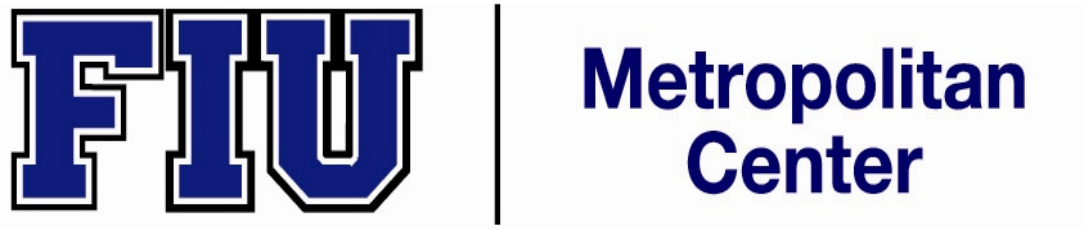
FIU | FLORIDA INTERNATIONAL UNIVERSITY

2010 EVALUATION AND APPRAISAL REPORT

Evaluation and Appraisal of the 2005-2015 Campus Master Plan

August 3, 2012 – Second Draft

Prepared by:



150 SE 2nd Avenue, Suite 500

Miami, FL 33131

305.349.1251

Metropolitan.fiu.edu

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TABLE OF CONTENTS

INTRODUCTION

Profile of Florida International University

Florida International University (FIU) is an urban, multi-campus research University serving South Florida, the state, the nation and the international community. FIU is the largest public University in South Florida and is home to over 44,000 students, 4,883 faculty and staff, and over 134,000 alumni.

The University has two primary campus locations strategically located to serve the South Florida community. The main campus, Modesto A. Maidique (MMC), occupies 342.2 acres ten miles west of downtown Miami. The campus has thirty-three major buildings, apartments for 2,200 students, and an athletic arena. The Engineering Center is 36 acres with two major buildings and the Wall of Wind Facility. Located approximately 30 miles away in Northeast Dade County, the Biscayne Bay Campus (BBC) occupies 195 acres. BBC has 15 buildings, an Olympic-size aquatic center and housing accommodations for about 550 students. FIU also collaborates to provide a select number of University programs and services at the Downtown Brickell Campus in the City of Miami and the Pines Center Campus in Broward County. For the purpose of this report, the evaluation and appraisal of the FIU Master Plan focuses on those properties that are owned by FIU.

TABLE 1: FIU MAIN CAMPUSES, SITES AND ACADEMIC CENTERS

FIU SITE	LOCATION	ACREAGE
MAIN CAMPUSES		
Modesto A. Maidique Campus (MMC)	Western Miami-Dade County	342.2
Engineering Center (EC)	North of the City of Sweetwater	36.0
Biscayne Bay Campus (BBC)	Northeast Miami-Dade County	195.0
SITES AND ACADEMIC CENTERS		
Broward Pines Center*	Pembroke Pines	0.6
Downtown in Brickell	Downtown Miami	0.2
Other Facilities**	Various locations	1.0
Wolfsonian Museum	Miami Beach	0.4
Wolfsonian Annex	Miami Beach	0.3

***The Broward Pines Center is partially leased to FIU**
****Includes the FIU/FMC and MB Women's Club**

Description and Purpose of the EAR

In March 2011, the Facilities Planning Department of Florida International University (FIU) retained the consulting services of the FIU Metropolitan Center (MC) to assist the professional staff of the University with the preparation of the 2010 Evaluation and Appraisal Report (EAR), as per the requirements of Chapter 1013.30, Florida Statutes.

Under Florida Law (s.1013.30 (3), Florida Statutes), campus master plans must be updated at least every five years. While designed to provide certainty and predictability with respect to the physical form of development on campus and its relationship to the surrounding context area, changing conditions and trends require campus master plans to be updated to ensure that the content of the plan is up to date with current conditions and requirements.

The Evaluation and Appraisal Report is a preliminary procedure performed in conjunction with the update of a Campus Master Plan. The EAR measures the success of the goals and objectives developed through the implementation of FIU's Campus Master Plan. Additionally, the EAR notes any challenges occurred during the implementation process, provides recommendations to correct those challenges, and serves as a compliance measure ensuring the University is adhering to necessary changes. All Campus Master Plans must be approved by the FIU Board of Trustees and are implemented for a period of 10 years. The current Campus Master Plan is implemented through Year 2015 and the proposed update will cover the period of 2010-2020.

The main objectives of the EAR include:

- Identifying accomplishments made during the implementation phases of the Campus Master Plan; and measuring how goals, objectives, and policies were achieved;
- Identifying challenges in the goals, objectives, or policies of the current Master Plan;
- Identifying need based modifications to the goals, objectives, or policies of the current Master Plan; and serving as a framework to maximize resources and recognize opportunities as they arise since adoption of the Campus Master Plan;
- Ensuring engagement between campus communities, local government and host communities in the campus master planning process;
- Addressing any changes made by State and Local Comprehensive Plans that have a direct effect upon the Campus Master Plan; and
- Upon review and approval by the University's Board of Trustees, the EAR will serve as a benchmark update to the current Campus Master Plan; preliminary recommendations, updated goals, objectives and policies to be accomplished during the remainder of the implementation period are included in the EAR.

PUBLIC AND LOCAL GOVERNMENT PARTICIPATION PROCESS

Description

It is the intent of Section1013.30 (3), Florida Statutes, to encourage public participation in the development and adoption of campus master plans and in the periodic updates of these plans. In order to assure public and local government participation in the EAR process, the University engaged in the following activities:

- 2012 FIU Survey: On February 8, 2012, a digital survey was sent to the University Community on behalf of the President. In this survey, students, faculty, staff, and administrators were given the opportunity to engage in the discussion of issues affecting the physical growth and development of the University. These topics included housing, parking, green space, and other campus related issues. A total of 2,229 responses were compiled and categorized by elements.
- Community Workshops: Community Workshops were held on December 8, 2012 at the Modesto A. Maidique (MMC) Campus and on January 13, 2012 at the Biscayne Bay (BBC) Campus to discuss the Campus Master Plan. The workshops enabled 50 participants from the University community, local government agencies, and the general public to provide feedback regarding the issues and opportunities to be included in the EAR. Participants were given the opportunity to provide comments for each FIU site.
- Interdepartmental Meetings: The Facilities Management project team attended several meetings with departments within the FIU and the host communities regarding Development Agreements and other areas of concern. Feedback from these meetings were compiled and included in the recommendations of the EAR.

The FIU Board of Trustees will review the findings and recommendations of the 2010 EAR.

Major Issues Affecting FIU

The following is a list of the major issues facing FIU based on the feedback from the public participation process. These issues guided the 2012 evaluation and appraisal of the Campus Master Plan:

- General overcrowding at the Modesto A. Maidique (MMC) Campus
- Accountability measures for special exceptions made from the Campus Master Plan
- Lack of availability and accessibility to parking facilities and transportation options
- Traffic congestion and roadway capacity
- Demand for student housing
- Preservation of recreation and open space
- Land use constraints
- Future of Biscayne Bay Campus and Engineering Center
- Campus identity: architecture and landscaping

- Improved relations with host communities

Participants in the FIU Survey Report and community meetings indicated a need for improvement in the above critical areas. Participants expressed a strong interest in acquiring a more efficient accountability system to ensure the Campus Master Plan aligns with the Strategic Plan. Participants recommended better transportation alternatives such as working with Miami-Dade Transit and the cities of Sweetwater and North Miami Beach to reassess public transportation options at the MMC transit hub and expanding express shuttle services.

Participants expressed a great need for better on-campus and off-campus housing. Participants indicated the University does not provide adequate housing options for students and faculty. The greatest need cited for off-campus housing is for graduate and out-of-state students.

Additionally, participants expressed a need for more investment at the Biscayne Bay (BBC) campus. Participants feel this campus is under-utilized and in need of improved housing options for students. The expansion of the roadway at BBC would improve mobility for students, faculty, and support staff. In addition to infrastructure improvements, participants expressed a desire to have a water dock installed at BBC. The water dock could improve access to campus via water taxi, provide recreational boating and fishing opportunities and enhance academic programs such as marine science

EXECUTIVE SUMMARY

The Campus Master Plan 2005-2015 for Florida International University (FIU) outlines the goals, objectives and policies necessary to help achieve national recognition for undergraduate and graduate education in South Florida.

The University experienced tremendous growth of the student population during the 2005-10 timeframe with enrollment exceeding University projections. Currently, the Campus Master Plan calls for building capacity for an enrollment of 62,000 students by the fall semester of 2015 in response to the University's Strategic Plan.

Student enrollment is the single most important measure used to develop facility requirements for a University. Enrollment is measured using full-time-equivalent (FTE) enrollment. Each FTE is equivalent to 40 credit hours per academic year for undergraduates and 32 credit hours for graduates.

Increasing enrollment creates demand for additional academic and support facilities, on and off-campus housing, infrastructure, and utility services. Compatibility of land use, spatial configuration and design of future development, and the implementation of buildings and open spaces must be planned to ensure the conservation and protection of natural resources and the efficient movement of pedestrians from one part of campus to another. Meeting these demands will have an impact on Miami-Dade County's and the neighboring City of Sweetwater's ability to provide local services. To this end, the latest technologies will be sought to provide accurate and timely information to decision-makers regarding goal attainment, as well as changes in internal and external strengths and weaknesses.

The construction of new academic buildings and new student housing facilities has increased the demand for on-campus general infrastructure and utility services. The primary source of funding available to the University is Public Education Capital Outlay (PECO). PECO funds are provided pursuant to Section 9(a) (2), Article XII of the State Constitution, as amended. These funds are appropriated to the State University System pursuant to Section 235.435(4), Florida Statutes, which provides that a list of projects be submitted by the Board of Trustees to the Board of Governors for inclusion within the Board of Governors' Fixed Capital Outlay Legislative Budget Request.

Private funding sources for projects completed during the 2005-2010 planning phase were made available through match-grant programs such as the Alec P. Courtelis University Facility Enhancement Challenge Grant Program. Effective July 1, 2009, the Alec P. Courtelis University Facility Enhancement Challenge program was terminated. The University will continue to research alternative funding options in efforts to continue its aggressive capital improvements campaign.

Campus space at FIU would have to approximately double over the planning timeframe in order to adequately serve the needs of projected student enrollment. As there is less opportunity to increase campus space in the

planning timeframe given PECO shut down, the University should reassess what goals are achievable and what options for accommodating projected future enrollment are feasible. Options such as expanding online classes, increasing night and weekend classes, and maximizing space utilization should be considered. Additionally, the University should analyze and redesign its systems and processes to foster efficient use of resources and new technologies and to promote timeliness, reliability, dependability, courtesy, and convenience.

The 2005-2015 Capital Improvements Plan in the Campus Master Plan called for numerous new projects during the implementation period. The Facilities Planning web site, facilities.fiu.edu, provides a 5 year construction project master list updated quarterly with the current status of these projects.

The following is a summary of the major recommendations for amending the Campus Master Plan.

General Recommendations

- Designate a steering/host committee to ensure compliance from the administration to the goals, objectives, and policies of the Campus Master Plan
- Reorganize the Campus Master Plan to ensure a cohesive theme compatible with FIU's Strategic Plan and enhance readability
- Conduct an annual review of the master plan in conjunction with the review of the Five-Year Capital Improvement Plan (CIP), annual budget, and Facilities Master Project List
- Identify a system to insure Campus Master Plan data and information is updated as needed when development does not strictly adhere to what has been planned, including reasons for varying from the plan.
- Compare best practices from national and international University campuses so that the FIU Campus Master Plan and campus development can help ensure competitive recruitment and improve retention

Academic Mission/ Academic Programs

- Maintain methodology for FTEs, headcount projections, and impact services that factors the University's market share goals
- Develop a strategic plan for Biscayne Bay Campus, Engineering Center, and other satellite facilities which Support increasing enrollment.
- Provide an updated list of planned or proposed academic programs for the ensuing Campus Master Plan
- Identify required funding For physical improvements in a manner that best fulfills the academic mission and meets academic programs and other needs

Urban Design

- Define a better green space framework on both campuses (MMC and BBC)
- Establish greater connectivity and integration with the host communities

- Incorporate new pedestrian walkways and bicycle lanes along roads; enhance and improve the existing pedestrian walkways and bike lanes to facilitate more direct and efficient movement through campus
- Incorporate the waterways surrounding BBC into the campus design; including proposals for designated dock space at BBC
- Consider building "upward" rather than "outward" when constructing academic buildings in such a manner that preserves the overall design of the campuses

Land Use

- Integrate more "mixed-use" planning into the Campus Master Plan. Housing; recreation, dining, and educational space should all be integrated where possible
- Consider acquisition additional lands near or adjacent to MMC for future development
- Consider spatial land impacts of future locations for the Pavilion and Events Center at President's Park; locations for Classroom/Office/Generic Research space, and possible future development of the Fair Grounds
- Modify land use designations and land use maps to align with current strategies

Academic Research and Support Facilities

- Develop planning strategies that incorporate current and projected student enrollment; that address lack of adequate study, office and academic space for faculty and students; Consider how to relieve overcrowding of facilities during peak hours
- Identify strategies to Increase efficiency of facility and support services to ensure maximum utilization; transportation and other support programs are underutilized by University community due to lack of advertisement
- Refer to user surveys and specific purpose studies conducted by FIU Business Services and Student Services for further insight into future support facility needs.

Housing

- Ensure availability of housing on or near campus
- Conduct a facilities condition assessment and plan to provide any necessary improvements to existing facilities
- Focus on "mixed-use" housing that incorporates parking and dining/retail options at MMC and BBC
- Separate housing for graduate, nursing, and medical students; these students have a different focus than undergraduates
- Facilitate partnerships with providers of off-campus housing with an emphasis on identifying facilities suitable for faculty, full-time students, married students and out-of-state students; assist the University community in locating and leasing suitable housing
- Reconfigure or redevelop University Park Apartments to better meet the needs of the University especially in the Academic Health Sciences vicinity

- Reconfigure or redevelop Bay Vista Housing at BBC to correct deficiencies and better meet the needs of the University
- Refer to user surveys and specific purpose studies conducted by the FIU Housing Department for further insight into future residential facility needs.

Recreation and Open Space

- Better define open space for use as multi-purpose, passive recreation, active recreation, and events
- Pursue agreements and memoranda of understanding as needed to provide for the joint use of identified sites, facilities, and programs
- Develop Strategies to design, renovate, or expand recreation spaces at Modesto A. Maidique (MMC), Engineering Center (EC), and Biscayne Bay (BBC) to meet the current and projected student enrollment needs
- Address intramural facilities to correct existing deficiencies and to meet the future needs of the University
- Address existing deficiencies at the BBC Recreation Center

Infrastructure

- Address old infrastructure to correct existing deficiencies and to meet the future needs of the University
- Make sustainable building techniques and enforcement of smoke free areas a best practice in the Campus Master Plan
- Facilitate LEED Certification for new construction and for renovation, operation and maintenance; to help ensure competitive recruitment and retention
- Develop best Practice plans and procedures for stormwater control and treatment to prevent pollution of groundwater, untreated runoff into surrounding waterways and to prevent flooding of low-lying areas and adjacent properties.

Utilities/Facilities Maintenance

- Consider the use of photovoltaic installations on flat rooftops to reduce utility cost
- Ensure that future chilled water, electrical power, and telecommunications facilities are developed to serve the needs of planned capital improvements projects and correct existing deficiencies
- Require a review of energy utilization in order to eliminate costs associated with increasing capacity of infrastructure; reduce loads where possible to reduce demand on utilities
- Modify and maintain building standards to comply with FPL-recommendations and participate in FP&L's energy saving incentive programs.
- Address the quality of Wi-Fi on all campuses; correct connectivity processes that are too cumbersome or are outdated

Transportation

- Consider the potential for expansion of Miami-Dade County's MetroRail system when planning for parking at MMC
- Continue to work with Miami-Dade County and host city "Circulators" to provide reliable and efficient transportation to FIU's campuses
- Consider incentives and disincentives to increase a mode shift to public transit and carpool travel to and from campus
- Review the current shuttle system between MMC, BBC, and EC to expand service, correct deficiencies and to meet the future needs of the University; consider how faculty staff and students might choose to park at the university location closest to where they live and take a shuttle to their actual campus destination
- Consider Transportation Demand Strategies to include staggering class schedules to increase parking availability on campuses
- Plan for traffic signal lights at MMC to help ease traffic congestion
- Study modification of access roads leading to the Blue and Gold parking garages as a way to free up adjacent land in the southeastern quadrant of MMC
- Address golf cart usage at MMC; golf carts impact pedestrian walkability and create liability in case of injury
- Continue to explore strategies for meeting the parking needs at MMC, including van pool shuttles within the vicinity of MMC and continued exploration of off-campus parking in the City of Sweetwater
- Implement alterations to the traffic circle on SW 16th Street designed by Facilities Planning to simplify and channel traffic flow more efficiently.

Intergovernmental Coordination

- Increase engagement with stakeholders and communities surrounding all campuses
- Review comprehensive plans from Miami-Dade, Sweetwater, and North Miami to ensure changes and amendments to their plans do not adversely impact University facilities and resources or reduce future development potential of the University.
- Verify maintenance, modification and evaluation of procedures to be followed in updating the adopted Campus Master Plan every five years

Capital Improvements

- Update the Campus Master Plan to reflect the proposed 2012-2017 Capital Improvements Plan and beyond including desirable P3 opportunities.

Architecture Design/ Landscaping Design

- Provide strategies to increase the amount of shaded walkways and outdoor gathering spaces through landscaping, covered connectors and outdoor furnishings

- Foster learning about the physical environment by creating creating opportunities and guidelines for design features and instructional signage that provide information on natural and structural features

EVALUATION AND APPRAISAL OF ELEMENTS

The following section provides a brief analysis of the goals, objectives and policies in the required and optional elements of the Campus Master Plan. The section discusses the successes or shortcomings in achieving the goals, objectives and policies and provides recommendations for future amendments.

Elements Contained In the Campus Master Plan

1.	Academic Mission	
2.	Academic Program	OPTIONAL
3.	Urban Design	
4.	**Land Use**	**REQUIRED**
5.	Academic Facilities	OPTIONAL
6.	Support Facilities	
7.	**Housing**	**REQUIRED**
8.	**Recreation and Open Space**	
9.	**Infrastructure**	
10.	Utilities	OPTIONAL
11.	**Transportation**	**REQUIRED**
12.	**Intergovernmental Coordination**	
13.	**Conservation**	
14.	**Capital Improvements**	
15.	Architectural Design Guidelines	OPTIONAL
16.	Landscape Design Guidelines	
17.	Facilities Maintenance	
18.	Coastal Management	

ELEMENT 1: ACADEMIC MISSION OF UNIVERSITY

The Academic Mission Element describes the current and future academic mission of the University. The goals, objectives, and policies for this element are designed to express the Institutional Values, Operational Philosophy, Institutional Goals, and Strategic Theme modifications to the Campus Master Plan.

Accomplishments in Meeting Goals, Objectives and Policies

The overall goal that the Academic Mission Element seeks to fulfill is the current University Mission, approved by the Florida Board of Education, Division of Colleges and Universities,

> ***Vision Statement***
> *Florida International University will be a leading urban public research university focused on student learning, innovation, and collaboration.*
> ***Mission Statement***
> *Florida International University is an urban, multi-campus, public research university serving its students and the diverse population of South Florida. We are committed to high-quality teaching, state-of-the-art research and creative activity, and collaborative engagement with our local and global communities.*

Since opening in 1972, FIU has developed into a comprehensive, multi-campus urban research institution. During the academic year 2010-11 FIU enrolled over 44,000 students (77 percent minority) from 148 countries in 181 degree programs and awarded 10,000 total degrees (7,000 were at the baccalaureate level and 92 percent were granted to residents of the state of Florida). In the last five academic years, FIU has increased its degree production by 39 percent and has continued its efforts to increase production of STEM degrees and to improve recruitment efforts to attract students who are usually underrepresented in these fields. From 2010- to 2011, FIU awarded 1,151 STEM bachelor's degrees (81 percent to minority students). During the 2010-2011 fiscal year, FIU continued its long-term upward trajectory of research growth receiving $104.56 million in research awards. Finally, in February 2010, the FIU Office of Engagement was created. Since its establishment this office has provided leadership to expand FIU community partnerships and align FIU's instructional and research initiatives with local and global needs and priorities.

FIU's rapid growth in enrollment, quality and quantity of academic programs and research as well as outreach community efforts, are evidence that the University is fulfilling its mission, goal of the Academic element.

Problems and Obstacles in Meeting Goals, Objectives and Policies

None Reported

Needed Modifications Based On Unforeseen Opportunities/Changes

The University is currently in the process of updating its Campus Master Plan through the Evaluation and Appraisal Process. The updates will be guided by FIU's mission statement and strategic themes. Some of the major updates will include:

Proposed Plan Amendments

Review the basic campus master plan concept for the Engineering Center and consider alternatives that might better respond to surrounding community land uses and allow for higher density and mixed-use public-private partnerships at the center.

ELEMENT 2: ACADEMIC PROGRAM

The Academic Program Element describes existing and future development of academic programs at the University. The element also provides projections for student enrollment, and the future distribution of planned and proposed academic programs which serve as the foundation for much of the University's planning efforts.

Accomplishments in Meeting Goals, Objectives and Policies

Enrollment

From 2005 to 2011, the number of students enrolled at FIU increased by 26 percent, growing from 35,002 to 44,010. This exceeded the projections for that time period. Much of the growth took place at MMC (14 percent). It is expected that the University will continue to grow at a rapid rate in the next ten years, growing to an estimated 62,000 students by 2015.

Academic Programs

The overall goal of this element is to develop and maintain academic programs reflecting and implementing the Missions of the University and individual schools and colleges. FIU has been successful at providing a vast array of educational opportunities to its students. The University has restructured its colleges and schools and has added new academic programs to its list of offerings. FIU currently offers (spring, 2012) 60 baccalaureate programs, 81 master's programs, three specialist programs, 30 research doctorate programs and four professional doctoral programs. The highest academic accomplishment in the planning period has been the addition of the Herbert Wertheim College of Medicine, inaugurated in 2009.

TABLE 2: MAJOR COLLEGES AND SCHOOLS AT FIU IN 2006

Major Colleges and Schools at FIU in 2006
College of Architecture and the Arts
College of Arts and Sciences
College of Business Administration
College of Continuing and Professional Studies
College of Education
College of Engineering & Computing
College of Health and Urban Affairs
Honors College
Rafael Diaz Balart College of Law Building
School of Hospitality and Tourism Management
School of Journalism and Mass Communication
University Graduate School

TABLE 3: MAJOR COLLEGES AND SCHOOLS AT FIU IN 2012

Major Colleges and Schools at FIU in 2012	
College of Architecture and the Arts	School of Architecture
	School of Music
College of Arts and Sciences	School of Environment, Arts and Society
	School of Integrated Science and Humanity
	School of International and Public Affairs
College of Business Administration	School of Accounting
	Alvah H. Chapman Jr. Graduate School of Business
	R. Kirk Landon Undergraduate School of Business
College of Education	
College of Engineering and Computing	School of Computing and Information Science
Rafael Diaz Balart College of Law	
Herbert Wertheim College of Medicine	
College of Nursing and Health Sciences	
Honors College	
Robert Stempel College of Public Health and Social Work	School of Social Work
	College of Nursing and Health Sciences
School of Hospitality and Tourism Management	
School of Journalism and Mass Communication	
College of Continuing and Professional Studies	University Graduate School
	University College
	Undergraduate Education

ADD OHL School of Construction Management as part of College of Engineering

Problems and Obstacles in Meeting Goals, Objectives and Policies

Low Enrollment at Biscayne Bay Campus (BBC)

BBC was the only site within the University showing a decrease in student enrollment from 2005 to 2011 (2 percent decrease), thus not meeting enrollment projections. This decrease may be due to several factors, including the relocation of some programs from BBC to MMC and the overall lack of investment in the campus. Because enrollment affects the allocation of capital improvement funding and other planning mechanisms, it is important for the University to help increase enrollment at Biscayne Bay Campus in order to carry out the development plans for the site. FIU needs a strategic plan for programs and conditions at BBC which provides recommendations for stimulating growth.

TABLE 4: FIU ENROLLMENT CHANGED 2005-2010

University Site	2004-05	2010-11	% Change
University Wide	35,002	44,010	26%
Modesto A. Madique*	27,307	30,999	14%
Biscayne Bay Campus	7,540	7,372	-2%
Broward Pines	-	521	-
Other Site Facilities**	-	5,118	-

*Includes the Engineering Center
**Site Sources include: Other Physical Locations, and Virtual/Distance Learning

Needed Modifications Based On Unforeseen Opportunities/Changes

Restructuring of Colleges and Schools

The University restructured its colleges and schools after 2004. Since the restructure, FTE and headcount projections do not accurately reflect the current academic structure. New FTE and headcount projections are based on enrollment data from the fall semester of 2010.

Methodology for Headcount and FTE Projections

FIU's enrollment projections do not account for current market share estimates. Although projections are updated yearly, it is imperative that projections include the University's goal attainment for State market share. This data allows FIU to accurately assess its enrollment projections during the planning period. Modifying the current indicators for market share estimates will mitigate any inaccuracies in future enrollment projections.

Proposed Plan Amendments

- Consider a more aggressive strategic plan for Biscayne Bay Campus, which provides recommendations for increasing enrollment at the campus
- Modify the variety of program offerings by campus to reflect sufficient student enrollment goals of each site
- Require a monitoring system of off-campus and on-line programs to assure programs meet the needs of students and faculty
- Update strategies to accurately meet the University's market share goals; utilize methodologies for projecting space based on FTE and HC projection
- Provide enrollment data updates to the Campus Master Plan, as they are made available, to accurately reflect the organization of the University's colleges and schools

ELEMENT 3: URBAN DESIGN

The Urban Design Element serves as an assessment of urban design principles that will guide the organization of the University, define open space, and the establish strong pedestrian and visual linkages among the various buildings and functional areas of campus.

Accomplishments in Meeting Goals, Objectives and Policies

Modesto Maidique Campus

Several significant projects have been completed at the Modesto A. Maidique (MMC) Campus since the last Master Plan update. Although a decline in available buildable space is a continuing issue, construction projects have been able to effectively utilize "urban" pattern development. Parking garages, academic facilities, and support buildings are of high density design improving the potential for development of covered walkways to connect buildings. Major accomplishments at Modesto Maidique Campus include:

- The successful completion of six academic buildings, two support facilities, two parking garages, a student housing complex, an art museum, a recreation complex, and a football stadium;
- The construction of Academic Health Center-3 (ACH-3), two support facilities, Parking Garage 5 (PG-5), and expansions to the student housing complex and football stadium; and
- General infrastructure improvements

Biscayne Bay Campus

Biscayne Bay Campus has a continued commitment to retain the physical environment with construction projects, and to utilize the connection of the Bay for academic, recreation, and recruitment of current and projected students, faculty, and staff. Major accomplishments include:

- The successful completion of the Marine Biology Building and expansion of the Wolfe University Center;
- The construction of the Ecology Buildings; and
- General infrastructure improvements, such as upgrades at the recreational center

Engineering Center

The primary objective of the Engineering Center has been to strengthen connectivity to the main campus. This has been achieved by maintaining consistency in landscaping and signage. The University has also established a shuttle service, in partnership with the City of Sweetwater that serves University Park, the Engineering Center and the City. Major accomplishments include:

- Expansions to the Engineering Center laboratories; and

- The successful completion of roadways to the main entrance on West Flagler Street and the expansion of the maintenance facility

Problems and Obstacles in Meeting Goals, Objectives and Policies

FIU implemented several sustainability measures that incorporate energy efficiency, life cycle standards and recycling based on the goals and objectives of the Master Plan. However, improvements are needed in the following areas:

Sustainability

Although multimodal transportation options have been introduced to the University community, traffic congestion and parking accessibility remain high areas of concern. The University is committed to preserving the walkable character of both campuses. However, increased need for vehicular parking has produced increased conflicts in the walkability of the campus. Inefficient walkways and bicycle lanes also creates conflict with walkability on campus. The addition of Parking Garage-6 (PG-6) will alleviate some of the parking challenges on MMC, but a re-examination of how the host communities could assist with parking challenges (i.e. park and ride centers or memorandums of understanding between FIU and Miami-Dade transit for use of bus way routes), and student bus passes could save millions of dollars on infrastructure and allow redistribution of land to make space for other campus projects. The addition of a an accessible passenger boat dock at the Biscayne Bay (BBC) Campus could provide another multimodal transportation option as well as serve recreation and open space functions. Strengthening the Urban Design Element to create secondary priority planning to vehicle mobility and primary priority planning to comfortable and attractive pedestrian environment will create a more sustainable environment on campus.

Connectivity to Host Communities

Connectivity to the host communities is a concern for the FIU community. The perimeter edges at the Modesto A. Maidique (MMC) Campus, Biscayne Bay (BBC) Campus and Engineering Center (EC) create a sense of enclosure that has isolated them from the host communities. This sense of isolation was expressed at the focus groups that were held during the EAR process. To create more connectivity with the host communities, the University should modify the policies related to buffer zones. The University should continue to strengthen existing partnerships with the City of Sweetwater, Miami-Dade County and the city of North Miami. Most urban University design plans incorporate host community sites. If the campus would like to continue its mission to be “the premier urban institution of South Florida” its design plans must be inclusive of its host communities.

Urban Design Guidelines:

The University should consider enhancing defined green space areas at both campuses. The usage of patio swings and shaded tables are an attractive concept to both students and faculty. Improvements such as benches, and tables with umbrellas that increase utilization of green space should also be given priority. Currently, green space areas are mostly open with limited shading. This prevents the campus community from

enjoying social interaction in outside areas and contributes to overcrowding of the areas with shade and outdoor furniture, particularly in core areas of the Modesto A. Maidique (MMC) Campus. Considerations to develop a compact, urban design for the medical school should be included in the Element.

Modifications are also needed to the Urban Design Element of the Plan to ensure a more fluid theme and readability for University officials, developers, and the general public. Re-organization should be done in a manner that includes suggestions for the use of multimodal transportation, modified landscaping options, and uses extended graphics, and less text. This document should be developed into a handbook and should include the architecture and landscape guidelines.

Needed Modifications Based On Unforeseen Opportunities/Changes

Learning through the Physical Environment

The University community expressed a desire to use campus land space as a teaching mechanism, more specifically at the Biscayne Bay (BBC) campus. Faculty members from various programs expressed an interest in seeing the pedestrian trails at both MMC and BBC used for educational purposes. This can be facilitated through special signage that describes the various environments. Areas such as the Nature Preserve and parts of the water edge on Biscayne Bay Campus can also be made more accessible for educational purposes. Additionally, the mangrove restoration project could be used as a multi-disciplinary educational tool.

Proposed Plan Amendments

- Develop a sustainable campus environment by making pedestrian development a priority over vehicle priority development in the Urban Design Element
- Strengthen partnerships with host communities to establish greater connectivity and integration
- Modify the Urban Design Element in the Master Plan; include an urban design plan for the medical school
- Consideration of the physical learning environment when designing campus structures

ELEMENT 4: FUTURE LAND USE

The Future Land Use Element describes the existing and future expansion needs addresses how current land use patterns will be coordinated, how land use patterns will preserve important environmental resources, and how these needs coincide with that planned by the host community.

Accomplishments in Meeting Goals, Objectives and Policies

The Campus Master Plan serves as a benchmark for identifying useful patterns of development within FIU. It is the intent of the University to comply with all goals, objectives, and policies outlined in the Master Plan in an effort to preserve the natural habitat.

Developments at the Modesto A. Maidique (MMC) Campus during the current planning period have been consistent with the Campus Master Plan. The University has maintained development activity within designated land spaces and has developed within zones designated as appropriate for academic and support services. FIU continues to explore land acquisition opportunities for academic, support, and recreational uses at MMC and BBC.

FIU currently occupies 7,259,649 gross square feet (GSF) of academic, research, support, and recreation/open space in its campuses, and auxiliary facilities. Approximately 865,874 gross square feet (GSF) of academic and research, support; and community interface space have been completed or under construction during the planning period 2005-2010. The table below provides more details regarding development activity since 2005.

TABLE 5: MAJOR DEVELOPMENT FROM 2005-2010 (COMPLETED OR UNDER CONSTRUCTION) AND CONSISTENCY OF DEVELOPMENT WITH THE 2005 FUTURE LAND USE MAP

	GSF	2005 Land Use	2010 Land Use	Consistent with FLUM
Modesto A. Madique Campus (MMC)				
Molecular Biology	45,120	Academic	Academic	Consistent
Social Science (International Studies)	57,712	Academic	Academic	Consistent
Science/Classroom Complex	137,200	Academic	Academic	Consistent
Graduate Classroom Building	59,120	Academic	Academic	Consistent
Health-Science Laboratory Clinic	39,500	Academic	Academic	Consistent
College Of Law	153,768	Academic	Academic	Consistent
Graduate School Of Business- Phase I & II	36,768	Academic	Academic	Consistent
Health & Life Sciences II Nursing Labs	5,220	Academic	Academic	Consistent
Public Safety Building	10,000	Support	Support	Consistent
International Hurricane Center	31,760	Community Interface	Community Interface	Consistent
Satellite Chiller Plant	12,000	Support	Support	Consistent
Humanities Center/Offices	77,600	Support	Support	Consistent
Training Complex	24,432	Mixed Use	Mixed Use	Consistent
Frost Art Museum	46,874	Community Interface	Community Interface	Consistent
Family Business Institute Building	3,520	Mixed Use	Mixed Use	Consistent
Career Services Building	11,360	Mixed Use	Mixed Use	Consistent
Subtotal	**751,954**			
Engineering Center (EC)				
Construction Management Green Building	32,800	Academic	Academic	Consistent
Subtotal	**32,800**			
Biscayne Bay Campus (BBC)				
Classroom/Office	64,000	Academic	Academic	Consistent
Hospitality Management - Dining Room & Restaurant	5,600	Mixed Use	Mixed Use	Consistent
Marine Biology Dock	N/A	Conservation	Conservation	Consistent
Theatre	11,520	Community Interface	Community Interface	Consistent
Subtotal	**81,120**			
Total SF	**865,874**			

FIU expects to continue its aggressive capital improvement campaign over the next planning phase, developing an additional 1,395,641 GSF of academic, support, parking and recreation space to the MMC, BBC, and EC sites. Any additional development beyond what is planned should take place at the Biscayne Bay (BBC) Campus or the Engineering Center (EC). To facilitate efficient development of these locations, FIU should re-assess the build out plans for these sites. The following is a list compiles major projects planned for 2012-2017.

TABLE 6: MAJOR DEVELOPMENT PLANNED 2012-2017

	GSF
Modesto A. Madique Campus (MMC)	
Student Academic Support Center	80,000
Remodel./Renov. Of Exist. Educ. Space	117,306
Graduate School Of Business- Phase I and II	176,840
Graduate Classroom Building	59,120
Science Laboratory Complex	127,200
Honors College	78,560
Social Science	57,085
Stadium/Student Acamic Meeting Rooms	21,987
College of Law	153,768
Satellite Chiller Plant Expansion	0
Humanities Center/Offices	77,600
Green Library Addition	123,200
Training Complex	40,432
IHRC Wall of Wind Testing Facility-Phase II	1,981
Frost Art Museum	46,874
Broad Auditorium, Socai Sciences-Phase I	1,520
Stocker Astrophysics Center	6,866
College of Nursing & HealthSciences (Molecular Biology)/Health Science Laboratory Clinic	N/A
Subtotal	**1,170,339**
Engineering Center (EC)	
Engineering Center Lab Remodeling and Expansion	312
Enginnering Center Building	27,840
Subtotal	**28,152**
Biscayne Bay Campus (BBC)	
Academic III	64,000
Remodel./Renov. of Academic Data Center	24,000
Remodel./Renov. of Student Academic Support	97,000
Hospitality Mangement Carnival Student Center	2,550
Hospitality Mangement Beverage mangement Center	9600
Subtotal	**197,150**
Total	**1,395,641**

Problems and Obstacles in Meeting Goals, Objectives and Policies

Revision of Land Use Maps

The Future Land Use Map (FLUM) guides development in a sustainable manner to ensure economic prosperity and stability, while maintaining a high quality of life for all in the University community. Since the last update to the Campus Master Plan, there have been some amendments to the FLUM. Current FLUM reports show the Modesto A. Maidique (MMC) Campus has reached its maximum build out. Although some of the suggestions from the previous EAR were considered, existing and future land use maps must be reassessed to accurately address the needs of the University. Improvements to the master plan are needed in the following areas:

University Wide

- Mixed-Use Facilities: Although the University implemented mix-use facilities at the Graham Center and at Parking Garage-5 (PG-5), the most critical need for mixed-use developments include current and future housing developments. Incorporating housing, dining, recreation, and education space into one development would ensure maximum build-out and redistribute land use for other critical areas. Mixed-use developments can help improve the University overall aesthetics and stimulate campus life. Furthermore, mixed- use developments should be implemented at the Biscayne Bay (BBC) Campus and the Engineering Center (EC) to ensure maximum build-out.
- Modifications to Land Use Maps: While the current space needs maps include areas for indoor research, current land use maps do not designate research areas as indoors or outdoors. FIU should modify land use designations and maps annually to accurately reflect the changing needs of the University. Current land use maps do not adequately differentiate undeveloped and preserved land space. Distinct designations for research space, walkways, and other open space are needed in order to evaluate the needs of the University and allow oversight.

Modesto A. Maidique (MMC) Campus

- Reassess Use of Land: FIU should develop additional FLUM policies to ensure efficient land use. Best practices include the evaluation of land redevelopment in low-density areas of MMC and the EC
- Acquisition of Additional Land Space: FIU should continue strengthening partnerships with host communities in an effort to acquire undeveloped or low-density land space surrounding campus edges at MMC and the EC.. Planning development along campus edges maximizes campus capacity and provides better connectivity with the community.
- Considerations of Spatial Impacts: As development occurs for Pavilion and Events Center at President's Park; classroom, office, and generic research space, spatial impacts must be considered in order to preserve campus design, mitigate traffic congestion, and incorporate multimodal transportation options. The University should also consider strengthening policies that consider campus design, traffic congestion, and interconnectivity through campus

Needed Modifications Based On Unforeseen Opportunities/Changes

City of Sweetwater *University City* Proposal

The City of Sweetwater has maintained interest in strengthening its partnership with the FIU community for many years. The current University City proposal incorporates mixed-use commercial and residential areas with pedestrian friendly and multimodal transportation options. Additionally, this development could provide spatial relief for the Modesto A. Maidique (MMC) campus by incorporating academic, housing, and support areas in the proposal. Based on cost-analysis reports, the College Town proposal (University City) will: 1) benefit both the host community and the University by increasing demand for real estate within a more densely developed urban form resulting in new investment; 2) job creation due to increased connectivity to University education and higher living standards designed into the built environment within the area; 3) healthier lifestyles in walkable communities; and, 4) lower cost and dependable mobility through the local community, throughout the metropolitan area and the region, and to modes of state, national and international transport. Furthermore, University City will allow for the FIU community to engage the surrounding community's limited–English speaking and Hispanic populations. FIU is encouraged to continue exploring development options to make this proposal a success.

Acquisition of the Tamiami Park Fairground Property

The University, Miami-Dade County Fair & Exposition, Inc. (The Fair) and Miami-Dade County are working with other institutions in the community to explore the possibility finding a new location for the Fair so that FIU can expand into the fairground, which is adjacent to the Modesto A. Maidique (MMC) Campus. This expansion would allow FIU to continue its growth and serving the needs of the University and host communities. The Mayor of Miami-Dade County recently dismissed suggestions that the Fairgrounds be relocated to an area at the outside edge of the County's Urban Development Boundary. The existing 87-acre Fairground is only used by The Fair 18 calendar days of the year. Other sites which may be suitable for relocation of the Fair are also being studied. The University must develop more aggressive strategies for compact, upward development in conjunction with the shared county space on the southern edge. Lacking acquisition of the Fairgrounds, the University must continue with its current plans for parking and recreational space.

Proposed Plan Amendments

- Consider aggressive land use strategies at the Modesto A. Maidique (MMC) campus that incorporate a compact, mixed-use urban pattern and upward development.
- Strengthen partnerships in order to acquire additional land space or expand perimeter edges.
- Revise the Land Use Element to provide alternatives for joint-use development with Tamiami Park, the Fairgrounds and land use development for the Medical School
- Continue to develop partnership agreements for academic, housing, transportation, and other support facilities with the City of Sweetwater for *University City*
- Modify the Land Use Element to incorporate approved future construction projects

ELEMENT 5: ACADEMIC AND RESEARCH FACILITIES

The Academic and Research Facilities Element ensures an adequate provision of academic facilities while conserving land use patterns in order to meet University needs for the planning period.

Accomplishments in Meeting Goals, Objectives and Policies

During the last planning phase, the University has increased academic space to accommodate the increase in the student population. Academic facilities have seen nonstop growth each year. Since 2005, the University has completed the 10 academic facilities projects.

Projected enrollment growth for the planning period of 2010-2020 will facilitate the need for exponential growth in academic facilities if projected needs are to be met. At Modesto A. Maidique (MMC) Campus, Engineering Center and Biscayne Bay (BBC) Campus the total footprint of academic facilities must increase based on the application of mandated space standards. To anticipate funding and design cycle changes, this process must be tightened and accelerated in order to catch to present needs while also preparing to meet the needs which will exist in the next planning phase.

To ensure optimum academic and spatial efficiency and to conserve precious and declining reserves of buildable land, maintenance of land use patterns that incorporate compact cores (academic, recreational) at both campuses, will be an important component to effective planning. Currently, the University incorporates compact land use space in the academic cores of MMC.

Since the 2005-2015 Master Plan Update, FIU continues to face a shortage of academic space at Modesto Maidique Campus (MMC). This can be attributed to the increased enrollment over the years. In order to address this issue, the University has undertaken an aggressive capital improvement campaign. Since 2005, FIU has developed 631,208 GSF of academic space at MMC. The University has projected to complete an additional 998, 018 GSF of academic space by 2017.

TABLE 7: ACADEMIC FACILITIES DEVELOPED OR UNDER CONSTRUCTION FROM 2005-2010

Academic Space	GSF
Modesto A. Madique Campus (MMC)	
Molecular Biology	45,120
Social Science (International Studies)	57,712
Science/Classroom Complex	137,200
Graduate Classroom Building	59,120
Health-Science Laboratory Clinic	39,500
College Of Law	153,768
Graduate School Of Business- Phase I & Ii	36,768
Health & Life Sciences Ii Nursing Labs	5,220
Subtotal	**534,408**
Engineering Center (EC)	
Construction Management Green Building	32,800
Subtotal	**32,800**
Biscayne Bay Campus (BBC)	
Classroom/Office	64,000
Subtotal	**64,000**
Total	**631,208**

TABLE 8: ACADEMIC FACILITIES PLANNED FOR FUTURE DEVELOPMENT 2012-2017

Academic Space	GSF
Modesto A. Madique Campus (MMC)	
Student Academic Support Center	80,000
Remodel./Renov. Of Exist. Educ. Space	117,306
Graduate School Of Business- Phase I and II	176,840
Graduate Classroom Building	59,120
Science Laboratory Complex	127,200
Honors College	78,560
Social Science	57,085
Stadium/Student Acamic Meeting Rooms	21,987
College of Law	153,768
College of Nursing & HealthSciences (Molecular Biology)/ Health Science Laboratory Clinic	N/A
Subtotal	**871,866**
Engineering Center (EC)	
Engineering Center Lab Remodeling and Expansion	312
Enginnering Center Building	27,840
Subtotal	**28,152**
Biscayne Bay Campus (BBC)	
Academic III	64,000
Remodel./Renov. of Academic Data Center	24,000
Subtotal	**88,000**
Total	**988,018**

Problems and Obstacles in Meeting Goals, Objectives and Policies

The availability of land for academic space at Modesto A. Maidique (MMC) Campus has reached the point where each new building must be squeezed to fit and available sites are frequently crowded with underground utilities. With limited space remaining, the density of development should be increased. It is imperative current and future construction projects ensure optimal efficiency; maximizing the use of compact urban planning to meet the future needs of the University. Going forward, the University must consider making compact urban design patterns a permanent focus of development. Modifying strategic planning to incorporate this style plan will help alleviate land use challenges for Modesto A. Maidique Campus (MMC) and the Engineering Center (EC).

Needed Modifications Based On Unforeseen Opportunities/Changes

FIU will need to acquire additional land in order to meet or exceed the goals projected by the Academic Missions Element. As a result of the Miami-Dade County Fair & Exposition, Inc. (The Fair) and Miami-Dade County negotiations, the University could obtain use of land now occupied by the Tamiami Fairgrounds on the southeast corner of MMC. A feasibility study should be conducted to determine the benefits and costs of acquiring additional off- site space for academic and research purposes.

Proposed Plan Amendments

- Update space needs and land use map in order to accurately assess the academic and research needs of the University;
- Modify the Academic and Research Facilities Element accordingly to reflect changes

ELEMENT 6: SUPPORT FACILITIES

The Support Facilities Element provides an adequate provision of support facilities to meet the University's needs during the planning period. Support facilities include non-academic office space, campus support services, student academic support, and other non-academic uses. Space needs related to recreation, housing, parking space, and other support services will be evaluated in the discussion of their respective elements.

Accomplishments in Meeting Goals, Objectives and Policies

The International Hurricane Research Center (IHRC) at Florida International University received funding from the State of Florida to construct its own building near the National Hurricane Center. The IHRC incorporates multi-disciplinary research to mitigate hurricane damage to people, the economy, and the environment. IHRC has four labs; .a wind tunnel, a seminar/training room and an educational, interactive lobby. This 10 million dollar facility brings together academic researchers and serves as an epicenter for coordinating federal and state agencies. These agencies include: the National Hurricane Center and the National Weather Service's Miami Weather Forecast Office; NOAA's Hurricane Research Division; Federal Emergency Management Agency (FEMA); National Aeronautics and Space Administration (NASA); and the Florida Division of Emergency Management. Weather balloon airspace restrictions limit development near the Existing National Hurricane Center. Current plans for the IHRC are for it to be included as part of AHC5 which should begin construction in July 2012.

As the academic and research programs of the University grow, FIU must provide sufficient support facilities to maximize capacity needs for students and staff. Critical needs for support facilities include office space, athletic and recreation space. To account for growth, the University has increased support facility space by 267,446 GSF with developed projects or projects currently under construction. The University has planned for an additional 407,623 GSF of support facility space by end of the planning period.

TABLE 9: SUPPORT FACILITIES DEVELOPED OR UNDER CONSTRUCTION FROM 2005-2010

Support Space	GSF
Modesto Madique Campus (MMC)	
Public Safety Building	10,000
International Hurricane Center	31,760
Satellite Chiller Plant	12,000
Humanities Center/Offices	77,600
Training Complex	24,432
Frost Art Museum	46,874
Family Business Institute Building	3,520
Career Services Building	11,360
Subtotal	**217,546**
Engineering Center (EC)	
None	32,800
Subtotal	**32,800**
Biscayne Bay Campus (BBC)	
Hospitality Management - Dining Room & Restaurant	5,600
Marine Biology Dock	N/A
Theatre	11,520
Subtotal	**17,120**
Total	**267,466**

TABLE 10: SUPPORT FACILITIES PLANNED FOR FUTURE DEVELOPMENT 2012-2017

Support Space	GSF
Modesto Madique Campus (MMC)	
Satellite Chiller Plant Expansion	0
Humanities Center/Offices	77,600
Green Library Addition	123,200
Training Complex	40,432
IHRC Wall of Wind Testing Facility-Phase II	1,981
Frost Art Museum	46,874
Broad Auditorium, Socai Sciences-Phase I	1,520
Stocker Astrophysics Center	6,866
Subtotal	**298,473**
Engineering Center (EC)	
None	0
Subtotal	**0**
Biscayne Bay Campus (BBC)	
Remodel./Renov. of Student Academic Support	97,000
Hospitality Mangement Carnival Student Center	2,550
Hospitality Mangement Beverage mangement Center	9600
Subtotal	**109,150**
Total	**407,623**

Problems and Obstacles in Meeting Goals, Objectives and Policies

Limited funding presents difficulties in achieving the goals, objectives, and policies of the Support Facilities Element. This obstacle does not allow for adequate provision to increase administrative office space and student service space as indicated in the plan.

The availability of land for support facilities at Modesto A. Maidique (MMC) Campus has reached a critical level, with limited space remaining. It is imperative current and future construction projects ensure optimal efficiency; maximizing the use of compact urban planning principles. Going forward, the University must consider making compact urban design patterns a permanent focus of development. Modifying strategic planning to incorporate this style plan will help alleviate land use challenges for future developments. In addition, the University must look to strengthen partnerships within the host communities to acquire joint-use facilities in order to meet the future needs of the University.

Needed Modifications Based On Unforeseen Opportunities/Changes

Within the next planning phase, FIU may need to acquire additional land space to in order to meet or exceed the goals projected by anticipated student enrollment. As a result of the Miami-Dade County Fair & Exposition, Inc. (The Fair) and Miami-Dade County negotiations, the University could take advantage additional space based outside of Tamiami Fairgrounds. Therefore, a feasibility study should be conducted to determine the benefits and trade-offs of acquiring off site space for support facilities in addition to research and academic facilities. Combining academic, research, and support facilities with mix-use, compact urban design would preserve land space and better meet the needs of the University.

Proposed Plan Amendments

- Update space needs and land use map in order to accurately assess the support needs of the University;
- Modify the Support Facilities Element accordingly to reflect changes

ELEMENT 7: HOUSING

The Housing Element provides a framework provision for assessing housing facilities needs on the University campus and within the host community to adequately meet the needs of the projected University enrollment.

Accomplishments in Meeting Goals, Objectives and Policies

Housing Inventory

FIU's residential facilities rank among the best in the country. They have set the standards for design and construction by building energy efficient, highly durable and easily maintained structures with an operational life span of 40 years or more. The buildings also focus on creating a living environment that is responsive to student needs by providing privacy, community living space and state of the art technology. According to *U.S. News and World Report* rankings of Universities for 2012, the cost of room and board at FIU is considered high.

In total, the University offers 2,995 beds for student housing. The most recent residential building, Lakeview Hall, an 825 beds facility, opened in the Fall of 2006. Within the next five years, the University plans to build an additional 1,240 beds at MMC. The project, *Park View Housing* has an integrated parking structure and has been planned in two phases. The first phase is expected to be completed by the end of 2013.

In addition to the housing facilities that are owned and operated by FIU, Modesto Maidique Campus currently has two fraternity houses: Phi Gamma Delta and Pi Kappa Alpha. Each house has 35 beds for a total of 70 beds. Space for three additional fraternity houses is allocated in the Master Plan, which will potentially raise the total beds to 165.

TABLE 11: INVENTORY OF EXISTING BEDS

Location	Total	Type of Student
Modesto Madique Campus (MMC)		
University Park Towers	491	Upper Classmen, Graduate
4-Bedroom Single		
2-Bedroom Single		
Studio Single		
Panther Hall	410	Freshman, Upper Classmen, Graduate
2-Bedroom Double		
2-Bedroom Single		
Lakeview Hall	825	Freshman,Soph, Upper Classmen
2-Bedroom Double		
4-Bedroom Single		
Everglades Hall	388	Upper Classmen
3-Bedroom Single		
University Park Apartments	593	Upper Classmen, Graduate, Married
Studio Single		
Efficiency Single		
1-Bedroom Double		
2-Bedroom B Double		
2-Bedroom B Single		
2-Bedroom Quad		
2-Bedroom Quad Single		
4-Bedroom Single		
Subtotal		2,707
Biscayne Bay Campus (BBC)		
Bay Vista Housing	288	Freshman, Upper Classmen, Married
Studio Single		
1-Bedroom Single (P)		
Efficiency Single (S)		
1-Bedroom Single(S)		
2-Bedroom Single (S)		
Subtotal		288
Total		2,995

Problems and Obstacles in Meeting Goals, Objectives and Policies

20 Percent Housing Goal

The 2005-2015 Master Plan calls for FIU to provide on-campus housing to 20 percent of its full-time enrollment students (FTE), with a cap of 7,000 beds. As of the fall semester of 2010 FIU had 32,108 FTEs. This means that with 2,295 beds only approximately 9 percent of the FTEs are currently housed. Enrollment projections for 2015 of FTEs are estimated to be at 38,773. To meet the 20 percent goal considering the 7,000 bed cap, FIU will need to add 4,005 beds to its current inventory by 2015. This is unlikely, considering the short time period frame.

Off Campus Affordable Housing Opportunities

The 2005-2015 Campus Master Plan calls for assisting students and faculty in locating suitable, affordable housing opportunities off-campus. However, this effort has been limited to the establishment of an informational housing website database for off-campus housing providers that is run by the FIU Office of Orientation and Commuter Student Services.

Needed Modifications Based On Unforeseen Opportunities/Changes

University City Project

In partnership with the City of Sweetwater, Miami-Dade County, and the Miami Dade Expressway Authority, FIU is pursuing some federal grants to developed UniversityCity. This mixed used project is planned to be located in the City of Sweetwater across from the Modesto Maidique Campus. UniversityCity will better integrate the Sweetwater with the University and will provide affordable housing, public and retail space as well as a multimodal street pedestrian friendly system for easy access from and to FIU.

Proposed Plan Amendments

- Amend the goal of providing housing to 20 percent of the FTEs by limiting development to a maximum of 7,000 beds (University Wide).
- Plan the timing and phasing of future housing projects based on demand
- Consider affordable housing for graduate students, families and faculty
- Facilitate Partnerships with the private sector to build affordable off-campus housing
- Coordinate with a comprehensive housing program for students, faculty, and staff that includes assistance in finding a home and financial incentives

ELEMENT 8: RECREATION AND OPEN SPACE

The Recreation and Open Space Element provides a provision to assess the current and future need of adequate and accessible recreation facilities and open space to match the projected needs of the University.

Accomplishments in Meeting Goals, Objectives and Policies

The Florida International University community enjoys a variety of passive and active recreational activities including indoor and outdoor intramural activities, on and off-site recreation opportunities, and participation through FIU's Intercollegiate Athletic community. FIU has made significant modifications to provide adequate recreation and open space facilities during the previous planning period.

The U.S. Century Bank Arena is the largest indoor gathering place on the campus of Florida International University. This building serves the campus and community for various functions and events throughout the year. The Arena expansion provides a new central entry area to manage large quantities of visitors effectively. The expansion also includes the addition of a formal lobby/pre-function area to accommodate visitors and waiting lines public restrooms and concessions; an external covered guest area adjacent to the entrance doors; ticketing facilities; and VIP/Media Relations Suites and advanced multi-media to make public announcements.

The University continues to maintain and modify existing recreation facilities including plans for the renovation and expansion of the Recreation Center, the development of a new track and field facility to replace facilities lost to the stadium expansion project, and designation of and or renovations to recreational/open space facilities within Biscayne Bay (BBC) and Engineering Center (EC) sites. Upon completion of these and other planned improvements to recreation and open space facilities, the University is projected to meet anticipated level of service needs.

Below is an inventory of existing recreation facilities and open space at FIU.

TABLE 12: INVENTORY OF RECREATION FACILITIES AND OPEN SPACES

	Modesto Madique Campus	Biscayne Bay Campus	Engineering Center
Recreation Facilities			
Baseball Stadium	1		
Basketball Arena (Pharmed Arena)	1		
Basketball Courts	6	1	
Court gym	2		
Fitness Space	1	1	
Football Stadium*	1*		
Multipurpose Fields	2***	1	
Multipurpose fitness rooms	2		
Racquetball Courts	3 indoor		
Recreation Center	1		
Running Track		1	
Soccer Stadium	1		
Softball Fields	1		
Swimming Pools**	1**	1	
Tennis Courts	12	6	
Total Acres of Recreation Space	26.8 acres	8.8 acres	
Open Space and Lakes			
Lakes	14	4	
Total Acres of Open Space	69.8acres	55.8 acres	13.46 acres
Recreation and Open Space			
Total	96.6 acres	64.6 acres	13.46 acres

***Football Stadium is a shared facility with Tamiami Park**
****In addition to the Panther Hall pool, FIU has access to the Tamiami Park pool adjacent to University Park**
*****1 field is shared with the elementary school on the northwest corner of campus**
****** Biscayne Bay Running track is shared with Alonso Morning High School northwest of the BBC Campus.**

Problems and Obstacles in Meeting Goals, Objectives and Policies

The University has completed expansions to the Century Bank Arena and began Phase II of the Community Stadium Expansion during the spring of 2012. There are no current construction projects directed toward recreation and open space during the next planning period. However, with the proposed strategic land acquisition project beginning in 2012-2013, there may be some opportunities to address critical issues in these areas.

The Recreation Center at the Modesto A. Maidique (MMC) Campus is widely used by students, faculty, and staff in relation to facilities at the Biscayne Bay (BBC) Campus and other site facilities. The Engineering Center does not house a recreation facility. As the University continues to grow, the University should consider developing/expanding recreation fields and facilities at EC and BBC to meet future projected level of service

needs. Alternatively, better shuttle links between MMC and EC might allow EC students, faculty and staff to easily use facilities at the main campus.

Level-of-Standards for Recreation and Open Space

The Campus Master Plan does not provide adequate level of service standards (LOS) for recreation and open space. The University faces a challenge in maintaining and providing adequate recreation and open space facilities including those for non-Intercollegiate Athletics. Several existing facilities at the Modesto A. Maidique (MMC) and Biscayne Bay (BBC) Campus are in need of enhancements to maintain future projected level-of-service standards recommended for the University. Much of this is primarily due to deterioration resulting from the age of facilities at BBC and heavy utilization of MMC. Without set benchmarks for this element, it is difficult to determine the existing and future needs of the University.

Active recreational areas consist of spaces designated for organized and informal group activities. All active recreational facility improvements are for a specifically intended function. Passive recreational areas provide less formal activities and do not rely on focused formal or organized group activities. Picnic areas, observation areas, and nature trails are designated as passive recreation areas.

Table 13 below provides recommended level of standards for FIU at 2.75 acres per 1,000 students. This LOS is consistent with the standards of the host communities. However, based on the current level of standards benchmark and spatial needs for projected future enrollment, FIU will be unable to meet the needs of the university. It is projected the Modesto A. Maidique (MMC) Campus will be at full capacity by 2015.

The recommended LOS does not reflect the university's Intercollegiate Athletic needs. The recommended LOS is specific to the needs of the general student body. As a recommendation, a separate LOS for athletic facilities should be incorporated into the Master Plan update. This would allow for amendments to LOS as new facilities are constructed.

TABLE 13: EXISTING AND PROJECTED RECREATION AND OPEN SPACE LOS

Year	Student Headcount	Acres	LOS
University Wide			
2010-11	44,010	174.7	3.9 acres/1,000 students
2014-15	56,374	174.5	3.1 acres/1,000 students
Modesto A. Madique Campus			
2010-11	30,999	96.6	3.1 acres/1,000 students
2014-15	42,146	98.2	2.3 acres/1,000 students
Biscayne Bay Campus			
2010-11	7,372	64.6	8.7 acres/1,000 students
2014-15	8,728	68.2	7.8 acres/1,000 students
		Recommended LOS	**2.75 acres/1000 students**

Need for Recreation Fields at Modesto A. Maidique (MMC) Campus

The University must continue to provide, maintain and expand recreation and open space facilities at acceptable service standards to meet the anticipated demands created by existing and anticipated faculty and student enrollment growth. Currently, expanded recreation areas are needed in addition to areas allocated for recreation and open space.

The addition of recreation and open space at MMC will relieve current exhausted recreation space. As the University shifts focus to allocate land for academic and support services, the University should explore alternative recreation space at other host sites or within host communities. The University is continuing its commitment to find an alternative location for the running track lost during the stadium expansion. Tamiami Park has a variety of recreational facilities to include four tennis courts, basketball, baseball, football, and soccer fields; and a swim area available for swim teams, classes, and recreation. The University should explore a possible memorandum of understanding for access to these facilities. This could alleviate recreation strain on MMC.

Recreation Needs at Biscayne Bay (BBC) Campus

There is adequate land space to modify/designate any recreation and open space addition to BBC. Recreation at BBC includes a fitness center, group exercise studio, renovated Aquatic Training Complex (which has an Olympic Training Pool and Competition Diving Well), a campus wide running track and basketball and tennis courts.

General Renovations and Upgrades of Existing Facilities

Maintenance and modifications of recreation and open space areas are needed in order to maintain the quality of the University's existing facilities. Expansions to the MMC Recreation Center will improve LOS and meet the future needs of projected enrollment and the overall needs of the University.

Plan for the Use of Open Space

The current Master Plan does not account for preservation of landscaped open areas, such as malls and plazas, from development. To preserve areas, the University should reassess build-out plans that designate the use of open spaces. These open space areas should also be modified on current land use maps and incorporated on future land use maps. (See Maps 8-9, 11-12, 14-15)

Needed Modifications Based On Unforeseen Opportunities/Changes

As projected enrollment increases, the need for recreation and open space will be critical to the University. To prepare for an increase in levels-of-service, the University should galvanize partnerships with host communities as needed to identify sites, facilities, and programs for joint use. These include parks, low-density land space, and under-vitalized properties. In conjunction current agreements with Miami-Dade County and the City of Sweetwater, the University should optimize spatial opportunities at the Engineering Center (EC) to further meet the needs of the University.

Proposed Plan Amendments

- Identify and plan for level of service standards for recreation and open space areas.
- Identify and plan for level of service standards for recreation and open space facilities.
- Identify and plan for an additional level of service standards for Intercollegiate Athletic facilities.
- Locate a new track facility at MMC
- Reassess current master plan to address the incorporation of preserved landscaped areas and the use of open space (including recreation space, educational space, and outdoor gathering spaces)

ELEMENT 9: GENERAL INFRASTRUCTURE

The General Infrastructure element provides a framework to ensure a coordinated provision of public facilities and services required to meet the future needs of the University consistent with efforts to address campus sustainability.

Accomplishments in Meeting Goals, Objectives and Policies

The recently completed School of International and Public Affairs (SIPA) building has been officially certified LEED-Gold earning 44 points under LEED-NC v2.2. The design of this building allows for improving stormwater management by retaining rainwater for use by plants and filtering excess water before it enters stormwater system. It also allows for improved building energy efficiency through roof insulation, protecting roof elements from UV radiation. The facility also included a 100 % reduction water potable use for landscape irrigation through the use of rainwater harvesting. Reduction of 48.1% of indoor potable water consumption was achieved through the use of low-flow fixtures.

The SIPA building is 33.1% more energy efficient than the baseline building through the use of increased insulation levels, highly efficient glass, a lighting design which is over 50% more efficient, occupancy sensors and an efficient HVAC system. This also includes a Photovoltaic array composed of UniSolarFlexlight panels which utilize amorphous silicon technology (thin film) to produce 38,700 KWH/year or 4% of the building's annual energy load.

The expansion of recreational areas at Biscayne Bay (BBC) Campus resulted in the temporary disruption of the existing stormwater management, water, sewer, fire lines, and irrigation systems. The modified stormwater management system included the relocation of existing drainage pipes and re-contouring of two (2) existing drainage outfall lakes (required filling of portions of the lakes & excavating additional lake for compensatory storage). In addition, the project required an additional system of drainage, water, sewer, electrical, irrigation lines between the existing pool deck and the wall of the expanded fitness center.

STORMWATER MANAGEMENT

Level of Service

Stormwater Management Systems at Modesto A. Maidique (MMC), Biscayne Bay (BBC), and the Engineering Center (EC) are designed to handle all major stormwater rainfall events on site. This includes a combination of percolation, overland flow, exfiltration systems and positive drainage systems with outfalls into existing onsite lakes. There are no off-site discharge connections as all stormwater is contained on-site. There are no shared stormwater management facilities at MMC and EC with host communities.

The Wolfsonian Museum and Annex are connected to the stormwater system of the City of Miami Beach. Improvements to the stormwater management systems at these sites have eliminated flooding and are projected to sustain future development. However, the City of Miami Beach Stormwater system will function less effectively as sea level rises.

As enrollment projections increase during the next planning phase, stormwater management may become a more complex issue.

Problems and Obstacles in Meeting Goals, Objectives and Policies

The expansion of infrastructure, construction of academic, support and housing facilities has increased a demand for stormwater management services. The current system provides adequate stormwater management services through its systems of interconnected swales, lakes, and other reserved natural areas. Future stormwater systems must provide expanded flood protection, treatment and support for additional development.

Proposed Plan Amendments

Pursuant to the Board of Governors Regulations and the "Guidelines for the Comprehensive Campus Master Plan System" Chapter 21, the University is required to assess all public and private facilities and natural features which provide stormwater management for the campus, including detention and retention structures, storm drainage pipe systems, natural stream channels, rivers, lakes, and wetlands. In complying with these recommendations, the University should adhere to these recommendations when considering future land developments:

- Ensure future stormwater management systems capacity and capital improvement needs correct deficiencies and meet the future projected needs of the University.
- Future design plans should incorporate efficient stormwater management systems to offset environmental impacts.
- Best Management Practices (BMP) should be incorporated into the drainage infrastructure design to minimize the impacts to ground and surface water quality.
- Incorporate policies to mitigate stormwater generated by the University and eliminate storm water pollutants, such as careful control and limitations on use of fertilizers, and insecticides by groundskeepers.
- Modifications or updates to current stormwater maps to identify locations for future stormwater management facilities.
- Modifications or updates to existing goals and objectives to correct deficiencies

POTABLE WATER

Level of Service

Potable water for Modesto A. Maidique (MMC) Campus is provided by the Miami-Dade Water and Sewer Department (MDWASD). MDWASD owns and maintains all existing water mains inside the campus. Currently, the University consumes a LOS of 11 which slightly higher than the recommended LOS of 10 gallons per capita per day by MDWASD. Biscayne Bay (BBC) consumes a LOS of 9 which is within the recommended LOS per capita by MDWASD. The increase at MMC is contributed to larger than expected enrollment projections. As enrollment projections increase, the University will need to consume 463,606 GDP at MMC and 86,436 GDP at BBC (which includes reclaimed water) of water to maximize projection needs. Irrigation at MMC is from groundwater, ponds and lakes. Irrigation at BBC is from City-furnished reclaimed water.

The physical condition of water main distribution systems at each University site is adequate. Appropriate tests and assessments are administered regularly to ensure adequate potable water demands. To ensure that future developments at the University have minimum impact on the region's water supply, all water main improvements shall be modeled to determine impacts to the system. Within the next ten years WDWASD, host communities, and the University will make improvements to water distribution facilities. These improvements will increase the water capacity and improve overall water conservation.

Problems and Obstacles in Meeting Goals, Objectives and Policies

Although water facilities of host communities have adequate capacity to serve the University, it is expected that the 10-year Water Supplies Facilities Workplan of the Miami-Dade Water and Sewer Department will call for (1) water conservation and re-use efforts, (2) facility improvements, and (3) stricter requirements for development. As per Senate Bill 360, the Workplan will restrict development unless there is sufficient water supply to meet the needs of future projects.

Proposed Plan Amendments

- Develop methods to eliminate dead-end distribution systems at MMC and BBC; expand primary distribution systems and incorporate secondary "looped" distribution systems.
- Future water distribution maps should be updated as assessed to identify the needs of the University.
- Continue to strengthen partnerships with M-DWASD and the host communities to assure sufficient water capacity to meet consumption needs of future development needs of the University.

SANITARY SEWER SYSTEM

Level of Service

The University continues to work to ensure an adequate sanitary sewer collection and disposal system based on University needs and to meet and maintain level-of-service standards. Sanitary sewer systems at campus

sites consist of master pump stations, gravity sewer lines sanitary lift stations, and tie in connection points. Increases in sanitary waste throughout University sites can be attributed to a growth in student enrollment. The University is continuing to pursue efforts to evaluate the efficiency of the infiltration and inflow system. Since the University has not identified source funding at this present time, any deficiency within the systems, based on recommendations from the study, will be a challenge to implement. Projected upgrades to the master pump system and gravity sewer lines at BBC will be essential to maximum service and capacity.

The sanitary sewer LOS from 2010 to 2015 should be updated to reflect current consumption patterns. Furthermore, the LOS should be reported per capita.

TABLE 14: PROJECTED SANITARY SEWER LOS FOR 2015

Campus Host Cites	2015 Projections for AVG. GDP	2015 Gallons per Capita per Day
Modesto Madique Campus (MMC)	1,053,650 AVG. GDP	25
Biscayne Bay Campus (BBC)	104,946 AVG. GDP	11

Problems and Obstacles in Meeting Goals, Objectives and Policies

Miami-Dade County Water and Sewer Department (M-DWASD)

Miami-Dade County Water and Sewer Department has made improvements to the County's sewer system as a result of an Agreement with the Environmental Protection Agency. All pump stations are now monitored and certified by the County. Infiltration and inflow improvements at campus sites have helped to reduce the flow of systems based on amendments to the County's master plan adopted in 2005. Based on future enrollment projections, current improvements will not meet the needs of the projected growth based on Miami-Dade County standards. The University will need to partner with the County to reassess agreements with M-DWASD and the other host communities to ensure all campus sites have sufficient capacity to meet the existing and future development needs of the University.

The City of North Miami:

Biscayne Bay (BBC) Campus sanitary sewer system is connected to the City of North Miami. The City of North Miami has made several upgrades to the existing sanitary sewer pump station. As the University projected enrollment increases during the next planning phase, the University should evaluate service and capacity outputs of the pump station.

Proposed Plan Amendments

- Reassess LOS for sanitary sewer systems annually; provide updates to the Campus Master plan accordingly based on actual consumption patterns.
- Strengthen partnerships with host communities in an effort to improve sanitary sewer systems at campus sites and mitigate infiltration and inflow deficiencies.

- Identify improved timing and phasing priorities of future sanitary sewer projects to maximize efficiency and capacity.

SOLID WASTE

Level of Service

University staff and public/private entities collect and dispose of solid waste throughout the campus sites. Most solid waste is disposed through recycling services. Other solid waste is disposed through land fill services. The Miami-Dade County's solid waste facilities service the University's campus sites in addition to servicing the entire county. Solid waste facilities include the Resources Recovery waste-to-energy facility, the North Dade Landfill (a trash-only facility) and the South Dade Landfill (a garbage and trash facility). These facilities are supported by three regional waste transfer stations. Trash is collected in dumpsters using various on-campus locations throughout campus sites. Trash collection fluctuates depending on academic session (increased solid waste collection during fall and spring sessions and limited solid waste collection during summer session).

The university generates 7.73 pounds per FTE of solid waste per year. This is based on level service standard of 1.85 pounds per FTE per day as adopted by the Campus Master Plan.

The FIU recycling program is a single stream recycling program in which all recyclable items can be placed into one bin and do not have to be sorted. The University's current recycling rate is 30 percent with a goal to recycle 50 percent of solid waste by 2015. There are over 4,200 recycling bins on all campus sites. The University recycles 39 tons (78,250 pounds) per week and over 155 tons (313,000) per month. The University recycles a variety of products to include: paper (books); deconstructed personal documents; cardboard; aluminum; tires and oil filters; and yard waste and wooden pallets. The University also recycles old car batteries. The amount of recycled materials has increased significantly since the inception of the program and continues to grow as enrollment exceeds university projections.

TABLE 15: SOLID WASTE AND RECYCLING MATERIAL GENERATED BY FIU SITE: 2010-2011

FIU Site	FTE's	Tons/Year	Tons/Day	LOS
Modesto Madique Campus (MMC)	22,246	2,355	6.45	0.85 lbs per FTE per Day
Biscayne Bay Campus (BBC)	4,417	468	1.48	0.58 lbs per FTE per Day
Total	26,663	2,823	7.93	

TABLE 16: SOLID WASTE PROJECTIONS FOR 2014-2015

FIU Site	FTE's	Tons/Year	Tons/Day	LOS
Modesto Madique Campus (MMC)	29,769	3,151	8.63	0.58 lbs per FTE per Day
Biscayne Bay Campus (BBC)	5,889	623	1.71	0.58 lbs per FTE per Day
Total	35,658	3,774	10.34	0.58 lbs per FTE per Day

Problems and Obstacles in Meeting Goals, Objectives and Policies

New federal and state laws are requiring localities to perform cost/benefit analysis reports for solid waste management, to update it annually, and to provide this cost information to consumers. A Solid Waste Management Trust Fund was established to encourage innovative solutions to solid waste management and recycling, and encouragement of the use of enterprise funds to operate solid waste services. The University should consult with host cities annually to stay up to date on any changes to policies regarding solid waste programs.

Proposed Plan Amendments

- As part of the solid waste goals, objectives and policies, attention should be given to policies which lead to the implementation of programs for the recycling of white materials goods.
- Develop partnerships, goal, objectives, and policies for the University to participate in the Solid Waste Management Trust Fund.

ELEMENT 10: UTILITIES

HOT WATER AND CHILLED WATER

Level of Service

An inventory of existing steam and chilled water distribution systems at Biscayne Bay (BBC) Campus, the Engineering Center (EC), and other site facilities indicate system capacities are adequate to meet future projected needs of the University.

Since the last Master Plan update, FIU has upgraded the ability to pump chilled water to all the growth areas. It has optimized the efficiency the generating and pumping equipment and has increased the capacity of the system to satisfy the higher chilled water demands of new buildings. For example, the University expanded the Chilled Water Loop at Modesto A. Maidique (MMC) Campus and has improved the capacity of the chiller plant and chiller no. 3.

Challenges/Opportunities

FIU's building standards need to be updated. The standards provide parameters for piping, controls, and pumping arrangements. They also stipulate piping loop materials and methods of installation. The updates should include considerations for the use of alternative sources of energy (cogeneration), as well as thermal storage, and other energy conservation measures.

Recommendations

- Ensure identified utilities service capacity and capital improvements requirements are adequate to correct existing deficiencies and meet future needs.
- Update building standards to include considerations for the use of alternative sources of energy, as well as thermal storage, and other energy conservation measures.

H.B. 5201 Section 30 states "Each Florida College and State University shall strive to reduce its campus wide energy consumption by 10 percent." The reduction may be obtained by either reducing the cost of the energy consumed or by reducing total energy usage, or a combination of both. In accordance with this statute, FIU has been modifying its Campus Master Plan to reflect a more energy efficient community. The Chilled Water Loop, located at Modesto A. Maidique (MMC) Campus, operates a central chilled loop source throughout campus. The Central Utility Building located near the Wolfe University Center produces the chilled water throughout Biscayne Bay Campus. The Central Utility Building houses three chillers, cooling towers, condenser, and chilled water transport pumps. The Engineering Center has three (3) chillers: one (1) New 1,000.00 ton

and two (2) older 600.00 ton circuits.

Currently, the new Satellite Chiller Plant (SCP), with a proposed location attached to Parking Garage-4 (PG-4), will provide space for two (2) 1,500 ton chillers and cooling towers; shell space for three (3) future 1,500 ton chillers and cooling towers; and support two (2) emergency generators providing a minimum chilled water capacity of 3,000 tons during periods of power outage.

ELECTRICAL POWER

Level of Service

Electrical energy is furnished to FIU by Florida Power and Light (FP&L). The University maintains a close relation with FPL to assure adequate levels of services for future development.

FIU completed several projects to mitigate energy consumption. Facilities management introduced a 5-Year Energy Conservation Plan that incorporated the installation an Energy Management System (EMS). EMS centrally controls lighting in 95% of the buildings and 5% freestanding units on campuses and host sites. Additionally, the University replaced all general ballasts with T8 fluorescent tubes and electronic ballasts which use fewer watts than general ballasts. Since 2009, FIU has been ranked as the most energy efficient state University by the SUS in the summer of 2011. Ranking is based on KBTU/SF - the Energy Performance Indicator (EPI) used by the EPA in its Energy Star rating program.

Challenges/Opportunities

The University is in the process of designing guidelines that will incorporate FPL requirements for building standards. By complying with the recommended standards, FIU will be able to participate in FP&L's incentive programs. The incentives will reduce the cost of energy saving improvements and will help FIU to reduce the cost of utilities.

Recommendations

Develop design guidelines that incorporate FPL building standards and require the University to participate in FP&L's energy saving incentive programs.

TELECOMMUNICATIONS

Level of Service

The primary distribution system for FIU is an encased duct bank system routed underground strategically placed to feed primary switches, transformers and associated buildings.

FIU has improved the capacity of its telecommunications system by expanding the grid and reinforcing the existing system with new duct banks. Fiber optic has been installed throughout FIU with new construction

projects. Wireless is provided through University host sites, to include all buildings, public areas, and limited open space areas.

Challenges/Opportunities

As student enrollment increases, wireless capacity will increase. The University should take steps to ensure wireless capabilities are upgraded as needed to keep on the cutting edge of technology.

Recommendations

Since adopting the last Campus Master Plan, the University has taken measures to ensure all campus facilities have wireless internet services. Based on Community Workshop feedback, the University community would like to see wireless services to be more user friendly. The University should reassess the efficacy of its current wireless applications and develop more efficient processes to ensure easier accessibility to students, faculty, and staff at all facilities.

The University should consider improving the quality of telecommunication services within campus facilities from wireless to cellular (e.g. 3G, 4G, or WiMax networks) as these may replace University-based Wi-Fi for data.

ELEMENT 11: TRANSPORTATION

The Transportation Element provides a plan for future motorized and non-motorized traffic circulation systems to ensure: the provision of adequate transit, vehicular circulation and parking facilities; the provision of adequate pedestrian and non-vehicular circulation facilities to meet the future needs of the University; and to coordinate the location of these facilities planned in the host community in the context area.

Accomplishments in Meeting Goals, Objectives and Policies

FIU is a commuter-oriented institution. As such, it must maintain a transportation system provides that adequate roadway capacity, parking and transit services. Below is a list of the various improvements that FIU has made to its transportation system since the last Campus Master Plan Update:

PARKING STRUCTURES

Parking Garage Five (Market Station)

This parking structure began operations in the fall semester of 2010. The 7-story mixed-use building houses a 2,000 car open parking garage, and three classrooms that accommodate up to 360 students. The ground floor includes a variety of restaurant venues including Chick-fil-A, Moe's, Papa Johns and Salad Creations.

Parking Garage Six

A two-building residence hall and a new 300-car parking garage will be erected on the current site of the Panther Hall parking lot. When the project is finished, the University will have added more than 600 needed new beds and created a new gathering area for students near the FIU Stadium. Construction is expected to be completed in August of 2013.

EXPRESS BUSES AND SHUTTLES SERVICES

FIU offers shuttle buses between the three main campuses. They provide students, faculty, and staff with an alternative to driving, and help lessen the burden of parking on the campuses.
Golden Panther Express

The Golden Panther Express Shuttle

This shuttle provides an alternative to driving between FIU's two main campuses: Modesto A. Maidique Campus and Biscayne Bay Campus for a charge of $2.50 (one way trip).

CATS Shuttle

The CATS shuttle is a free service from the Modesto A. Maidique Campus to the College of Engineering and Computing located on 107th Avenue and Flagler Street. There is no charge for this service.

BBC Housing Shuttle

This shuttle provides transportation between the Biscayne Bay Campus and the Aventura Mall. This service runs from 7:00pm to 12:00am on Wednesdays and Saturdays.

SUSTAINABILITY PROGRAMS

GreenRide Carpool Program

The GreenRide Carpool Program was adopted in 2008. It is a web-based application that promotes the use of alternative transportation on campus. The GreenRide Carpool Program provides a solution that reduces transportation related greenhouse gas emissions and tracks the savings. The program allows users to search for other carpool members by selecting location, schedules, and lifestyle preferences. Users will remain anonymous until users decide to form a group. Users can view potential ride matches from a map. It's quick and easy to use. GreenRide carpool Program also benefits members of the FIU community by providing close parking for car poolers.

Ticketless Bus System

All the FIU Shuttle buses have now moved to a ticketless system.

FIU Fleet

Over the past few years, FIU has reduced the number of vehicles in the fleet. In January 2009, the entire university diesel fleet switched to 20% Bio-diesel. EPA studies have shown a decrease of emissions from vehicles running on Bio-diesel.

Bicycling

The FIU Department of Transportation together with the FIU office of Sustainability have been promoting ways to increase bicycling on campus.

- **Free Bike Repair Shop**
  This shop funded in 2011, is headed by a student who partners with University Sustainability, I.D.E.A.S., and S.E.A. The bike shop is available every Wednesday at the FIU Organic Farmer's Market.
- **New Bike Lanes**
  Parking and Transportation is currently widening sections of Campus Loop Road to include a bike lane. They have also installed bike pumps on the bike racks around campus.

Connect by Hertz

This service allows FIU students to rent a car by the hour. There are three fuel efficient Toyota Priuses available for rent at the Modesto A. Maidique Campus.

Miami-Dade Transit Passes

The University offers half price students, faculty, and staff transit passes for Miami-Dade Transit as promoting public transportation will ease the commute as the South Florida population continues to grow and result in more cars on the road. The University is discussing possible future partnerships with Miami-Dade Expressway Authority, Miami-Dade Transit Authority, Florida Department of Transportation, the City of Sweetwater, and Miami-Dade County Parks and Recreation to significantly reduce emissions from transportation.

Problems and Obstacles in Meeting Goals, Objectives and Policies

Parking Facilities

With the growth of enrollment, parking accessibility continues to be a great concern to faculty, staff and student at Modesto A. Maidique Campus. Even though new parking structures had been erected it the general perception is that parking has not kept pace with student enrollment and development. Alternatives ways to transportation must continue to be enhanced and explored to alleviate this problem.

Traffic Congestion

Traffic congestion is an issue of great concern to FIU and its host communities. The problem is that all of the FIU sites are served by roadways that provide regional connection and attract a substantial amount of through traffic. As surrounding communities continue to develop, it is expected that their growth will generate additional traffic in and around the various FIU campus sites.

Pedestrian Circulation

Pedestrian circulation remains a major design goal at all of the FIU sites. Although improvements have been made, more needs to be done to make the campuses more conducive to pedestrian use. Indeed, many of the existing walkways do not allow for direct access to key areas due to obstruction from buildings and other barriers. Some of the walkways also lack adequate shade and lighting. During the next planning cycle, FIU should continue its efforts to enhance its pedestrian corridors and to improve ways of-finding key locations on campus.

Need to Reduce Automobile Use

Significant efforts have been made since the last Campus Master Plan Update to reduce automobile use on campus sites to include carpool incentives and bank of cars service from Hertz. However, these efforts must be greatly expanded as many of the transportation problems that the University faces today stem from the high concentration of vehicles on campus.

Needed Modifications Based On Unforeseen Opportunities/Changes

Light Rail Stations at FIU

Miami-Dade Transit will not consider the addition of an East-West Metrorail line along 107th Avenue. However some future link to light rail along 8th street or 117th avenue may be possible. This plan could create an alternative mode of transportation for students and staff and improve accessibility to the university. If this plan is eventually revived and approved, FIU will need to amend its Campus Master Plan.

UniversityCity/Off-Campus Parking

Currently, FIU does not offer any off-campus parking facilities. However, this policy may be revised based on development of the new UniversityCity project. This joint multi government /university endeavor is planned to be located in the City of Sweetwater across from the Modesto Maidique Campus. UniversityCity will integrate the neighbor city with the University and will provide among other things a possible location for off-campus parking together with a multimodal street, pedestrian friendly system for easy access from and to FIU.

Proposed Plan Amendments

- Continue to explore strategies for meeting the parking needs at MMC, including off-campus parking at UniversityCity project in the City of Sweetwater
- Identify strategies to expand and enhance alternative transportation and sustainability programs
- Support work with the Miami-Dade Transit Department to increase transit services at FIU campuses, including advocating and lobbying for Metrorail extensions that would serve MMC, the EC and western Miami-Dade County communities.

ELEMENT 12: INTERGOVERNMENTAL COORDINATION

The goal of the Intergovernmental Coordination Element is to identify the response needs and coordination processes of the university with host communities and other local, regional, state, and federal agencies and to ensure that the university provides adequate planning, resolves incompatible policies, and properly implement the goals, objectives, policies, and developments proposed in the Campus Master Plan.

Accomplishments in Meeting Goals, Objectives and Policies

The University interacts with a host of local, state, and federal agencies in an effort to maintain cordial working relationships. To date, the University has level-of-service standards and concurrency requirements for public facilities which are not in conflict with host communities. The University has in place agreements for the provision of potable water, sanitary sewer, solid waste collection and disposal, public transit, fire protection, electric power and telecommunications services to meet demands generated by the University's rapid growth. Stormwater management needs and conservation resources are controlled through agency permits and memoranda of agreement.

One of the more important intergovernmental arrangements between the University and public agencies has been developed by the FIU Public Safety Department for hurricane evacuation procedures. The Emergency Operations Plan, updated annually, describes necessary preparation and implementation of actions required to secure and evacuate campus sites. FIU has formed an agreement with the American Red Cross and the Monroe County Office of Emergency Management to provide emergency shelter "during hurricanes or other disasters that cause the evacuation of residents from Monroe County and for resident students who have not left campus." Unfortunately this has created problems for FIU when hurricane evacuations may be ordered for parts of Monroe County while Miami-Dade County is not threatened or under warnings and classes and business operations are able to continue in a normal fashion. The use of FIU as a shelter facility has been found to seriously disrupt normal activities at FIU, as evacuees occupy parking spaces, recreation spaces and other spaces needed for normal FIU operations.

Problems and Obstacles in Meeting Goals, Objectives and Policies

Providing an adequate supply of affordable off-campus housing continues to be a problem. The off-campus housing that is available near Campus is directed to a higher income group. This pushes affordable housing for upper classman, graduate and international students, faculty and staff further from the Campus. This also limits the ability of the university community to bike, walk or take local transportation to Campus. Existing coordination mechanisms do not ensure that there will be an adequate supply of affordable off-campus housing to meet the needs of the University. The University must work with the host communities to effective strategize affordable housing options, not only for the university community, but for host communities as well. Eliminating housing disparities is a communal problem which involves communities working together to eliminate the obstacle.

Needed Modifications Based On Unforeseen Opportunities/Changes

City of Sweetwater Comprehensive Plan

The City of Sweetwater is amending its Comprehensive plan to create mixed-use corridors along the portions of 107th Avenue, 109th Avenue, and SW 7th Terrace. Currently, there is a lack of coordination in the planning process for FIU and Sweetwater. Joint studies, strategies, and projects related to transportation, housing, infrastructure, water systems, social services, and educational attainment have been very limited. In addition, there exists currently a "culture of cars". This preference includes business owners, local elected officials, and the majority of university stakeholders. It is reflected in the low-density and single use built environment, parking policies, transit service and ridership levels, and levels of bicycle use and supportive programs. The Plan for Sweetwater Prosperity Campaign is designed help to educate people, build consensus and support for a more "limited cars" culture and identify desirable urban design solutions to help with the culture shift.

Water remains a critical obstacle for Sweetwater. This includes drinking water availability and quality, saltwater intrusion impacts on ecosystems and biodiversity, potential flooding from storms and sea level rise, and potential droughts and their related ecological and livability impacts. The University must increase dialogue with the City of Sweetwater to develop solutions to mitigate these obstacles. Lack of water options will also affect sanitary sewer services.

Modesto A. Maidique Build Out by 2015:

. Build-out projections will create a severe strain on infrastructure, utilities, and support services. In order to better meet the needs of the University and host communities, the University must reassess memoranda of agreement with host communities in efforts to explore land acquisition. Increasing the campus edges North and South would relieve strain on critical elements.

Proposed Plan Amendments

- Ensure that the University has an opportunity to review proposed amendments of host communities' Comprehensive Plans that change land uses or policies that impact development of land near designated campus space, that affect the provision of local services, or that otherwise impact University facilities and resources
- Assess the impacts of proposed development agreements on University facilities and resources
- Develop an evaluation system to ensure the University is meeting the level-of-service standards for public facilities and services that are interconnected with local facilities and services for which the local government have operational and maintenance responsibilities

- Strengthen partnerships with host communities, particularly the City of Sweetwater, to ensure development agreements are fulfilled and to mitigate potential conflict.

ELEMENT 13: CONSERVATION

The Conservation Element provides a framework to ensure the conservation, protection and wise use of all natural ecosystems and natural resources on the University campus and in the context area in accordance to local, state, and federal guidelines.

Accomplishments in Meeting Goals, Objectives and Policies

The University has developed conservation programs that protect air quality and developed projects that consider current and future conservation and utility needs of the University. The University set benchmarks in establishing protocol and implementation for environmental protection standards to include water quality and quantity. Additionally, the University strives to protect sensitive areas at campus sites through buffer controls, invasive species eradication, and the incorporation native vegetative communities in landscaping projects. These benchmarks have reduced considerable amounts hazardous waste materials generated from facilities projects.

The Modesto A. Maidique (MMC) Campus contains relatively few naturally vegetated areas. However, those areas that contain natural vegetation are zoned and maintained by campus facilities staff. Several zoned areas through MMC were placed on a 10-year "conservation" designation list. If within the ten year period funding cannot be identified to develop the zone as recommended by the 2003 planning charrette, the University would reconsider the "conservation" status. Since that period, those areas not designated as conservation space have been converted to small development projects and open recreation space.

The University leads the way in campus sustainability projects. The Office of Sustainability's mission is to implement policies and procedures regarding the integration of environmental sustainability into its operations, education, research, and outreach. The Office of University Sustainability encourages participation from students, faculty, and staff to generate knowledge, acquire skills, develop values, and initiate practices that contribute to a sustainable, high quality of life on campus sites. Since its inception in 2007 the office has facilitated in implementing the following programs:

Ecosystems

FIU is the first school in Florida to become an Arbor Day Foundation's Tree Campus USA. Tree Campus USA recognizes colleges and universities for promoting urban forest management and engaging the campus community in environmental stewardship.

In 2009, Drs. Scott Zona and Brad Bennet released an FIU Campus Tree Guide for MMC. The easy-to-use guide showcases many of FIU's tree species and provides a great learning tool for students. Many of the trees around MMC have these tags on them that tell you about the tree.

The Mangrove Restoration Project provided hands on educational experience to students of Alonzo & Tracy

Mourning High School. The high school students, along with faculty and students from the Biscayne Bay Campus participated in transferring 1,200 red mangrove propagules from greenhouses at BBC to Oleta State Park. This project helped to slow down pollutants and trash that might otherwise make its way out to sea, protecting coral reefs in the area. The roots also offer valuable protection against the wind, waves and tides that can wreak havoc in low-lying South Florida, particularly during a hurricane.

FIU Nature Preserve

In 2010, a Charrette was incorporated into the maintenance program for the preserve. In addition to the Charrette, the Preserve Manager provides maintenance to the area by removing exotic invasive plants, planting native plants, and clearing and marking trails. Currently, the Environmental Preserve Committee is working with university groups to maintain the preservation of the Preserve and enhance its features.

Problems and Obstacles in Meeting Goals, Objectives and Policies

Surface water quality

Storm water runoff from roadways, parking lots and impervious surfaces is likely the principal source of water pollution for both campuses. Runoff from landscaped and grassed areas may also contribute to water pollution. Lack of water quality measures may it difficult to assess pollutant levels caused by campus activities.

Needed Modifications Based On Unforeseen Opportunities/Changes

As the University increases in size over the next period, the demand for sustainability programs will increase accordingly. The University should consider increasing sustainability programs in a manner that aligns with projected campus growth.

Sustainable Campus Environment

The University should continue to implement policies that address sustainable campus design. During the community workshops, students, faculty and staff expressed the desire to maintain and improve sustainable campus programs at the University. Modifications to these campus programs will improve the University's ability to reduce utility and maintenance costs through recycling, energy efficiency, conservation, and building standards.

Proposed Plan Amendments

- Support air quality and water quality monitoring programs to document pollutant levels generated by campus facilities.
- Support areas designated as conservation space by adhering to compliance benchmarks set by regulatory agencies. Adhere to mitigation requirements for development impacting flood prone areas.
- Support sustainability programs in order to -meet or exceed current and future needs of the University.

ELEMENT 14: CAPITAL IMPROVEMENTS

The Capital Improvements Element evaluates the need for public facilities as identified in other campus Master Plan elements to estimate the cost of improvements for which the University has fiscal responsibility; analyze the fiscal capability of the University to finance and construct improvements; adopt financial policies to guide the funding of improvements; and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required based on needs identified in the other Campus Master Plan elements.

Accomplishments in Meeting Goals, Objectives and Policies

FIU has undertaken an aggressive capital improvements campaign in order to address the space shortage at Modesto A. Maidique Campus. The 2005-2015 Capital Improvements Plan in the Campus Master Plan called for the construction of 70 projects. During the same time period 15 new buildings at the University were occupied. Due to the reduction of PECO Outlay funding and other match grant programs, a reassessment of project priorities were implemented by the University.

TABLE 17 OCCUPIED BUILDINGS 2006-2011

CAMPUS NAME / BUILDING NAME (ACRONYM)	YEAR OCCUPIED
Modesto A. Maidique Campus	
Lakeview Housing - North **(LHN)**	2006
Lakeview Housing - South **(LHS)**	2006
Rafael Diaz-Balart Hall **(RDB)**	2006
Patricia & Phillip Frost Museum **(PPFAM)**	2007
College Of Business Complex **(CBC)**	2007
Central Utilities Two **(CU2)**	2007
Art Studio **(AS)**	2007
Academic Health Center 3 **(AHC3)**	2009
School of International & Public Affairs **(SIPA)**	2010
PG5 Market Station **(PG5)**	2010
Engineering Center	
Solar Decathlon House **(SDH)**	2007
Wall of Wind Research Facility **(WoWRF)**	2008
Miami Beach Women's Club	
Miami Beach Women's Club **(MBWC)**	2009
FIU Downtown on Brickell	
FIU Downtown on Brickell North **(FDBN)**	2011
FIU Downtown on Brickell South **(FDBS)**	2011

Problems and Obstacles in Meeting Goals, Objectives and Policies

Sustain state investment in FIU to support economic recovery and produce an educated workforce

Since 2007-2008, the State University System (SUS) has seen over a 23 percent reduction in state funds to the universities base budgets. Mitigating further state funding reductions is imperative to maintain current funding levels for University programs to support more than 44,000 FIU students. An aggressive University-wide fundraising campaign could help support growth of the University.

Secure Public Education Capital Outlay (PECO) funds

Although not controlled by FIU, PECO funding is critical to the continued growth and in turn success of FIU. FIU's request for Facilities/Infrastructure/Capital Renewal is $10.5M. FIU's PECO priorities include the Student Academic Support Center at $7.8M, Land Acquisition at $2 M and the Satellite Chiller Plant at $7M

Needed Modifications Based On Unforeseen Opportunities/Changes

The University must keep identifying funding mechanisms for capital improvements from private donations, state match and federal grants as the funds coming from the State of Florida keep reducing.

Proposed Plan Amendments

In order to address the capital improvement needs discussed throughout this document, FIU has developed a Ten-Year Capital Improvement Plan (CIP). The Campus Master Plan needs to be updated to reflect the proposed 2005-2015 CIP.

TABLE 18: FLORIDA INTERNATIONAL UNIVERSITY CAPITAL IMPROVEMENT PLAN (2005-2015)

Program Element Description	Use	Total Area GSF	Cost	Projected Year of Completion
Modesto Madique Campus (MMC)& Engineering Center				
Social Sciences		57,085	$17,130,000	2015
Parking Garage 6	Parking Spaces	523,000	$8,400,000	2015
Hotel		212,800	$74,480,000	2015
Mixed Use 1		60,000	$21,000,000	2015
Mixed Use 2		40,000	$14,000,000	2015
Ambulatory Care Clinic		120,000	$57,000,000	2015
MOB / Clinic Expansion		100,000	$47,500,000	2015
Academic / Office		100,000	$30,000,000	2015
Research 1		140,000	$58,100,000	2015
Housing / Academic	Academic		$9,770,000	2015
	Housing (246 beds)	130,266	$17,100,000	2015
Housing @ Main Street 1	Academic		$2,150,000	2015
	Support		$1,790,000	2015
	Housing (246 beds)	100,100	$15,020,000	2015
Housing @ Main Street 2	Academic		$4,290,000	2015
	Support		$3,580,000	2015
	Housing (246 beds)		$15,020,000	2015
Academic / Office	Academic		$2,150,000	2015
	Support		$1,790,000	2015
	Housing (246 beds)	100,100	$15,020,000	2015
Student Support Addition		170,000	$51,000,000	2015
Greek Housing 3	(40 beds)	14,400	$2,520,000	2015
Construction Management / Academic (EC)	Academic		$29,000,000	2015
	Support	110,800	$3,500,000	2015
Research 2		165,000	$68,480,000	2016
Research 3		136,500	$56,650,000	2016
Academic / Office		128,500	$38,550,000	2016
Honors College		39,648	$11,890,000	2016
IT / Study		82,200	$28,770,000	2016
Greek Housing 4	(40 beds)	14,400	$2,520,000	2016
Greek Housing 5	(40 beds)	14,400	$2,520,000	2016
Facilities Infrastructure / Capital Renewal		N/A	$105,130,000	2005-2015
College of Nursing		103,653	$41,460,000	2010
Graduate School of Business Phase 1		87,528	$30,640,000	2010
Art Museum Addition		48,874	$24,440,000	2010
Parking Garage 5	Parking Spaces	785,000	$12,000,000	2010
	Public Safety		$1,200,000	2010
	Office		$2,850,000	2010
	Mixed Use		$10,500,000	2010
Hurricane Research Center		31,760	$12,700,000	2011
Arena Expansion		7,000	$2,450,000	2011
Recreational Sports		34,000	$11,900,000	2011
Parkview Housing 1	Support		$3,750,000	2012
	Housing (246 beds)	105,000	$15,750,000	2012
Parkview Housing 2	Support		$3,750,000	2012
	Housing (246 beds)	105,000	$15,750,000	2012
Housing	Support		$3,750,000	2012
	Housing (246 beds)	105,000	$15,750,000	2012
Alumni Center		17,300	$6,060,000	2013
Science Lab Complex (BT-876)		127,200	$52,790,000	2013
Student Academic Support Center		80,000	$24,000,000	2013
Public Health		140,000	$56,000,000	2013
Satellite Chiller Plant Expansion		12,500	$3,130,000	2013
Patient Hospital Tower		207,000	$103,500,000	2013
Humanities		77,600	$23,280,000	2014
Observatory (BT-814)		6,866	$2,400,000	2014
Graduate School of Business Phase 2		89,312	$31,260,000	2014
Training Complex		40,432	$12,130,000	2014
Graduate Housing 1	Support		$3,650,000	2014
	Housing (205 beds)	87,600	$12,780,000	2014
Graduate Housing 2	Support		$3,650,000	2014
	Housing (205 beds)	87,600	$12,780,000	2014
	Subtotal	**4,945,424**	**$1,371,870,000**	

Program Element Description	Use	Total Area GSF	Cost	Projected Year of Completion
Biscayne Bay Campus (BBC)				
Student Housing 1	Support		$3,580,000	2013
	Housing (328 beds)	128,700	$20,020,000	2013
Carnival Student Center		2,550	$890,000	2014
Classrooms / Office		54,000	$18,900,000	2015
Classrooms / Research Labs		72,000	$28,800,000	2015
Student Housing 2	Support		$3,580,000	2015
	Housing (328 beds)	128,700	$20,020,000	2015
Conference Center / Hotel		77,250	$27,040,000	2015
	Subtotal	**463,200**	**$122,830,000**	

ELEMENT 15: ARCHITECTURAL GUIDELINES

The Architectural Guidelines Element establishes guidelines to assist in achieving excellence in design, the criteria of programmatic needs, budget, sustainable site conditions, campus context, and academic mission in order to meet the needs of the University.

Accomplishments in Meeting Goals, Objectives and Policies

Designs of the buildings completed since the last Campus Master Plan Update were coordinated through the requirements dictated by FIU's Architectural Design Guidelines, which include criteria for the creation of facilities to blend into the academic environment and learning experience. Architectural guidelines provide for review processes to assure both design and construction projects meet the Architectural Design Guidelines and the specific plan's objectives; and it provides the mechanism to assure compliance with ADA objectives of providing accessibility to University facilities for all persons, regardless of physical limitations.

Leadership in Energy and Environmental Design (LEED) Buildings

Former President Modesto Maidique signed the ACUPCC in 2007, committing FIU to "establish a policy that all new campus construction will be built to at least the U.S. Green Building Council's LEED Silver standard or equivalent." Construction according to energy-efficient and sustainable buildings at state universities and other public buildings is also mandated by Florida Statute 255.2575. LEED certification provides third-party verification that a building was built using green strategies and aimed to have less impact on the environment. Some of the areas that LEED measures are energy savings, water efficiency, carbon dioxide emissions reduction, and improved indoor environmental quality. FIU's LEED Buildings include:

- **The Academic Health Center 3 or College of Nursing and Health Sciences Building**
  This the first FIU LEED certified building. The building opened in January 2010 and became LEED Silver certified one year after. Certification of all buildings is always one year after the date of opening. This gives time to make sure the building lives up to performance standards. Education signage is featured throughout AHC3 that showcases the different environmental initiatives in the building. There is a partial green roof on the third floor and a reflective roof that helps reduce the heat island effect. Click here for more information on AHC3.

- **FIU's School of International and Public Affairs building**
  This building opened in January 2011 and received the LEED Gold certification in January 2012. The building features South Florida's largest green roof planted with native flowers and photovoltaic solar panels on the highest roof.

Problems and Obstacles in Meeting Goals, Objectives and Policies

None Reported

Needed Modifications Based On Unforeseen Opportunities/Changes

Creating Links to the Bay at Biscayne Bay Campus

The campus offers spectacular bay views to its visitors and users. Such an attractive asset should be enhanced with new architectural elements included into new facility construction. This can include boardwalks, outdoor cafes and recreational areas. Such amenities can be incorporated into new construction by careful and thoughtful design, giving definition for functionality to its users.

Future Development at Engineering Center

With new facilities planned for the site, there will be the need to re-assess how the University projects its image to the community. The design of the new facilities should be consistent with Modesto A. Maidique Campus, to create visual connectivity between the two sites. There is also an opportunity to place landscape and vegetative buffers along edges that enhance the site and create a facility which opens up to the community.

Needed Modifications Based On Unforeseen Opportunities/Changes

None

ELEMENT 16: LANDSCAPE DESIGN GUIDELINES

The Landscape Design Guidelines Element provides a framework to assist the University in establishing and maintaining excellence of quality in the design of landscape treatments.

Accomplishments in Meeting Goals, Objectives and Policies

The FIU Master Plan provides a template for landscape and hardscape treatments at MMC, BBC, and EC. It creates guidelines for the landscape design in common areas and specifies the types of plant, building material and site furniture to use. It also creates a hierarchy of spaces and calls for landscaped features to reinforce main circulation routes.

Problems and Obstacles in Meeting Goals, Objectives and Policies

Need for Shaded Areas and Outdoor Gathering Spaces

An assessment of the landscape features at FIU revealed that there is a limited amount of shaded walkways, gathering spaces and outdoor furniture at all of the FIU sites. Such features are important in South Florida's climate. They provide shelter from the heat, generate points of interest, and create a transition from buildings to open space.

Limited Funding

Lack of funding has limited the University's ability to complete some landscape improvements and outdoor facilities. The University needs to identify additional funding sources to carry out these projects.

Needed Modifications Based On Unforeseen Opportunities/Changes

- Support Increased amounts of shaded walkways and outdoor gathering spaces through landscaping and outdoor furnishing
- Identify funding sources to carry out landscape projects

Proposed Plan Amendments

None

ELEMENT 17: FACILITIES MAINTENANCE

The Facilities Maintenance Element assesses existing conditions and required improvements of all existing buildings on the University campus. Additionally, the Facilities Maintenance Elements provides cost effective planning for future facilities.

Accomplishments in Meeting Goals, Objectives and Policies

FIU is committed to maintaining its facilities and has established a strong maintenance program which includes inspections, code compliance, and deferred maintenance programs. A Maintenance Endowment Account provides funds for the ongoing maintenance of existing buildings. Through the endowment, the University has been able to make upgrades/renovations to existing facilities such as more efficient and controllable HVAC systems, changes to plumbing fixtures that reduce energy consumption, more durable and easier to maintain finishes. Finally, the University has established standards for building material, finishes and systems which are intended to reduce the cost of maintenance.

Problems and Obstacles in Meeting Goals, Objectives and Policies

None Reported

Needed Modifications Based On Unforeseen Opportunities/Changes

None

Proposed Plan Amendments

The University should consider measures to address retrofit of existing buildings and the maintenance and operation of facilities according to LEED principals.

ELEMENT 18: COSTAL MANAGEMENT

The Coastal Management Element provides a framework for the protection of residents and property in those campuses or portions of campuses within the coastal area of the host community, and to limit expenditures, and where appropriate, restrict development, in those areas subject to destruction by natural disaster within the coastal high hazard area.

Accomplishments in Meeting Goals, Objectives and Policies

Coastal and Estuary Resources at Biscayne Bay Campus

Located on the shores of the Biscayne Bay Preserve, the Biscayne Bay Campus is one of a few university sites nationwide located on a subtropical coastal setting. Any development which takes place on this campus must take into account hurricanes and flooding. It must also be sensitive to the natural resources that surround the campus.

Mangrove Restoration Project at BBC

Led by environmental coordinator, Jennifer Grimm, students from FIU's School of Environment and Society work to gather and propagate thousands of mangrove seedlings as part of an ongoing mangrove restoration project begun in April 2009. The project benefits the BBC campus' neighbor, Oleta River State Park and involves high school students from the Alonzo and Tracy Mourning High School. Combining research, education, outreach and engagement, this project represents the kind of collaboration the School of Environment and Society wants to encourage.

Board Our Bay

This program brings the community out onto Biscayne Bay. Participants will experience the Bay's extreme beauty and understand its importance. Guided kayak trips are conducted monthly

Hurricane Evacuation

FIU provides shelter at Modesto A. Maidique Campus to students, faculty and staff who need to evacuate, including students housed at Biscayne Bay Campus. The University also serves as a hurricane shelter to residents of Monroe County. As required by the State University System, FIU conducted an assessment to identify the facilities most suitable to serve as shelters and explored various alternatives for expanding shelter space.

Problems and Obstacles in Meeting Goals, Objectives and Policies

None Reported

Needed Modifications Based On Unforeseen Opportunities/Changes

None

Proposed Plan Amendments

None

STATE AND LOCAL COMPREHENSIVE PLAN CHANGES

The adopted campus master plan must, as required by Section1013.30 (5), Florida Statutes, be consistent with the State Comprehensive Plan, and not in conflict with the Miami Dade County Comprehensive Plan. Both of these plans are subject to change from time to time.

The adopted State Comprehensive Plan (Section 187.201, Florida Statutes) was amended by the 2008 Florida Legislature. Those provisions of the Plan addressing air quality (10), energy (11) and land use (15) were amended to encourage the development and use of low-carbon-emitting electric power plants. There is nothing inconsistent between these amendments and the Florida International University campus master plan.

The adopted Miami Dade County Comprehensive Plan has been amended several times since the last update to the FIU campus master plan was prepared. These amendments are considered small scale and there is nothing inconsistent between them and the Florida International University campus master plan.

MONITORING AND EVALUATING

Master Plan Compliance

The FIU Campus Master Plan will be reviewed on an annual basis to ensure that the policies and objectives are being implemented as planned and to determine whether facilities are operating at the adopted Level-of-Service standards.

The annual review will be undertaken in conjunction with the annual preparation of FIU's Five-Year Capital Improvements Program (CIP) and budget process.

The review will provide an analysis of how well the CIP complies with the Master Plan and in particular- the Capital Improvements Element. This analysis will address the following issues:

- Any corrections, updates, and modifications concerning costs, revenue sources, or the date of construction of any facility enumerated in the element;
- The Capital Improvement Program's consistency with the Master Plan elements and its support of the Future Land Use Element;
- The priority assignment of existing public facility deficiencies;
- The University's progress in meeting those needs determined to be existing deficiencies
- The criteria used to evaluate capital improvement projects in order to ensure that projects are being ranked in their appropriate order of priority;
- The University's effectiveness in maintaining the adopted Level-Of-Service standards;
- The University's effectiveness in reviewing the impacts of plans and programs of local agencies that provide services to FIU;
- Efforts made to secure grants or private funds, whenever available, to finance the provision of capital improvements;
- The criteria used to evaluate proposed plan amendments and requests for new development or redevelopment; and;
- Capital improvements needed for the latter part of the planning period, for inclusion in the five-year Schedule of Improvements.

The Five-Year Capital Improvement Plan and any recommended amendments to the Campus Master Plan will be submitted to the Board of Trustees for adoption and to the appropriate state and local government for review.