation of these objectives and policies are described in the Sections TC-2.2.1 Traffic Circulation and MT-2.2.2 Mass Transit Subelement of this report.

In conclusion, the implementation of the Concurrency Management Program and the objectives and policies of the CDMP related to infill development and redevelopments in the UIA continue to be achieved. From the success of the Downtown Kendall Urban Center Zoning District and the joint development activity around the Metrorail stations, it can be inferred that concurrency exceptions in the UIA and RCEAs has been effective. Without the traffic concurrency exceptions in place greater mixed use and higher density development could not have occurred. Further evidence in support of this comes from development activities around Metrorail Stations within a quarter mile distance from the core of the transit stops where, during the past seven years, there were constructed close to 4,500 housing units, 241,000 square feet of office, and two hotels with about 300 hotel rooms. Likewise, the Downtown Development Authority reported in 2009 that over the same period significant new development has been completed, is under construction, or is approved. This includes about 26,000 dwelling units, close to 2,750 hotel rooms, 4.5 million square feet of office space, and 3.5 million of retail space. These data certainly attest to the fact that in the central portion of the UIA a great deal of redevelopment is occurring. Concurrency exceptions likely had some positive influence on these developments.

Table 2.9-6
APPROVAL SCHEDULE FOR AREA PLAN REPORTS AND RELATED ORDINANCES

Commission Item	BCC – Final Action	**FY**
Downtown Kendall Urban Center District	Adopted by the BCC in December 1999	99-00
Discover Naranja Report – Resolution	Accepted by the BCC via Resolution No. R-945-03 on September 9, 2003.	02-03
Goulds Report – Resolution	Accepted by the BCC via Resolution No. R-1321-03 on December 4, 2003.	03-04
Ojus Report – Resolution	Accepted by the BCC via Resolution No. R-167-04 on February 3, 2004.	03-04
Old Cutler Road Report – Resolution	Accepted by the BCC via Resolution No. R-439-04 on April 13, 2004.	03-04
Cutler Ridge Report – Resolution	Accepted by the BCC via Resolution No. R-438-04 on April 13, 2004.	03-04
North Central Report – Resolution	Accepted by the BCC via Resolution No. R-497-04 on April 27, 2004.	03-04
Model City Report – Resolution	Accepted by the BCC via Resolution No. R-598-04 on May 11, 2004.	03-04
Perrine Report – Resolution	Accepted by the BCC via Resolution No. R-993-04 on July 27, 2004.	03-04
Princeton Report – Resolution	Accepted by the BCC via Resolution No. R-1108-04 on September 9, 2004.	03-04
Leisure City/Naranja Lakes Report – Resolution	Accepted by the BCC via Resolution No. R-869-06 on July 18, 2006.	05-06
Country Club/Palm Springs North Report – Resolution	Accepted by the BCC via Resolution No. R-870-06 on July 18, 2006.	05-06
North Corridor Station Area Charrette Report for *Veterans Way* – Resolution	Accepted by the BCC via Resolution No. R-1226-07 on November 6, 2007	07-08
North Corridor Station Area Charrette Report for *NW 199th Street* – Resolution	Accepted by the BCC via Resolution No. R-1225-07 on November 6, 2007	07-08
North Corridor Station Area Charrette Report for *NW 183rd Street* – Resolution	Accepted by the BCC via Resolution No. R-1224-07 on November 6, 2007	07-08
Schenley Park Report – Resolution	Accepted by the BCC via Resolution No. R-44-09 on January 22, 2009	08-09
East Kendall Report – Resolution	Accepted by the BCC via Resolution No. R-502-09 on May 5, 2009	08-09
Bird Road Corridor Study Report Resolution	Approved by the BCC via Resolution No. R-356-10 on April 6, 2010	09-10
Other	BCC – Final Action	
Departments' Area Plan/Charrette Prioritization Report	Accepted by the BCC via Resolution No. R-1381-04 on November 30, 2004.	04-05
South Dade Government Center – resolution	Accepted by the BCC via Resolution No. R-1382-04 on November 30, 2004.	04-05
Ordinance	BCC – Final Action	
Naranja CUC Zoning District – Ordinance – NCUCD	NCUCD (Original) adopted as BCC Ord. No. 04-217 on December 2, 2004. NCUCD Update No. 1 BCC Ord. No. 05-145 on July 7, 2005 NCUCD Update No. 2, BCC Ord. No. 06-11 on January 24, 2006 NCUCD Update No. 3 BCC Ord. No. 07-96 on July 10, 2007	04-05 04-05 05-06 06-07

Commission Item	BCC – Final Action	FY
Standard Urban Center District Regulations – SUCO	SUCO (Original) adopted as BCC Ord. No. 05-143 on July 7, 2005. SUCO Update No. 1 BCC Ord. No. 06-10 on January 24. 2006 SUCO Update No. 2 BCC Ord. No. 07-93 on July 10, 2007 SUCO Update No. 3 adopted as BCC Ord. No. 07-169 on November 6, 2007 SUCO Update No. 4 adopted as BCC Ord. No. 08-102 on September 2, 2008	04-05 05-06 06-07
Goulds CUC Zoning District – Ordinance – GCUCD	GCUCD (Original) adopted as BCC Ord. No. 05-144 on July 7, 2005. GCGCD Update No. 1 BCC Ord. No. 06-10 on January 24, 2006 GCGCD Update No. 2 BCC Ord. No. 07-95 on July 10, 2007	04-05 05-06 06-07
Princeton CUC Zoning District – Ordinance – PCUCD	PCUCD (Original) adopted as BCC Ord. No. 05-146 on July 7, 2005. PCGCD Update No. 1 BCC Ord. No. 06-10 on January 24, 2006 PCUCD Update No. 2 BCC Ord. No. 07-96 on July 10, 2007	04-05 05-06 06-07
Ojus Urban Area District - Ordinance – OUAD	OUAD (Original) adopted as BCC Ord. No. 06-86 on June 6, 2006. OUAD Update No. 1 BCC Ord. No. 07-94 on July 10, 2007	05-06 06-07
Perrine CUC Zoning District – Ordinance – PECUCD	PECUCD (Original) adopted as BCC Ord. No. 06-127 on September 12, 2006. PECUCD Update No. 1 BCC Ord. No. 07-97 on July 10, 2007	05-06 06-07
Cutler Ridge MUC Zoning District Ordinance – CRMUCD	CRMUCD (Original) adopted as BCC Ord. No. 06-152 on October 10, 2006.	06-07
Leisure City CUC Zoning District Ordinance – LCUCD	LCUCD (Original) adopted as BCC Ord. No. 07-169 on November 6, 2007	07-08
Model City CUC Zoning District – Ordinance – MCUCD	MCUCD (Original) adopted as BCC Ord. No. 10-13 on February 2, 2010	09-10
North Central Urban Area District	Final Phase of Legal Sufficiency	

Rezoning	*BCC – Final Action*	*FY*
NCUCD Rezoning	BCC rezoned properties on May 19, 2005 via Resolution No. Z-13-05.	04-05
GCUCD Rezoning	BCC rezoned properties on November 17, 2005 via Resolution No. Z-25-05.	05-06
PCUCD Rezoning	BCC rezoned properties on November 17, 2005 via Resolution No. Z-26-05.	05-06
OUAD Rezoning	BCC rezoned properties on March 8, 2007 via Resolution No. Z-3-07.	06-07
CRMUCD Rezoning	BCC rezoned properties on March 22, 2007 via Resolution No. Z-5-07.	06-07
PECUCD Rezoning	BCC rezoned properties on October 18, 2007 via Resolution No. Z-52-07.	07-08
LCUCD Rezoning	BCC May 6, 2010	

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

Policy Relevance. All policies under this objective were reviewed for continued relevance and all should be retained. Recommended policy changes include the following:

Policy CIE-3C. The level of service standard for Traffic Circulation should be reviewed as indicated in the Traffic Circulation Subelement section of Chapter 2, Assessment of Comprehensive Development Master Plan Elements, to make sure the adopted LOS standards meet the provisions of Chapter 163, F.S., and the State Minimum Level of Service Standards for the State Highway System, including the Strategic Intermodal System (SIS), Florida Intrastate Highway System (FIHS), and TRIP funded facilities.

Objective CIE-4
Planning for further development will be done such that the level of service standards for those services listed in the CIE will be upgraded and maintained at adopted levels by vigorously pursuing adequate fiscal resources.

CDMP Monitoring Measure. Objective CIE-4 will be evaluated through information from the County's Capital Budget and Multi-Year Capital Plan. For each CIE category, the dollar ratio of unfunded projects to the total of both funded and unfunded projects will be tracked and will serve to measure progress on CIE Objective 4.

Objective Achievement Analysis. This objective has been achieved. In order to assure the fiscal resources to maintain acceptable levels of service standards, funding mechanisms and sources have been adopted and applied to support the capital program.

In this regard, Miami-Dade County has always been in the forefront of creativity even before the advent of the CIE requirement. This pattern has continued since the adoption of the first CIE in late 1988. At that time, the CIE listed 31 funding sources to support the $3.2 billion program. The most recently adopted CIE lists 100 funding sources to support $17.85 billion worth of capital improvements. Some of the increase in the number of sources is the result of accounting changes in which earlier ones are subdivided, but many are new (including increases in rates for existing sources). Most of the functional categories dealt with by the CIE were affected.

The Aviation Department has been active in issuing revenue bonds to finance part of a $6.443 billion Capital Improvement Program (CIP) to accommodate future MIA growth and to the Airport more efficient transportation center. The CIP is funded primarily by long term debt, to be paid from charges to the airlines, supplemented by grants and limited other pay-as-you-go revenues. The airline rates and charges at MIA have continued to increase due to the issuance of additional debt required by the department's ongoing Capital Improvement Program.

The County's road program has been expanded through funds from Road Impact fees, Stormwater proceeds, People's Transportation Plan (PTP) Bond proceeds, as well as gas taxes and state grants. The Major highway and Road Improvements Program component of the PTP includes the construction of additional lanes to several existing roadways throughout Miami-Dade County.

The Miami-Dade Transit (MDT) has made great progress in improving public transportation for Miami-Dade County residents and commuters since county voters approved the People's Transportation Plan (PTP) half-penny surtax in November 2002, which provides a dedicated funding source for transportation improvements. The first and second series of surtax-backed bonds used to finance PTP projects were issued in 2006 and 2008. Major achievements, funded mostly by the PTP, include the South Miami-Dade Busway Extension from Cutler Bay to Florida City and the new Automated Fare Collection System (EASY Card). In addition, 12 new Metromover cars were placed into service in 2008 to replace the aging 12 cars that went into service when Metromover opened in 1986.

Water and Sewer rates have been raised to help fund upgrading and expansion of these systems. The Stormwater Utility Service District, which came into being in FY 1991/92, continues to support a vastly expanded drainage projects through fees imposed on real property. Local park development has been enhanced by the impact fees collected since June, 1990. Funding has also been enhanced as a result of the Safe Neighborhood

Parks referendum approved in 1998, as well as the recent voter approved GOB program. Finally, the Building Better Community (BBC) Bond Program has continued providing funds for the acquisition of environmentally endangered lands and the protection of native habitats within the Environmentally Endangered Lands (EEL) Program.

In order to maintain the funding sources for public infrastructure investments, the Miami-Dade County Appraiser assesses the value of real property completely in accordance with state statutes. This includes the timely and full assessment of the values of land or structures as they may be affected by the provision of these investments, particularly where such land lies within the Urban Infill Area.

In order to help and relief traffic congestion, the FDOT, Miami-Dade County Public Works Department, and Miami-Dade Transit identify their roadway and mass transit project needs to meet current and future demands. Staff from these agencies recommend alternatives and cost estimates (including right-of-way, number of lanes, interchange/intersection configurations, new bus routes and realignment or extension of existing ones, etc.) to both the Long Range Plan Steering Committee and the Transportation Improvement Program (TIP) Development Committee of the MPO for technical review. The technical committees prioritize the projects and assuming none of the projects are already listed in the Long Range Transportation Plan (LRTP), amendments are needed to include them. If funding is identified, the project(s) could be included in the Cost Feasible Plan; otherwise they would need to be included in the Priority IV Unfunded Needs category. If funding is identified, the project(s) may also be eligible for inclusion in the TIP, although they must first appear in the LRTP. In highway and transit planning activities, FDOT, PWD, and MDT give highest priority to the funding of necessary capacity improvements to roadway and transit services that would help to relieve congestion on both Florida Intrastate Highway System and County Minor arterials and collectors, which are operating below their CDMP-adopted LOS Standards.

In an effort to reduce traffic congestion, initiatives have been implemented to the application of unit charges for the use of public facilities, especially what is known as “peak load pricing.” This concept has been given more attention in recent years and several studies on road pricing were done. In the case of roadways, the concept is termed "congestion pricing." An example of “congestion pricing” is the I-95 Express Project within Miami-Dade County. The concept allows significant improvements in reducing traffic congestion where “congestion pricing” within the express lanes limits the number of vehicles using them and keeps traffic flowing. The I-95 Express Project has been implemented by the Florida Department of Transportation in partnership with the U.S. Department of Transportation, the Metropolitan Planning Organization of Miami-Dade, and Miami-Dade Transit.

To measure progress for each CIE category, the dollar ratio of unfunded projects to the total of both funded and unfunded projects has been tracked. Table 2.9-7 shows the CIE Project Summary by Program for funded and unfunded projects for FY 2009-10 to FY 2014-15, as well as the ratio of unfunded projects to all projects.

Table 2.9-7
CIE Project Summary by Program
Funded and Unfunded Projects
Fiscal Years 2009-10 to 2014-15

Program Area	Total Cost Funded Projects (In 000's)	Total Cost Unfunded Projects (In 000's)	Ratio of Unfunded Projects to All Projects
Aviation	6,443,120	452,736	0.07
Coastal Management	70,970	14,114	0.17
Conservation	241,440	0	0.00
Drainage	134,111	97,165	0.42
Park and Recreation	636,531	1,670,908	0.72
Seaport	574,573	521,626	0.48
Water & Sewer	6,374,656	6,732,269	0.51
Solid Waste Mgmt	169,147	461,000	0.73
Traffic Circulation	843,619	680,406	0.45
Mass Transit	2,290,821	3,490,532	0.60
Total	17,778,988	14,120,756	0.44

Source: Miami-Dade County, 2009-2010 Proposed Resource Allocation and Multi-Year Capital Plan, Office of Strategic Business Management, Miami-Dade County, Department of Planning and Zoning, Research Section, 2010.

Policy Relevance. All policies under this objective were reviewed for continued relevance and all should be retained in present form.

Other Considerations
Section 163.3191 (2), F.S., requires the EAR to contain appropriate statements regarding the financial feasibility of implementing the comprehensive plan and of providing needed infrastructure to achieve and maintain adopted level-of-service (LOS) standards and sustain concurrency management systems through the CIE, as well as the ability to address infrastructure backlogs and meet the demand of growth on public services and facilities. Drainage, parks and recreation, sanitary sewer, portable water, solid waste, and transportation facilities, including mass transit and schools, are the only public facilities and services subject to the concurrency requirements. All these facilities and services meet their adopted LOS standards, except for certain roadways.

In conclusion, this objective is currently being implemented. For additional information regarding the evaluation progress in achieving this objective, refer to the achievement analysis of Objective CIE-1.

Objective CIE-5
Development approvals will strictly adhere to all adopted growth management and land development regulations and will include specific reference to the means by which public facilities and infrastructure will be provided.

CDMP Monitoring Measure. Objective CIE-5 is basically a regulation, which is controlled by certain processes. These processes consist of the master functional plans from operational departments, the CDMP amendments cycles, the Development Impact Committee reviews, and the preparation of the Capital Improvements Element. The monitoring of this objective will continue to rely on results of these activities.

Objective Achievement Analysis. This objective has been achieved.

To evaluate progress in achieving CIE Objective 5 refer to the following individual public facilities and services element EAR's for: 1) Land Use Objectives LU-2 and LU-9 Achievement Analysis; 2) Traffic Circulation Objective TC-1 Achievement Analysis; 3) Mass Transit Objective MT-1 Achievement Analysis; 4) Conservation Objective CON-5 Achievement Analysis (for flood protection/drainage LOS standards); 5) Water and Sewer Objective WS-2 Achievement Analysis; 6) Solid Waste Objective SW-2 Achievement Analysis; 6) Recreation and Open Space Objective ROS-1 Achievement Analysis; and 7) Educational Objective EDU-2 Achievement Analysis.

Policy Relevance. All policies under this objective have been reviewed for continued relevance and all should be retained.

CIE – Programs to Implement Concurrency Management Program

The Concurrency Management program text contains the provisions and regulatory context for applying concurrency requirements to development orders in Miami-Dade County. Chapter 163 of the Florida Statutes governs growth management regulations including concurrency requirements for all local governments in the State. Recent revisions to Section 163.3180(4)(b) allow for public transit facilities to be exempt from concurrency requirements. Public transit facilities include transit stations and terminals; transit station parking; park-and-ride lots; intermodal public transit connection or transfer facilities; fixed bus, guideway, and rail stations; and airport passenger terminals and concourses, air cargo facilities, and hangars for the maintenance or storage of aircraft. The terms "terminals" and "transit facilities" do not include seaports or commercial or residential development constructed in conjunction with a public transit facility. This text section of the Concurrency Management Program should be revised to provide for the exemption from concurrency requirements for public transit facilities.

In addition, Section 3 (b) should be revised to reflect the correct names of the community redevelopment programs located in the concurrency exception areas.

Figure 2, Redevelopment Concurrency Exception Areas map should be revised to reflect changes in the boundaries of the redevelopment exception areas.

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2.10 EDUCATIONAL ELEMENT

Since the last EAR, Miami-Dade County has adopted public school concurrency. The 2005 Florida Legislature amended Chapter 163, Florida Statutes requiring a public school facilities element, school concurrency and updates to the Interlocal Agreement for Public School Planning. Miami-Dade County originally adopted its Educational Element back in 1996. In July 2008, Miami-Dade County adopted a level of service standard for public school facilities through amendments to the Educational Element, Intergovernmental Coordination and Capital Improvements Elements of the Comprehensive Development Master Plan (CDMP), and revisions to the Interlocal Agreement for Public School Facility Planning. There were significant revisions to the element during the amendment process. The amendments were approved and accepted by the State of Florida Department of Community Affairs in June 2009.

The adopted level of service (LOS) standard for public school facilities is 100% utilization of Florida Inventory of School Houses (FISH) (with relocatable classrooms). The LOS standard can be satisfied by: 1) construction of new capacity programmed to relieve the impacted school within three years; 2) capacity is available at a contiguous public school facility; 3) development is phased to meet existing capacity; or, 4) proportionate share mitigation option. It is a goal of Miami-Dade County Public Schools and Miami-Dade County for all public schools facilities to achieve 100% utilization of Permanent FISH (no relocatable classrooms) by January 1, 2018.

The evaluation of school capacity based upon the adopted LOS standard and concurrency methodology differs significantly from the former method of assessing the development impact on schools. The former methodology required collaboration with the Miami-Dade County School Board if the proposed development resulted in an increase of FISH utilization in excess of 115%. The new method, public school concurrency requires all new residential development applications be reviewed based on the adopted LOS standard. School capacity is reserved only on site plans, plat applications and functionally equivalent, which could include certain building permits. If there is a deficit in the school of impact, the Concurrency Service Area (CSA), also known as the school attendance boundary, the impact of the development is reviewed to determine if there is capacity available in any contiguous CSA to address the impacts of the proposed development. If available, the impact can be shifted. If mitigation is required, the School Board and County coordinate on the proportionate share mitigation process.

Objective EDU-1
Work towards the reduction of the overcrowding which currently exists in the Miami-Dade County Public Schools, while striving to attain an optimum level of service pursuant to Objective EDU-2. Provide additional solutions to overcrowding so that countywide enrollment in Miami-Dade County's public schools will meet state requirements for class size by September 1, 2010.

CDMP Monitoring Measure. Policies relating to the maintenance and improvement of specific level of service for public educational facilities, as specified in the Interlocal Agreement for Public School Facility Planning and the Educational Facilities Impact Fee Ordinance, shall be reviewed annually. Each year, the Miami-Dade County Public Schools will compare the official enrollment of the school system with the number of student stations available to determine the current operating LOS.

Objective Achievement Analysis. This objective has been partially achieved. Annually, the Miami-Dade County Public Schools (MDCPS) analyzes the official K-12 student enrollment and the number of student stations available to determine the current operating LOS; and shifts attendance boundaries of certain educational facilities to balance and reduce overcrowding conditions. The official enrollment or school census is based on the Full Time Enrollment (FTE) for the month of October each year. Actual school enrollment may vary month to month throughout the school calendar year, due to new students enrolling and other students leaving. The October FTE is considered the official student population enrollment figure for the school year and is utilized for analysis purposes. The number of student stations is established by the Florida Inventory of School Houses (FISH) capacity, which is maintained by the Florida Department of Education. The FISH capacity encompasses both

permanent student stations and relocatable student stations. Additionally, MDCPS prepares a five-year capital plan on a yearly basis, which includes projected student population, an inventory of existing facilities, new school openings, and projected needs and priorities. Table 2.10-1 shows total student enrollment by school, permanent capacity, relocatables, total capacity and % utilization for each school, and total system wide school utilization capacity for school years 2003-04 and 2009-10.

Table 2.10-1
Miami-Dade County Public Schools
Total Enrollment School Facility Type and % Utilization
2003-2009

Fiscal Year	School Enrollment	Permanent Capacity	Relocatables	Total Capacity	% Utilization*
2003-04	345,117	281,315	35,630	316,945	109%
2004-05	333,752	256,174	32,063	288,237	116%
2005-06	326,794	272,588	28,298	300,886	109%
2006-07	328,027	294,533	27,706	322,239	102%
2007-08	316,185	311,449	25,216	336,665	94%
2008-09	311,384	330,737	22,405	353,142	88%
2009-10	311,203	342,257	21,871	364,128	85%

*Utilization Percentage based on Florida Inventory of School Houses (FISH) capacity (both permanent and relocatables)

In terms of total annual school enrollment, Table 2.10-1 shows there has been a gradual decrease in public school enrollment for the last seven years, between the years of 2008-09 and 2009-10 the enrollment the same. During the past seven years there has been an approximate 10% decrease annually in student enrollment. In the area of permanent capacity, there has been an increase in permanent student stations, from 2003-04 to 2009-10 permanent capacity increased by approximately 18%, except for the year 2004, where there was a decline. The number of school portables or relocatables has declined due to the schools construction to address overcrowding and the construction of approximately 60,000 permanent student stations. This has resulted in an increase of total capacity, which includes permanent and relocatables from 2003-04 to 2009-10. As the result of new permanent student stations and a drop in the enrollment, the utilization percentage has continued to decline and become within acceptable standards. In 2003-04 the utilization rate was 109% and in 2009-10 the total percent utilization is 85%. The adopted LOS for each school should be no more than 100%. In an effort to eliminate overcrowding the MDCPS launched a major construction program in 2005 that has produced over 100,000 new student stations, some of which were replacement of existing student stations, approximately 60,000 were new student stations. There have been increased coordination efforts between the County and MDCPS, who are committed to cooperatively seek solutions to the overcrowding problem. This objective has been achieved.

To date, there are currently 84 charter schools in operation in Miami-Dade County. There are twenty-two elementary charter schools, seventeen middle charter schools, twenty-one senior high charter schools, and five middle/senior high charter schools. The opening of the Charter Schools has contributed to the decline in the enrollment at traditional public schools. Many parents favor a smaller school setting offered by charter schools.

In February of 2003, the county, the cities in Miami-Dade County and the Miami-Dade County School Board entered into an interlocal agreement for the coordination of land use and public school facility planning. The agreement addresses better coordination of new schools with land development, greater efficiency of the school board and local governments by placing schools in locations to take advantage of existing and planned infrastructure, improving student access and safety by coordinating the construction of new and expanded schools with road and sidewalk construction programs of the local governments, better defined urban form by locating and designing schools to serve as community focal points, greater efficiency and convenience by co-locating schools with parks, ball fields, libraries, and other community facilities by taking advantage of joint use opportunities, reducing pressures of contributing to urban sprawl and support of existing neighborhoods by appropriately locating new schools and expanding and renovating existing schools, and improving the quality of education in existing, renovated and proposed schools. The agreement requires that the location of public educational facilities must be consistent with the comprehensive plan and implementing land development regulations.

In May of 2009, the County and the MDCPS entered into a revised Interlocal Agreement for Public School Facility Planning, which amended the 2003 interlocal agreement. The Florida Legislature

amended Chapter 163 of the Florida Statutes to require a public school facilities element for all governments and updates to the 2003 Interlocal Agreement for Public School Planning, including school concurrency. This new agreement incorporates the implementation of a uniform district-wide public school concurrency system as required by law.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Objective EDU-2
The County shall coordinate new residential development with the future availability of public school facilities consistent with the adopted level of service standards for public school concurrency, to ensure the inclusion of those projects necessary to address existing deficiencies in the 5-year schedule of capital improvements, and meet future needs based upon achieving and maintaining the adopted level of service standards throughout the planning period.

CDMP Monitoring Measure. Annual review of the latest adopted Miami-Dade County Public Schools Facility Work Program to determine if the adopted concurrency level of service standard is being achieved. The number of development orders approved, those disapproved and those that have achieved LOS standards through mitigation options will also be reviewed.

Objective Achievement Analysis. In June of 2009 the amendments to Educational Element adding this new objective and policies regarding public school concurrency became effective. Since that time, Miami-Dade County has been preparing the necessary revisions to local regulations in order to include the review of development orders for public school concurrency. In addition, the Department of Planning and Zoning has coordinated with the various development order departments in order to incorporate the review of residential development orders, such as platting and building permitting, for public school concurrency. This work has included revisions to County automated development order systems in order to transmit electronically county residential development orders through the MDCPS concurrency management system. This work requires significant computer related modifications to county processes and systems. To date, no development orders have been denied or deferred for public school concurrency. The use of shifting impacts to adjacent concurrency service areas has been relied upon in reviewing development orders for public school concurrency. The adopted level of service standard for public schools has been maintained and achieved in the development review processes. In addition, no development orders reviewed for public school concurrency have triggered the option for proportionate share mitigation, nor have any developments been denied for public school concurrency.

In addition, in order to demonstrate compliance with EDU-2E and F, the adopted LOS standard must be achieved and maintained throughout the five-year planning period. Miami-Dade County Public Schools submits to the County a copy of its tentative District Educational Facilities Work Plan annually. The tentative District Educational Facilities Work Plan is submitted in May during the development of the plan, for review and comment by the County; and then in September after adoption of the plan by the Miami-Dade County School Board. The County adopts the Miami-Dade County Public Schools District Educational Facilities Work Plan in its Capital Improvements Element of the CDMP. The latest Miami-Dade County Public Schools District Educational Facilities Work Plan demonstrates the achievement and maintenance of the adopted level of service standard throughout the planning period.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Objective EDU-3
Obtain suitable sites for the development and expansion of public education facilities.

CDMP Monitoring Measure. Annual inventory and assessment by the Miami-Dade County Public School of School Board owned property. The number of new sites shall be reported annually and in the full review period reported in the EAR.

Objective Achievement Analysis. This objective has been achieved. The Miami-Dade County Public Schools, pursuant to F.S. 235.193(4), provides written notice to Miami-Dade County on its intent to acquire or lease specific property sites for new

public school facilities. Additionally, all land acquisitions must be reviewed and recommended by the School Board-appointed School Site Planning and Construction Committee (SSPCC), where the county has a permanent seat. Miami-Dade County reviews individual sites for consistency with the CDMP land use plan map and interpretive text, and relevant CDMP policies, and provides a written response to the MDCPS. Between 2003 and 2008, the County issued 107 school CDMP consistency letters to the School District, there were no requests in 2009. The sites reviewed were located in all areas of the county, in infill areas and along the urban fringes. Not all sites reviewed were actually acquired.

Below is a summary of the properties acquired by the Miami-Dade County School District between 2003 and 2009 by fiscal year. The School District maintains an annual inventory and assessment of school Board owned properties to assist in determining its future needs.

Appendix 2.10-A contains a complete listing and description of acquired sites.

Fiscal Year 2003-2004 – Eight (8) Parcels Acquired
Three were conventional purchases, three were eminent domain, one lease and one donated.

Fiscal Year 2004-2005 - Four (4) Parcels Acquired
Two were conventional purchases, one eminent domain and one donated.

Fiscal Year 2005-2006 – Five (5) Parcels Acquired
One a trade with the county, two donated, and two eminent domain.

Fiscal Year 2006-2007 – Three (3) Parcels Acquired
Two leased and one eminent domain.

Fiscal Year 2007-2008 - Six (6) Parcels Acquired
Two conventional purchases, two eminent domain, one lease and one donated.

Fiscal Year 2008-2009 – One (1) Parcel Acquired
One eminent domain.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Objective EDU-4
Miami-Dade County Public Schools, in conjunction with the County and other appropriate agencies, will strive to improve security and safety for students and staff.

CDMP Monitoring Measure. Review and analysis of the statistics relating to school safety, as compiled annually, by the Miami Dade County Public Schools Division of Police. A review and analysis of new and existing reactive and proactive safety and crime prevention programs will also be conducted on an annual basis.

Objective Achievement Analysis. Overall, this objective has been partially achieved. In an effort to increase school site security several initiatives have been implemented in selected schools throughout the county. The evaluation of these initiatives was conducted during the five-year period by the School District through the use of surveying the stakeholders. The schools are established for the benefit of all students. The educational purposes of the schools are accomplished best in a climate of student behavior that is socially acceptable and conducive to the learning and teaching process. Student behavior that disrupts this process or that infringes upon the rights of other individuals will not be tolerated. The School Board of Miami-Dade County (School Board) endorses a zero tolerance policy toward school related violent crime. The School Board reaffirms its support of the administrative staff and teachers in taking all necessary steps to enforce and implement all School Board rules pertaining to the maintenance of appropriate student behavior. Important among these rules are those in the areas of conduct, corporal punishment, suspensions, expulsions, and climate for learning.

The Miami-Dade Schools Police Department (M-DSPD) provides law enforcement resources to students, school administrators, teachers and parents. This is achieved through continued enhancement of multiple police and security services, supporting the educational needs of the school system and promoting an atmosphere of trust and safety throughout the community, by working hand-in-hand with local, county, state and federal agencies. M-DSPD developed a Strategic Plan for the years 2005 through 2008. Expected

outcomes include, improving safety throughout the District by implementing preventative measures and educational programming; improving safety throughout the District by decreasing response time and increasing control of emergency situations; and systemic use of an efficient, fair equitable and effective process for investigating personnel.

In addition, the Miami-Dade County Public Schools Office of Mental Health and Crisis Management Services, has established numerous Safe Schools Programs. These programs include Olweus Bullying Prevention, Youth Crime Watch, TRUST, and Parent Academy to name a few. The programs focus on providing skills to students and parents in order to improve the safety at schools and in the community.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Objective EDU-5
Continue to develop programs and opportunities to bring the schools and community closer together.

CDMP Monitoring Measure. Shall be monitored by the Miami-Dade County Public School by reporting and reviewing the progress and number of new and existing community oriented programs, including an enrollment analysis, by age and ethnicity, of adult, community and vocational programs.

Objective Achievement Analysis. This objective has been partially achieved. In an effort to bring the schools and community closer together, the School Board has executed school compacts with several local governments to cooperatively design and launch community/school related programs to bring the schools and community closer together. There are ten such compacts, including one between Miami-Dade County and Miami-Dade County Public Schools. MDCPS plans on executing more between the schools and the cities in Miami-Dade County.

There are 42 Adult and Community Education Centers, alternative schools and specialized centers and over 100 principal-operated after-school care sites located throughout the county. Depending on the center, some centers are strictly utilized for vocational programs during the day, such as the Lindsey Hopkins Technical Education Center. Most of the centers are open only during the evening, such as the Miami Beach Adult and Community Education Center, as during the day the facility serves as a regular senior high school. These centers may also have other schools, such as elementary and middle schools that serve as satellite centers to the main adult and community center. Community schools offer a wide variety of academic, extracurricular, recreational, cultural, civic, health, social service, and workforce preparation programs for people of all ages. The School District reports and reviews the progress and number of new and existing community oriented programs. This is part of the annual budget process that requires analysis for future budget allocation.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Objective EDU-6
Miami-Dade County Public Schools will continue to enhance effectiveness of the learning environment.

CDMP Monitoring Measure. Monitored by the Miami-Dade County Public School by reporting the number of educational facility enhancements such as media centers, art/music suite, and science laboratories.

Monitoring Measure Relevance. This monitoring measure needs to be amended to reflect other facility enhancements such as classroom renovations, systems replacement, computer laboratories, site improvements, etc.

Objective Achievement Analysis. This objective has been partially achieved. The School District continues to improve existing educational facilities, through renovation and expansions to better accommodate enrollment and to enhance effectiveness of the learning environment. From 2003 through 2008 there has been over 120 construction projects at Miami-Dade County Public School facilities. These projects include construction of new schools, and facility additions, remodeling, and renovations.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Objective EDU-7
The School Board, the County, and other appropriate jurisdictions shall establish and implement mechanisms for on-going coordination and communication, to ensure the adequate provision of public educational facilities.

CDMP Monitoring Measure. Implementing and tracking the development of appropriate mechanisms, including interlocal agreements and coordination efforts, which serve to expedite the provision or enhancement of public educational facilities.

Objective Achievement Analysis. This objective has been achieved. Ensuring that public school facilities are sited in a manner that conforms to planning objectives is an issue of countywide concern. The scarcity of adequate sites in some developed or developing areas, the need to ensure that adequate sites are available, and the adequacy of public facilities and infrastructure to serve new school facilities often limits the School Board's ability to site new schools in optimum locations. In addition, the impacts of new schools on other public facilities and infrastructure must be considered as well.

In 2002, the MDCPS established a broad-based, external educational facilities committee, called School Site Planning and Construction Committee (SB Rule 6Gx13-2C-1.083) to review potential sites for new schools, as well as proposals for significant renovation, location of relocatables or additions to existing buildings, and make recommendations. As part of its deliberations, the SSPCC ensures that the affected local governments are afforded an opportunity to provide comments and shall consider those comments in its deliberations. The SSPCC has met over 60 times from 2003 to 2008.

In 1992, Miami-Dade County Board of County Commissioners adopted a School Site Plan Review Resolution R-535-92. The resolution authorizes and directs the County Manager to review and make recommendations regarding the consistency of proposed public educational facilities and site plans with Miami-Dade County's CDMP and applicable land development regulations. The adopted procedures for such review, construction and opening of public educational facilities are coordinated in time and place with plans for residential development, concurrently with other necessary services. Miami-Dade County has reviewed 31 schools applications for Miami-Dade County Public Schools from 2003 through 2009.

Since 1995, Miami-Dade County Public Schools, pursuant to F.S. 235.193(4), has provided written notice to Miami-Dade County on its intent to acquire or lease property for a new public school facility. Miami-Dade County reviews each site for consistency with the CDMP Land Use Plan map, the Land Use Element interpretive text, and adopted CDMP policies, and provides a written response to the MDCPS. Miami-Dade County has reviewed 99 school sites for Miami-Dade County Public Schools from 2003 through 2009.

The School District has participated in the zoning hearing reviews and plan amendment process from 2003 through 2009. The School District reviewed and commented on approximately 124 land use applications and 1,000 zoning applications during this time period.

In compliance with Sections 163.31777 and 1013.33, Florida Statutes, Miami-Dade County, twenty-seven municipalities and the Miami-Dade County School Board entered into an interlocal agreement in March 2003 and the County and MDCPS subsequently amended it in 2009 for the coordination of the land use and school facility planning. This agreement consolidates into one document all formal and informal coordination that has been occurring between the county and the school district since the early 90s. The agreement requires that the location of public educational facilities must be consistent with local government comprehensive plans and implementing land development regulations. The agreement addresses: improving coordination of new schools with land development; providing for greater efficiency of the school board and local governments by placing schools to take advantage of existing and planned infrastructure; improving student access and safety by coordinating the construction of new and expanded schools with local road and sidewalk construction programs;

using better defined urban form by locating and designing schools to serve as community focal points; and increasing the efficiency and convenience by co-locating schools with parks, ball fields, libraries, and other community facilities. The most significant amendment in the 2009 Interlocal Agreement is the new requirement for public school concurrency, which requires that all development be reviewed for public school concurrency based on the adopted level of service standard.

Policy Relevance. All policies under this objective continue to have relevance and should be retained.

Proposed Revisions

Proposed, Existing, and Ancillary Educational Facilities Map Series. All Maps must be updated to reflect changes to existing and future conditions.

APPENDIX 2.10-A
Miami-Dade County Public Schools Properties Acquired

Fiscal Year 2003 / 2004			
Capital Project	School Name & Address	Acreage	Type of Purchase
New K-8 Center State School D (Parcel F)	Aventura Waterways K-8 Center 21101 NE 26 Avenue	1.52	Conventional
New K-8 Center State School D (Parcel E)	Aventura Waterways K-8 Center 21101 NE 26 Avenue	0.77	Conventional
New Elementary, Middle and High Schools State School V1, MM1 and JJJ	West Hialeah Gardens Elementary Hialeah Gardens Middle Hialeah Gardens Senior High 11990 NW 92 Avenue 11700 NW Hialeah Garden Blvd 11690 NW 92nd Avenue	56	Eminent Domain
New Middle School State School NN1	Country Club Middle 18305 NW 75 Place	11.6	Eminent Domain
Classroom addition @t Kinloch Park Elementary	Kinloch Park Elementary NW 43 Avenue and 1 Street	0.8	Conventional
TBD – Region I	TBD Approx. NW 97 Avenue and NW 174 Street (multiple parcels)	40	Lease
TBD – Region I	TBD NE Corner of NW 197 Street and 78 Avenue	2	Donated
New K-8 Center State School D (Parcels A-D)	Aventura Waterways K-8 Center 21101 NE 26 Avenue	7.11	Eminent Domain
Fiscal Year 2004 / 2005			
New Middle School State School UU1	Zelda Glazer Middle School 15015 SW 24 Street	16	11.3 Acres Purchased 5.1 Acres Donated
TBD – Region V	TBD US 1 and SW 244 Street	0.84	Conventional
New High School State School WWW	Westland Hialeah High School 4000 West 18 Avenue	6.6	Eminent Domain

Fiscal Year 2005 / 2006			
Capital Project	School Name & Address	Acreage	Type of Purchase
New High School and K-8 Center State School TTT & DD1	Mandarin Lakes K-8 Academy (High School Project cancelled)	35.82	Trade with County
PLC E	PLC for Whispering Pines 8304 SW 195 Terrace	2	Donated
New Elementary School State School A1	Goulds Elementary School 23555 SW 112 Avenue	6.9	Donated
New K-8 Center State School BB1 (Parcels A & B)	Sunny Isles Beach Community School 201 - 182 Drive Sunny Isles Beach	2.1	Eminent Domain

Fiscal Year 2006 / 2007			
Replacement High School State School BBB1	North Miami Senior High School 13110 NE 8 Avenue	5.18	Lease
New High School State School QQQ1	Alonso and Tracy Mourning Senior High Biscayne Bay 2601 NE 151 Street	4.35	Lease
New K-8 Center State School P1	Dr. Rolando Espinosa K-8 Center 11250 NW 86 Street, Doral	9.81	Eminent Domain
Fiscal Year 2007 / 2008			
New Elementary School State School M1	TBD – Region IV Approx. SW 167 Avenue and 95 Street	8.46	Conventional
State School SSS1	TBD – Region V 1220 NW 1 Avenue, Homestead	3.6	Conventional
State School TT1	Gateway Environmental K-8 Learning Center 955 SE 18 Avenue, Homestead	34.85	Donated
New High School State School HHH1	TBD – Region IV 14950 SW 160 Street	38	Eminent Domain
State School LLL-1	TBD – Region III 1570 Madruga Avenue	0.84	Eminent Domain
New High School	Law Enforcement Officers Memorial High School 300 NW 2 Avenue	1.72	Lease
Fiscal Year 2008 / 2009			
New 9th Grade Center State School T1	TBD – Region I NW 114 Avenue and 90 Street	8.5	Eminent Domain

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2.11 ECONOMIC ELEMENT

Introduction

Since the adoption of the Economic Element in 2004, there have been profound changes in the economic and financial climate of the nation and in Miami-Dade County. The following highlights some of the issues and problems facing Miami-Dade County.

Between 2005 and 2007 the nation faced an unpredictable crisis in the real estate market. As housing prices rose dramatically throughout this period, the housing affordability crisis was substantially heighted. After an apparent housing bubble and the subsequent collapse of the housing market, Florida became among the four most affected states which, together accounted for 57% of the foreclosures in the country. The collapse of the housing market has been devastating in Miami-Dade County, where foreclosure filings quadrupled since 2006. Three years after the housing shock, the real estate market is still in limbo putting enormous pressure on government capacity to continue to provide and maintain a needed level of public services.

The crash of the highly inflated housing market was the direct result of unwarranted lending practices and insufficient financial oversight. When the housing bubble burst the global financial system was put into jeopardy. Fortunately, most of the nations of the world were able to provide ample financial resources to buttress the system and avoid collapse. However, the availability of credit has remained very tight.

A deep economic downturn followed reflecting the current economic recession. In fact, it has been the longest recession in the past seventy years. This global recession left many unemployed leading to a substantially reduced income level. Many businesses, both large and small, were forced out of the market. Due to budgetary problems, federal, state, and local governments also had to reduce their intervention levels and took steps to suspend or discontinue existing programs.

Unemployment in Miami-Dade reached historical high levels in 2009, and remained very high in the first months of the recovery period in 2010. In fact, as of March 2010 the unemployment rate stood at 12.0%. This compares to the rate of 5.2% when the first Economic Element was adopted. At the end of the Evaluation and Appraisal Report (EAR) evaluation period, the objective to create and increase the number of jobs in the area, in particular high-paying ones, seemed to be far from becoming a reality. In fact, due to the very high unemployment rates and the uncertainty regarding recovery, jobs in all wage categories are substantially lower, both now and over the intermediate time horizon. This is very troubling, especially if one considers that much of the labor force in the local job market is low skilled and as a result remains particularly vulnerable.

As an immediate consequence of the recession, individuals and businesses are experiencing serious difficulties in obtaining or renewing credit, thus delaying the economic recovery and undermining some of the existing economic policies and measures. Entrepreneurial activity, otherwise crucial for innovation and growth, was hit the most when the financial institutions tightened credit standards and terms on commercial and industrial loans to small firms to the highest level in recent times.

Given the degree of change within the economy, both cyclical and structural in nature, it is important to review the element through a forward looking approach. Further, stakeholder input has reinforced the need to fundamentality rethink and reorganize the Economic Element. While many of the objectives and policies remain sound, there is a need to delete, add and modify many of the current ones. Instead of having five goals, there will be one overarching goal to drive the element. Some of themes that this new element will likely incorporate are related to job creation, workforce development, and infrastructure investment, innovation and business formation, diversification of the economy, small business and entrepreneurial development and economic development and sustainability. Finally, it is the intent to develop the Economic Element in a manner that will better serve as the blueprint for the future socio-economic development of Miami-Dade County.

The following objective achievement analysis and discussion of policy relevance is based on the current version of the element adopted in 2004. As the nature and degree of reorganization is not determined at the time, it should be borne in mind that even if a policy has continued relevance, it may be included in a significantly revised form or perhaps not at all in the amended version of the element.

GOAL I
CREATE A CULTURE WITHIN WHICH COUNTY DEPARTMENTS INCORPORATE SOCIO-ECONOMIC CONSIDERATIONS INTO THEIR BUSINESS PLANS.

Objective ECO-1
Establish executive level procedures and complementary administrative structure to guide, review, evaluate and monitor Miami-Dade County planning activities impacting socioeconomic development. These activities may encompass physical, economic, financial and/or budgetary, business and social service aspects of County government related to socioeconomic development.

CDMP Monitoring Measure. Ascertain whether the socio-economic development coordinating functions are established after one year.

Objective Achievement Analysis. Although this socio-economic coordinating function was not established after one year, nonetheless it was initiated several years later. The Office of Economic Development Coordination (OEDC) was created in 2008 and was broadly charged with the coordination of all activities related to socio-economic development within Miami-Dade County. The office is responsible for assuming this coordination role for all related County departments as well as other governmental and non-governmental entities. It is responsible for the development of socio-economic policy recommendations and provides an interface with the business community. The creation of the OEDC has in large measure led to the coordination of socio-economic development functions. In terms of the objective, there appears to be a need to deepen this function.

Policy Relevance. All policies under Objective 1 were reviewed for continued relevance. The establishment of the Office of Economic Development and Coordination (OEDC) was an important step towards the achievement of this objective. Objective ECO-1 and Policy ECO-1 have been partially achieved; they remain relevant as does ECO-2. Policy ECO-1C has been achieved and should be removed from the element. The anticipated reorganization of the element will likely result in modifications of the two policies.

Objective ECO-2
Modify the Miami-Dade County organizational structure as necessary to achieve good communication and coordination with all relevant public and private economic development entities.

CDMP Monitoring Measure. Determine at the end of two years, if appropriate organizational change has been implemented.

Objective Achievement Analysis. Five years after the adoption of the Economic Element the Office of Economic Development Coordination (OEDC) was created with these policies in mind. The office, as well as Housing and Community Development (HCD) and Planning and Zoning maintains websites that provides in-depth information and reports that are accessible to governmental and private entities as well as the general public. The Government Information Center (GIC) also participates in this effort. OEDC communicates and coordinates with all relevant entities regarding socio-economic development. This includes economic development agencies, such as the Beacon Council and broader planning entities including the South Florida Regional Planning Council. In addition, the creation of the Government Information Center and relevant County departments offer websites which provide socio-economic data. To a significant degree the desired organizational change has been achieved.

Policy Relevance. All policies under Objective 2 were reviewed for continued relevance. While the policies have been achieved to a considerable degree, they still remain relevant. The anticipated reorganization of the element will likely result in modification of Objective ECO-2 and its policies.

Objective ECO-3
County initiatives and programs to promote economic growth and diversification of the County's economic base should also acknowledge broadly accepted socio-economic development goals, such as the amelioration of poverty, the promotion of economic mobility and self-sufficiency, and access to affordable housing, in balance with other CDMP goals.

CDMP Monitoring Measure. At the end of every three years, prepare an assessment of County economic development programs to determine progress in achieving this objective.

Objective Achievement Analysis. This objective and related policies is an implicit recognition of the Social and Economic Development Council) SEDC input to the Economic Element and has been incorporated into any report or recommendation from Department of Planning and Zoning in coordination with relevant plans including those related to Neighborhood Revitalization Strategy Areas (NRSA), Enterprise Zone and Targeted Urban Areas. While there has no recent assessment of County economic development programs, it is expected that this is a function the OEDC will assume.

Policy Relevance. All policies were reviewed for continue relevance. Policy ECO-3A has largely been achieved through the creation of the OEDC, however it remains relevant. Given the planned reorganization of the element it is likely to be included in revised form.

GOAL II
PROVIDE PUBLIC INFRASTRUCTURE WHICH CONTRIBUTES TO ALL AREAS OF MIAMI-DADE COUNTY WITHIN THE UDB IN ATTAINING THEIR SOCIOECONOMIC DEVELOPMENT POTENTIAL COMPATIBLE WITH OTHER CDMP GOALS.

Objective ECO-4
Develop an initial consolidated infrastructure plan within one year, including streets and highways, water and sewer capacity, drainage and fire facilities, and other components especially advanced technology, such as fiber optics, appropriate to enhance socio-economic development.

CDMP Monitoring Measure. Ascertain the status of the recommended plan at the end of one year.

Objective Achievement Analysis. An overall consolidated infrastructure plan has not been developed. Area specific analyses of adequate water and sewer infrastructure are ongoing. The Department of Planning and Zoning has completed an evaluation of these infrastructure components in 15 small areas. All of these areas have been through a charrette process and several have become Community Urban Centers which allow denser development than the surrounding area. Three of them are for business corridors and one for an industrial area. In addition, five of the infrastructure analyses have been done in lower income areas that have suffered decline. While the efforts of Planning and Zoning that resulted in infrastructure analysis in Community Urban Centers, this has only to a limited degree achieved the necessary analysis for the consolidated infrastructure plan.

Policy Relevance. All policies under Objective 4 were reviewed for continued relevance. The policies continue to remain relevant though in a modified form due to the planned reorganization of the element.

Objective ECO-5
The County will establish strong regional linkages with Southeast Florida governments to plan for and coordinate infrastructure elements impacting economic development.

CDMP Monitoring Measure. Assess the progress toward establishing significant regional agreements and cooperation after three years.

Objective Achievement Analysis. The South Florida Regional Planning Council (SFRPC) is the organization responsible for regional planning in the Monroe, Miami-Dade and Broward region. The County has many ties to the SFRPC particularly in the transit arena. The Council works with the region's Metropolitan Planning Organizations, Florida Department of Transportation, other state

and federal agencies, counties, cities and the private and nonprofit sectors to make sure that transportation initiatives and improvements are supportive of the goals and policies articulated in the Strategic Regional Policy Plan.

Intergovernmental coordination and collaboration with the private and public sectors is the key to creating a successful regional transportation system. Examples of ongoing partnerships and projects include the work of the State Road 7/ US 441 Collaborative and the effort to create the South Florida Regional Transportation Authority. This Authority replaced Tri-County Commuter Rail Authority in 2003. It was created with a vision to provide greater mobility in South Florida, thereby improving the economic viability and quality of life of the community, region and state. Miami-Dade has been a supportive member since its inception. Further, the County became a member of the State Road 7/US 441 Collaborative in 2007. The collaborative is a unique organization dedicated to coordinating its resources to promote economic vitality through aesthetic improvements, redevelopment and safety. It is a vital commercial corridor spanning about 30 miles from Broward into northern Miami-Dade.

In addition, the Department of Planning and Zoning maintains close cooperation with the SRFPC on other fronts, this includes the partnership that the department to obtain use of the dynamic regional impact analysis program known as the REMI Model. Although there were efforts consistent with the intent of this objective, these efforts have been limited and the objective has only been partially achieved.

Policy Relevance. All policies under Objective 5 were reviewed for continued relevance. The policies continue to remain relevant. The expected reorganization of the element will result in a modification of the existing form of the policies.

Objective ECO- 6
Seek to increase middle-income housing by at least 200 units annually through County administered programs over the next ten years, while also seeking to meet lower income critical needs.

CDMP Monitoring Measure. Calculate the degree of increase in the share of middle-income housing provided by County housing programs at the end of five years

Objective Achievement Analysis. This objective focuses on affordable housing provided to households with incomes between 80 and 120 percent of County Median Family Income. While priority is generally given to low-income households with income below 80% of the area median income, middle income housing was also considered in the County's housing policies. During the last seven years, middle income households with income between 80% and 140% of the Area Middle Income (AMI) were eligible for housing assistance under a number of affordable housing programs operated by Miami-Dade County.

The Ten-Year General Obligation Bonds (GOB) Program administered by Miami-Dade County allocated $137.7 million for county-wide affordable housing development and $32 million for public housing sites. The production of homeownership and rental housing units under this program was based on the Bond counsel opinion. The program also included a provision of middle income housing conditional to Bond Counsel's approval.

Two other housing initiatives administered by the County included housing assistance to middle income households. The Multi-Family Rental Housing Revenue Bond financing revenue funded low interest loans to housing developers for new construction or rehabilitation of existing affordable housing buildings. Middle income housing was provided after satisfying the minimum 30%-threshold requirement for very-low and low-income households. As of June 30, 2009, an amount of over $803 million in revenue bonds have financed or refinanced multi-family rental housing projects including moderate or middle income families.

Additionally, the state-funded and County-administered First Mortgage Homebuyer Bond Program funded first mortgages at below market lending rates to very low to moderate income households up to 150% of AMI. The use of funds was limited to low interest, long-term fixed

mortgages, assistance with down payments and closing costs for first-time homebuyers.

Moderate income housing assistance was also provided under the SURTAX program. By 2009, there were a total of 249 homeownership units and 4,737 rental units in the SURTAX pipeline. The number of units provided for homeownership and single-family rehabilitation initiatives decreased in the last seven years. Also, very-low and low-income households were served with priority.

The exact number of housing units provided specifically to middle income households during the past five years was not available. Therefore, the share of middle income housing could not be computed. Nonetheless, it can be assumed that this share has not increased.

Table. 2.11-1
SURTAX – Funded Units, by Program, 2001 - 2008

FY	Homeownership Program (units)	Single-Family Rehabilitation (units)
2001	260	29
2002	399	36
2003	180	65
2004	149	109
2005	54	120
2006	70	82
2007	199	22
2008	86	21
TOTAL	1,397	484

Source: Miami-Dade County Affordable Housing Plan 2008-2012.

Based on the available data and the increasing need for middle income housing, this objective has been only partially achieved. According to the Miami-Dade County Affordable Housing Plan 2008 – 2012, between 2000 and 2015, a total of 35,984 households with moderate income in Miami-Dade County will become cost burdened and in need of affordable housing. Based on the data available from relevant County programs to achieve a specific number of middle income housing units, the objective has not been achieved.

Policy Relevance. All policies under Objective 6 were reviewed for continued relevance. This objective and concomitant policy would be more appropriately situated in the Housing Element.

GOAL III
INCREASE EMPLOYMENT AND INVESTMENT THROUGH PROGRAMMATIC ASSISTANCE TO BUSINESS AND LABOR FORCE DEVELOPMENT PROGRAMS, BOTH COUNTYWIDE AND FOR SUBAREAS.

Objective ECO-7
The County should develop a set of guidelines for close coordination between Miami-Dade socio-economic development functions and the primary local organizations having business attraction, expansion and retention program responsibilities, as well as with other non-local institutions, organizations and individuals interested in the economic development of the area.

CDMP Monitoring Measure. Ascertain if the guidelines were developed at the end of two years.

Objective Achievement Analysis. Although the set of guidelines has not been developed it is important to note that the coordination of business attraction functions in Miami-Dade is delivered by the Beacon Council, a Miami-Dade County's official economic development partnership since 1986. The Beacon Council works to facilitate business investment and promote the area as the ideal location for businesses to operate. Since its inception, the Beacon has assisted more than 690 companies and aided in the generation of more than $2.3 Billion in capital investment.

Beacon Council works in collaboration with government and non-profit economic development organizations from Miami-Dade, Broward and Palm Beach counties as well as with regional, state- and federally mandated entities administering federal and state economic development funding. Partners' list includes the Office of Community and Economic Development (OCED); the Miami-Dade Empowerment Trust, Inc. implementing the Enterprise Zone Strategic Plan; the Enterprise Community Center (ECC) created after Miami-Dade County's designation as a Federal Enterprise Community and serving as focal point for technical assistance activities; the Enterprise Florida, Inc.

established as a public-private partnership responsible for Florida's statewide economic development efforts; the Greater Miami Convention and Visitors Bureau; the Miami Downtown Development Authority; the Economic Development Council of South Miami-Dade, Inc (EDC); the Vision Council; the Broward Alliance, and the Business Development Board of Palm Beach County.

The Beacon Council also facilitates the application process for financial incentives by qualified companies. In collaboration with the Agency for Workforce Innovation and the South Florida Workforce Investment Board, the Beacon Council plays an important role in implementing performance–based incentives including various tax credits for businesses expanding or relocating within Miami-Dade and employers creating jobs within the Enterprise Zone, the Empowerment Zone or hiring employees from qualified target groups.

With regard to promoting the film industry, in particular, *FilMiami* is the one-stop shop for all film production needs. Its three offices representing the Miami-Dade Office of Film & Entertainment, the City of Miami Mayor's Office of Film and Cultural Affairs and the Miami Beach Office of Film and Event Production Management are full service film commissions providing location and logistics assistance, government liaison, production information and referral sources. The OEDC that is charged with the coordination of economic development in Miami-Dade County is expected to be leading this effort.

Policy Relevance. The policies were evaluated for continued relevance and should be retained. However, given the proposed re-organization of the element, they are likely to appear in modified form.

Objective ECO-8
Establish, within two years, utilizing county, state, and national agencies and capabilities, a Small Business Assistance and Entrepreneurial Program focused on management, financial planning and technology application.

CDMP Monitoring Measure. Determine if the proposed program is established after two years.

Objective Achievement Analysis. Several business assistances programs and entirely new County departments were established during the EAR period, with the objective to offer opportunities and to streamline available resources for economic development and small business support in Miami-Dade.

One of them, the Department of Small Business Development (SBD) works to increase the participation of small businesses on County contracts. The department coordinates and implements various small business programs to provide business opportunities and technical assistance to aid these firms in their growth and contribution to South Florida's economy including:

- Monitors contracts for compliance with approved small business participation measures;
- Administers Mentor Protégé program;
- Administers the Management and Technical Assistance Program;
- Administers The Surety Bond Program;
- Administers the Financial Assistance Programs;
- Managing the contracts for responsible and/or living wages;
- Manages the County's Community Workforce Program (CWP);
- Manages the County's Job Clearinghouse.

Another County department, the Office of Grants Coordination (OGC) was created in 2008 to integrate resources from the Office of Strategic Business Management, Department of Human Services; Office of Community and Economic Development; and Park and Recreation Department, in order to manage and foster revenue maximization efforts in all County agencies and to administer the funding provided to community-based organizations (CBOs).

The OGC is responsible for the administration and monitoring of Community-based Organization (CBO) contracts including the Mom and Pop Business Grants Program; provides training and technical assistance to CBOs; and identifies grant funding opportunities to maximize revenue support to County departments and community

organizations. OGC serves as a one-stop shop to manage CBO allocations and contracts. It also manages federal grants and leverages the County's resources through the effective development of alternative revenue sources by identifying and promoting grant and revenue generating opportunities.

As for the entrepreneurs and their access to capital, the Department of Housing and Community Development (HCD) operates a special program called Micro Enterprise Assistance & Peer Lending. This program is designed to assist entrepreneurs in building a strong credit history by borrowing incremental amounts of loan funds, develop stronger business skills, share business ideas and provide support in peer group setting. The program also provides direct loans up to $5,000 and in some cases $25,000 requiring business profitability and credit soundness.

Although some elements to this objective that calls for the establishment of a consolidated small business and entrepreneurial center are currently incorporated in County programs, the objective as a whole has not been achieved.

Policy Relevance. All policies under Objective 8 were reviewed for continued relevance. The policies remain relevant. Given the planned reorganization of the element they will most likely appear in a revised form.

Objective ECO-9
Miami-Dade County, as a major employer, should promote and publicize the services of the primary workforce development agencies, and local colleges and universities.

CDMP Monitoring Measure. Determine if the steps taken establish the recommended County role at the end of one year.

Objective Achievement Analysis. The South Florida Workforce Investment Board (SFWIB) develops specifications for and manages funding process for South Florida Employment and Training Consortium and Private Industry Council of South Florida; reviews and assesses proposals for funding submitted to SFETC for funding on local concurrence.

It is the regional workforce development board representing Miami-Dade and Monroe counties. Workforce Florida, Inc., and the Agency for Workforce Innovation (AWI) oversee all regional workforce boards in Florida. The SFWIB has local control and the accountability for overseeing workforce programs. Funds flow from federal departments to the State of Florida, and from the state to the regional workforce boards.

Prior to 2006, what is now known as the SFWIB was known as the South Florida Employment and Training Consortium (SFETC) d/b/a the South Florida Workforce (SFW) and like today, oversaw federal and state funded workforce programs. The Consortium, which was made up of five member governments, Miami-Dade and Monroe counties, City of Hialeah, City of Miami, the City of Miami Beach and the Consortium Board which was made up of representatives of the aforementioned governmental entities. The Consortium appointed the members of the SFETC Board of Directors.

Subsequently, in March of 2006, the Miami-Dade Board of County Commissioners adopted Resolution R-315-06 which approved an Interlocal Agreement between the two chief elected officials of Miami-Dade and Monroe counties. The approval of this Interlocal Agreement, created the South Florida Workforce Investment Board (SFWIB) and its current administrative structure. Key elements of the Interlocal Agreement included, but were not limited to: the roles and responsibility of the SFWIB and its Executive Director and provisions for the election of a Chairperson and members of the Board as required by the Workforce investment Act of 1998. Subsequently, the SFWIB established a new committee structure which now includes: the Finance, Intergovernmental Affairs, Economic Development, Executive, Workforce Systems Improvement Committees and the Youth Council.

Functionally, the organization connects human resource managers to qualified workers through a network of One-Stop Career Centers and Youth Opportunity Centers. Centers provide services at no cost to employers and job seekers. Employer services include employee recruiting and screening,

career advancement programs for existing staff, and facilitating business incentives. Centers also provide job search assistance for all career levels, information on training opportunities, and employment assistance for economically disadvantaged adults, youth, dislocated workers, individuals transitioning from welfare to work and refugees.

South Florida Workforce is responsible for initiating state and federally funded workforce development programs in Miami-Dade and Monroe counties. The Agency assists employers and job seekers with employment services, labor market information, and provides training for economically disadvantaged adults, youth, dislocated workers, individuals transitioning from welfare to work, and refugees.

While promoting the advancement of underutilized workers, the South Florida Workforce stimulates the labor market by implementing policies such as business incentives, and provides valuable resources to South Florida's diverse community.

All South Florida Workforce services and resources are available to everyone at no cost through a network of Career Centers located throughout the Region.

Policy Relevance. All policies under Objective 9 were reviewed for continued relevance. Since Miami-Dade County through an interlocal agreement with Monroe County created the South Florida Workforce Investment Board in 2006, Policy ECO-9A is no longer relevant. Additional policies related to workforce development should, however, be included in the reorganized Economic Element. The monitoring measure needs to be revised as it has been achieved.

Objective ECO-10
The County will formulate an economic development industrial strategy and corresponding flexible plan with associated policies, which is subject to appropriate monitoring and revision.

CDMP Monitoring Measure. At the end of one year, determine if the industrial strategy and plan are in place.

Objective Achievement Analysis. Although an explicit industrial strategy and plan has not been developed to date, all existing County plans reflect the best understanding of new priority industries. Although, it needs further elaboration, the Department of Planning and Zoning prepared a study of vacant industrial lands. Some aspects of this study have been reflected in plans for the Beacon Council, Enterprise Zone, and those reports published by the Department of Planning & Zoning that describe the local advantages of specific industries. The objective has not been achieved as an industrial strategy has not been developed.

Policy Relevance. All policies under Objective 9 were reviewed for continued relevance. As a new industrial strategy and plan have not been developed to date, the policy for this objective remains relevant. Given the planned reformulation of the entire element, this may appear in a revised form.

GOAL IV
INSTITUTE A BUSINESS SUPPORT FUNCTION TO FACILITATE RELATIONS BETWEEN THE LOCAL BUSINESS COMMUNITY AND WITH MIAMI-DADE COUNTY WITH RESPECT TO BUSINESS DEVELOPMENT, PERMITTING, REGULATION, AND BUSINESS PROBLEM RESOLUTION ACTIVITIES.

Objective ECO-11
Establish, within one year, a business assistance function within the County administration.

CDMP Monitoring Measure. Ascertain if the called-for guidelines were prepared and if relevant policy changes were made at the end of two years.

Objective Achievement Analysis. As of 2009, a business assistance entity within the County administration charged with the myriad tasks has not been established. However, the business development assistance function is to a great extent delivered by several County departments specifically created for that purpose. They include the Department of Small Business Development (SBD), the Office of Grants Coordination (OGC), and the Department of Housing and Community Development (HCD). Their business assistance

functions and programs synchronize resources available in all County agencies as already described in more detail in the other of this element.

With regard to permitting procedures, improvement of the burden on businesses seeking a permit was made in different functions of County administration. The improvement was achieved mainly through introducing online services and making available all required documentation, applicable guidelines and information. One example is building permitting, often listed as an area in need of improvement. By 2007, processing time for building permits and inspections for residential permits or rehabilitation of housing units had been reduced by half. This was a result of online services offered collaboratively by various county departments (building, environment resources, fire, zoning, water and sewer, public works and property appraisal). The objective has not been achieved as guidelines have not been established.

Policy Relevance. All policies under Objective 11 were reviewed for continued relevance. The policies have, to a considerable degree, been achieved but not under a single entity. Nonetheless, the policies to some degree have been achieved. They remain relevant though given the planned reformulation of the entire element; they most likely will appear in a significantly revised form.

Objective ECO-12
All business licensing, permitting and other business regulations pertaining to Miami-Dade County should be fairly enforced according to a set of guidelines and policies to be developed within two years in a manner selected by the County Manager.

CDMP Monitoring Measure. Ascertain if the called-for guidelines were prepared and if relevant policy changes were made at the end of two years.

Objective Achievement Analysis. Under the direction of the County Manager's Office the County has continued to streamline its permitting procedures. These implementation actions have specifically involved the Building Department, Department of Planning and Zoning and the Tax Collector's Office. The actual set of guidelines however has not yet been developed.

Policy Relevance. All policies under Objective 12 were reviewed for continued relevance. Both policies remain relevant and should be retained although in a revised form due to the overall reorganization of the element.

GOAL V
MAINTAIN AND EXPAND MIAMI-DADE COUNTY AIRPORTS AND SEAPORTS TO SEEK EXCELLENCE IN COMPETITIVENESS IN CAPACITY UTILIZATION, SECURITY, CUSTOMER SERVICE AND ENVIRONMENTAL SENSITIVITY AMONG CARGO AND PASSENGER FACILITIES WORLDWIDE.

Objective ECO-13
Develop and operate Miami-Dade County's aviation facilities in a manner that enhances competitiveness while maintaining their position as one of the leading economic generators in South Florida, with continuous improvement in safety, security, customer service and environmental responsibility.

CDMP Monitoring Measure. Evaluate changes in the operations-capacity ratios of the major aviation facilities in Miami-Dade County for the years 2005 and 2015.

Objective Achievement Analysis. According to the Miami-Dade Airport Aviation Department (MDAD) the operations-capacity ratios of the major aviation facilities is not a feasible or appropriate measure to use. These ratios are prepared as per Federal Aeronautics Agency guidelines. These ratios are highly complex and there are multiple ratios calculated for each airport. They are prepared as per Federal Aviation Administration guidelines. Therefore an evaluation of the progress towards the fulfillment of the policies is provided. MDAD's business plan includes international and domestic passengers, cargo, maintenance, facility, concessions and retail, parking and route development. MDAD's capital facility development is discussed in ECO-13B.

As for passenger development, Miami International Airport's (MIA) steady passenger traffic in 2009 made it the busiest airport in Florida and the

second-leading airport in the U.S. for international passengers despite a full-year of economic recession worldwide. MIA was one of the few U.S. airports to maintain stable passenger traffic levels last year, serving 33.9 million passengers in 2009 - down only half a percentage point from 2008. The airport also only lost one percent of its international passengers from the previous year, serving nearly 16 million passengers from abroad. MIA's strength as the leading gateway to Latin America and the Caribbean continued to attract new and expanded air service in 2009 and more is expected in 2010.

As for cargo development, MIA ranked 3rd in total Cargo (freight and mail) in 2008 among U.S. airports and 11th among worldwide airports. In 2008, MIA was ranked 1st for international freight among U.S. airports and 10th in international freight among worldwide airports. MIA's cargo facility development program that began in 1992 has been completed, providing the Airport with over 2.7 million square feet in 17 new cargo buildings. Apron space has grown to over 3.8 million square feet, with 41 common-use cargo positions and 23 leased cargo positions.

As for concession development, it is MDAD's goal to assure a convenient, accessible, attractive and useful retail concession program at MIA. The MDAD is in the process of completing its expansion and renovation at the MIA terminal. Retail concessions are among the most important features in providing a pleasant, efficient and useful experience for travelers at MIA. The MDAD has been tasked with conducting, continuously reviewing and updating studies to assure a retail concession program that focuses on accessibility, convenience, attractiveness and utility for the traveling public.

As for route development, MDAD is seeking expansion and diversification of its air route network both abroad and in the United States for passenger and air cargo service. International route development is presently focused on new and expanded air service to destinations in Europe, Asia, Africa and the Middle East/Gulf Region. Several destinations in each world region are targeted as premium points in MIA's expansion efforts and will receive additional benefits as part of the MIA air service incentive program. Domestic route development is focused on expansion of frequencies in MIA's top city pairs, new route considerations to secondary markets, and diversification of the domestic product for greater traveler choices, including recruitment of low cost carrier service. Air service incentives are now available in a new and expanded program being offered by MIA.

Aviation Capital Improvement Program. The value of the current CIP for Miami-Dade County will become increasingly more visible and evident as the outstanding projects are completed and passenger traffic continues to grow. Upon completion of the current CIP, MIA will have new terminal processing facilities as a result of the North and South Terminal Programs. The fourth runway has preserved the long-term capacity of the airfield, and new cargo buildings have resulted in the added capacity and operational efficiency needed to position MIA as one of the primary air cargo transport centers in the country. Similarly, a rehabilitated airfield pavement program and new fixed based operator facilities have positioned Kendall-Tamiami Executive Airport as a primary center for corporate aviation. Opa-locka Executive Airport will soon experience a modernization and transformation as a result of third-party and tenant development.

As the CIP approaches completion, the need to identify subsequent actions to enhance the County's airport assets while replacing aging infrastructure and facilities will be more critical. In order to preserve and enhance the future of MDAD's System of Airports, the Board of County Commissioners accepted and executed a Joint Participation Agreement with the Florida Department of Transportation for a grant that will help fund the Airports Strategic Master Plan (SMP) for County. The SMP will serve to establish a long-range plan for MIA and the County's general aviation system of airports, providing a structure and roadmap to guide long-term development and respond to air transportation needs in the region given a dynamic and uncertain industry and economic environment.

Since there are various potential sources of, and patterns for future activity growth at each of the

County's airports, there is a need to develop various development strategies that will represent conceptual airport facility and infrastructure expansion of enhancement alternatives that serve the unique characteristics of future activity growth on each individual airport. The development strategies will correlate to specifically defined development actions with explicit demand triggers of qualitative demand characteristics in order to establish a demand-driven implementation program to help guide the future growth of each County-owned airport.

Safety and Security Guidelines. MDAD continues to meet and exceed all Federal safety and security requirements. For the past 13 consecutive years, MDAD has achieved a zero (0) discrepancy rating on its Title 14, Code of Federal Regulation (CFR), Part 139 Annual Airport Operating Certification. Each year the Federal Aviation Administration (FAA) certifies the Airport to continue operations following an inspection of the Airport's manuals, files and safety records, all aspects of the aircraft movement area, including condition of the pavement, markings, lighting, safety systems, ground vehicle operations, the presences of wildlife, etc. Fueling operations and facilities are inspected as well as Aircraft Rescue and Fire Fighting (ARFF) capabilities. This includes ARFF response drills, review of training records and inspection of equipment. In addition, MDAD personnel consistently monitor and comply with the federally mandated U.S. DOT Competition Plan and all conflict resolution requirements. MDAD has also gone above and beyond federal requirements to enhance safety and efficiency on the Air Operations Area (AOA) of the Airport. These initiatives include the implementation of a safety violation program, the design, testing and implementation of a computer-based ARFF training tracking system and lastly, the implementation of a positive apron control program, which gives MDAD control of aircraft in the non-movement areas of the AOA and has resulted in not only increased safety but significant cost savings for air carriers operating at the Airport. As a testament to MDAD's achievements in safety, the FAA awarded Miami International Airport (MIA) the Airport Safety Mark of Distinction Award in 2009 for its advancement of airport safety and the safety of the traveling public. This award along with the Airport's 2009 License is attached hereto.

As for security of the Airport, MDAD is in complete compliance with all aspects Title 49, CFR, Part 1542 governing Airport Security and its Airport Security Plan (ASP). MDAD's ASP is regularly reviewed and approved by the Transportation Security Administration (TSA). In a proactive effort to further protect airport assets, its patrons and the flow of commerce, MDAD has implemented additional security measures beyond that are required by Federal law. Many of the following initiatives are unique to MIA and are designed to mitigate the threat of a terrorist attack and/or criminal activity:

Behavior Pattern Recognition™ (BPR) – MDAD has implemented a program to train all airport employees in BPR, a security technique that detects suspicious individuals based on behavior. To date, over 31,000 airport employees have been trained in BPR. This program has yielded great returns in the safety and security of our airport. Not only is crime at its lowest level in recent history, but since the program started in January 2007, over 6,500 calls regarding suspicious behavior have been received resulting in over 350 arrests, 40 referrals to Immigration and Customs Enforcement and 24 referrals to the Federal Bureau of Investigations.

Incident Containment Team (ICT) - ICT consists of highly-trained police officers specializing in rapid deployment and tactical responses. Members of the ICT are armed with assault rifles and patrol the terminal on a 24-hour basis. They use their advance BPR training to identify potential terrorists and common criminals.

Employee Screening – All employees at MIA are screened when entering and exiting the secured area through the public side of the terminal in the same manner as passengers, utilizing magnetometers and x-ray screening equipment. Random inspections of employees and vehicles are also performed at the AOA vehicle access gates.

SmartTech – MDAD contracts a service at its employee screening checkpoints that provides for the immediate transmission of suspect images from

the checkpoint x-ray to a command center in New York that is staffed with experience bomb technicians who analyze the image and communicate their finding to the screener. This service enhances the safety and security at MIA and eliminates disruptions to airport operations resulting from unnecessary evacuations. In addition, this service provides recurring on-line training for screeners and alerts to keep screeners up-to-date on emerging threats, trends in terrorism and explosive screening and detection techniques.

Random Background Checks – In addition to the required criminal history records checks for all new and renewing ID badge applicants, MDAD through the Miami-Dade Police Department (MDPD) continuously conducts random background checks on MIA employees.

Personal Identification Numbers (PINs) – As an added layer of security to our access control system, MDAD has issued personal identification numbers to all employees to be used along with their access media when entering the secured areas.

Security Consortium Meetings – MDAD, along with its federal partners and local law enforcement, chair monthly security meetings to keep all airport tenants up to date on current threats, mitigating responses and any other security related issues. Quarterly security meetings are also held for our cargo business partners.

AOA Access Gate Barriers - Recently MDAD installed K-12 rated vehicle arresting barriers at MIA's AOA access gates to prevent vehicle intrusions to the secured areas of the airport.

Media – MDAD has taken a unique approach to enhancing security awareness by including the media as part of its security program. The mission is to promote security initiatives that will encourage public confidence and that will increase the perception of risk to the criminal community while ensuring the integrity of security sensitive information.

Customer Service Program. MDAD continues to seek opportunities that enhance customer service. In Unison-Maximus Consulting's customer satisfaction survey, released in August 2009, MIA's scores went up. Scores for Departing passengers went up 2% (from 3.50 to 3.57); for International Arrivals they went up 7% (from 3.89 to 4.16); and for meeters/greeters they went up 6% (from 3.47 to 3.68). In addition, for the second year in a row MIA won first place out of 63 airports for our customer service initiative in the ACI-NA Marketing & Communications competition. In the 2008 J.D. Powers and Associates Customer Satisfaction Survey, MIA was ranked sixth.

Sensitivity to Communities and the Environment. MDAD has taken a proactive approach towards environmental stewardship. MDAD is engaged in incorporating "green" design/construction into its airport system having LEED-certified buildings as well as International Standards Organization (ISO) 14001 Certification. In addition, the Noise Abatement and Environmental Planning Division is working with the Federal Aviation Administration (FAA), Noise Abatement Task Force (NATF), airport users, and civic organizations and surrounding municipalities to develop strategies for the reduction of noise impacts associated with aircraft operations at Miami International Airport (MIA), and all General Aviation Airports operated by MDAD. The most recent accomplishment happened in mid-2006 when the FAA issued MDAD a Finding of No Significant Impact (FONSI) and a Record of Decision (ROD) for Phase I of the Operational Noise Mitigation Procedures Environmental Assessment for MIA. The FAA started implementation of these new operational noise mitigation procedures on March 15, 2007. A noise wall was constructed along NW 36th Street designed to reduce noise levels associated with aircraft ramp/ground activity. Since its construction, aircraft noise levels have been reduced at least 10 decibels within 500 feet of the barrier. Benefits beyond 500 feet also are being experienced. 23 permanent noise monitors have been installed and are currently operational in the communities surrounding MIA. MIA encourages public input and participation to ensure that both existing and proposed developments/procedures are acceptable to both aviation interests and neighborhood communities. Lastly, air quality-airplane emissions for MDAD Airport System have

improved as a result of aircraft design refinement. New airplanes are quieter, cleaner and more fuel efficient resulting in a considerable reduction in carbon emissions.

The operations capacity ratios referred to in the monitoring measure and reported to the FAA are highly complex and are ill suited as a measure to assess the achievement of the objective. Instead a monitoring measure that reflects the policies would be a better barometer to evaluate the achievement of the objective.

Policy Relevance. All policies under Objective 13 were reviewed for continued relevance. Both policies remain relevant and should be retained although in a revised form due to the overall reorganization of the element. The monitoring measure should be changed to reflect a more adequate indicator.

Objective ECO-14
Seek to maintain and expand the Port of Miami-Dade's status as the world's leading cruise homeport and Florida's largest container port.

CDMP Monitoring Measure. Determine if the Port of Miami still retains the premier rankings as a cruise port and container port at the end of five years.

Objective Achievement Analysis. The ECO-14 objective as well as the international competitiveness of Port of Miami levels aimed in GOAL V have been consistently achieved.

Cruises - Comparing the number of departures, a common measure of cruise ports' competitiveness, between 2003 and 2008 the Port of Miami continuously reaffirmed its position as number one departure port in the North American cruise traffic, both by number of passengers and number of cruises.

The cruise passenger statistics maintained by the Maritime Administration, U.S. Department of Transportation cover seventeen major cruise lines that offer North American cruises with a U.S. port of call. Miami ranked first among 95 cruise ports worldwide with an impressive share in the total number of departing passengers increasing from 18%, in 2005 to 21%, in 2008. The number of cruises departing from Miami also increased from 656, in 2005 to 755 in 2008.

Table 2.11-2
North American Cruise Traffic:
Departures for Port of Miami

	2005	2006	2007	2008
Number of Departing Passengers (in thousands)	1,771.3	1,890.1	1,889.8	2,099.1
Share in Total Passengers	18.2%	19.0%	18.4%	21.2%
Numbers of Departing Cruises	656	705	679	755
Share in Total North American Cruises	14.7%	15.9%	15.2%	17.9%

Source: Maritime Administration. U.S. Department of Transportation.

Port of Miami's share in the total number of North American cruises also grew from 15% to 18% from 2005 to 2008. According to the U.S. Maritime Administration, between 2004 and 2009, a total of 10,833,145 cruise passengers departed from Port of Miami. Miami's legacy as a world cruise capital continues. The top five departure ports, lead by Port of Miami, accounted for 55% of the North American cruise passenger departures during the second quarter of 2009.

Container Trade – According to the most recent data from PIERS Global Intelligence Solutions, the premier source of data collection for the most comprehensive database of cargoes moving through ports in the U.S., Latin America and Asia, Miami became again the number one containerized cargo port in Florida and No. 12 in the nation. It should be noted that this data differs from that reported in the Port of Miami Subelement in terms of total TEU's by year due to different accounting methods, but the PIERS ranking is still valid and accepted for comparative ranking purposes.

Looking retrospectively, the statistics including both government and non-government shipments during the 2003-2009 period indicate that Port of Miami retained its position among the leading U.S. ports. Between 2003 and 2006 the Port of Miami was at

eleventh place by number of TEUs[1], a standard measure used in container trade, slightly stepping down to twelfth place in 2007. In terms of total (import and export) metric tons, however, Port of Miami remained the twelfth U.S. container port. Handling a total of 6,253,016 metric tons in 2003, Miami had a total of 5,145,905 metric tons in 2008, a decrease in tonnage of container trade by 17.7%.

During the period considered in the EAR, Port of Miami successfully competed at the international scale. From 2003 to 2008, Miami moved from twelfth to seventeenth North American contained port. After an annual increase by 5% from 2003 to 2004, Miami's total TEUs decreased by 7% in 2006 and 5% in 2008. Tonnage declined, as a result of decreased input demand in national housing and construction industries. Despite the recent slowdown, Port of Miami continued to maintain its leading position among the 50 largest North American container ports.

For shippers and cruise lines alike, Port of Miami is the strategic gateway to the Americas and the world. Yet the Port is feeling the strain from bustling trade and cruise traffic on its limited space on a landfill isle near downtown Miami.

Inland connections and transit time are the features most often cited as disadvantages by container trade operators. Congestion and cost are factors contributing to the decision of many operators to choose other ports, according to a survey of container services conducted by the Maritime Administration of the U.S. Department of Transportation.

Between 2004 and 2009, the Port's annual capacity use averaged 111% of the normal capacity and 90% of the maximum passenger capacity. At the same time, Port's annual financial reports show that revenue per ton increased only marginally from $3.33 in 2003 to $3.63 in 2008. Revenue per passenger increased more notably during this period – from $7.95 to $9.54.

The goals and objectives set forth in the 2008-2012 strategic development program for Port of Miami provide for increasing in overall competitiveness through operational improvements. Ongoing projects, some of which in completion stage include expanding existing facilities, constructing new terminals, providing cargo-handling and railroad facilities to ensure efficiency of intermodal container operations. With these numerous projects, some in a stage of completion, Port of Miami is preparing to accommodate the increased cargo traffic and larger ships expected with the completion of Panama Canal expansion in 2015, a major challenge for all U.S. ports.

Policy Relevance. All policies under Objective 14 were reviewed for continued relevance. The policies remain relevant and should be retained although in a revised form due to the overall reorganization of the element.

[1] A TEU is a nominal unit of measure equivalent to a 20' x 8' x 8' shipping container.

Table 2-11-3
U.S. Waterborne Foreign Container Trade by U.S. Custom Ports (TEUs)

U.S. Custom Ports	2003	2004	2005	2006	2007	2008
Los Angeles, CA	4,663,899	4,874,730	4,914,811	5,690,093	5,700,231	5,611,162
Long Beach, CA	3,090,712	3,764,257	4,412,302	4,770,067	4,961,416	4,553,169
New York, NY	2,803,036	3,163,197	3,416,622	3,651,245	3,893,491	3,955,689
Savannah, GA	1,124,409	1,290,178	1,490,663	1,587,813	2,017,255	2,106,437
Norfolk, VA	1,093,207	1,206,034	1,324,507	1,413,926	1,568,112	1,584,632
Oakland, CA	1,064,278	1,197,331	1,378,403	1,397,800	1,422,585	1,387,942
Houston, TX	932,883	1,097,769	1,250,213	1,276,269	1,393,554	1,362,646
Charleston, SC	1,249,770	1,421,251	1,521,601	1,507,472	1,400,806	1,325,628
Tacoma, WA	931,289	940,638	1,160,047	1,091,011	1,132,961	1,117,819
Seattle, WA	814,742	1,049,105	1,342,368	1,215,375	1,276,508	1,079,545
Port Everglades, FL	422,811	500,093	586,818	635,495	685,943	680,841
Miami, FL	763,930	794,650	778,437	745,532	672,754	669,493

Source: Port Import Export Reporting Service (PIERS). U.S. Department of Transportation.

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