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**SUPPORTING DATA****MASTER PLAN****11 Transportation****TRANSIT, CIRCULATION, AND PARKING SUB-ELEMENT****Introduction**

The Florida Atlantic University (FAU) Davie Campus is located in the Town of Davie, a suburban community west of Fort Lauderdale in Broward County. The Davie Campus consists of approximately eighteen (18) acres of leased land on the northwest quadrant of the Broward Community College (BCC) main campus. The FAU Davie Campus is comprised of a dozen or more modular temporary buildings and two permanent buildings containing approximately 100,000 gross square feet of classroom and office space and 65,000 gross square feet respectively. A third building housing the child and health care facilities is located southeast of the main FAU building.

FAU and BCC also share a joint use library at the center of the BCC campus, which is to become the defining focal point at the center of the BCC campus. Roadways surrounding the campus are Nova Drive to the north, Davie Road to the east, S.W. 39th Street to the south and College Avenue to the west.

The expansion of the FAU Davie Campus across College Avenue unto the former UF IFAS property will occur in the near future. However, since no FAU facilities exist on the site to date, these lands are not evaluated in the existing conditions time frame. Current IFAS facilities were not evaluated in regards to transportation related activities occurring today.

To analyze the transportation element of the Florida Atlantic University Davie Campus Master Plan, the *Guideline for the Comprehensive Campus Master Plan System*<sup>2</sup>, outlines the effort to consist of three primary parts; parking; transit, and traffic circulation. This analysis follows the guidance provided in Chapter 1013.30 FS.

This **Supporting Data** document provides a baseline of information from which the University's Goals, Objectives and Policies are founded. The Master Plan is intended to become the future guide for university growth. However, in order to guide this growth, the Master Plan must remain an active and progressive plan, with timely reviews and updates occurring on a continual basis.

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**SUPPORTING DATA****MASTER PLAN****11 Transportation****1. Data Requirements****1.a.1 Inventory of Existing Campus Parking Facilities**

Though not specifically assigned to the FAU Davie Campus, the most immediate parking area directly west of the modular units contains  $\pm 750$  spaces for students, faculty/staff, and visitors. These spaces are contained within the 18 acres of FAU leased lands.

Traditionally, there have been no designated parking areas for students attending FAU on the Broward Community College Campus. However, there are over 4,000 paved parking spaces available for use by *all* students, faculty, staff and visitors of the Broward Community College Campus. **Figure 11.1** shows the existing campus layout with building and parking lot locations. Enforcement of traffic rules is managed by Broward Community College Security.

**1.a.2 Special Events Parking**

There are no special events parking provisions for either FAU Davie or BCC.

**1.a.3 Inventory of Surface and Multi-Level Parking (Context Parking)**

There are no multi-level or context parking facilities for either the FAU Davie Campus or BCC. Parking for FAU is shared with the Broward Community College A. Hugh Adams Central Campus.

**1.b Inventory of Off-Campus Parking**

Off-campus parking does not exist for either FAU Davie or BCC. Off-campus parking is limited to occasional use during heavy peak events, such as class registration. However, these events have not been quantified.

**1.c Inventory of Accident Location**

**Table 11.1** details the recent accident information for locals roadway surrounding the campus. *Data is being collected and not complete to date.*

**1.d Existing Campus Roadway Classification**

Since all FAU Davie (**BCC**) Campus roadways specifically serve site traffic circulation purposes, they are unclassified according to the Broward County Highway Functional Classification System Map.

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**1.e Existing Context Roadway Classification**

The existing *context* roadway classification as identified by the Broward County Highway Functional Classification System Map is shown in **Table 11.2**. The context area and surrounding roadways is shown in **Figure 11.2**.

**TABLE 11.2 Context Roadway Functional Classification**

Roadway	Lanes	Functional Classification
University Drive	6-L	State Principal Arterial
S.R. 84/I-595	6/8-L	State Principal Arterial (limited access)
Griffin Road	6-L	State Minor Arterial
Davie Road	4-L	County Minor Arterial
S.W. 30 <sup>th</sup> Street	2-L	Unclassified
Nova Drive	2-L	County Collector
S.W. 39 <sup>th</sup> Street	2-L	Unclassified
College Avenue	2/3-L	Unclassified
Orange Drive	2-L	City Collector

**1.f Level of Service (LOS)**

The Broward County Board of Commissioners has adopted a level of service “D” for all context roadways in the study area. The context area roadways that currently exceed their adopted level of service “D” capacities include: College Avenue (SR 84-SW 39<sup>th</sup>); Nova Drive (University-Davie Road); SW 30<sup>th</sup> Street (University-College); University Drive (S.R. 84/I-595-Griffin); and Davie Road (S.R. 84/I-595-Nova). The first three (3) roadway segments listed above operated at 1.5 V/C or greater above the LOS “D” capacity. This is to say that the 2003 traffic levels (V) are 150% or greater above the capacity (C). The other segments as well as others in the area exceed the LOS “D” capacity at lower levels and are therefore not as congested.

**1.g Traffic Counts**

Broward County and FDOT maintain count stations for several area roadways. **Table 11.3** details selected daily traffic volumes collected and compiled by the Broward County Transportation Division. **Figure 11.3** depicts these and other count station locations and volumes. Limited data exist on campus roadway volumes. **Figure 11.4** depicts the PM Peak Hour Traffic Volumes (2003) for the same context area roadway segments.

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**TABLE 11.3 Traffic Volume Count Summary (2003 AADT)**

Site	Road	Location Description	24 hr. Volume
Campus Roadways			
T1	Main Entrance	@ College Avenue	N/A
T2	Loop Road	@ North Loop Road	N/A
Context Roadways <sup>1</sup>			
9317	College Avenue	South of Nova Road	17,700
7047	Nova Drive	West of Davie Road	20,800
7328	Nova Drive	East of University Drive	20,400
5313	Davie Road	South of S.R. 84/I-595	43,500
7970	Davie Road	North of S.W. 39 <sup>th</sup> Street	29,000
7038	Davie Road	North of Orange Drive	29,130
256	Griffin Road	East of University Drive	19,400
45	University Drive	South of S.R. 84/I-595	61,500
44	University Drive	North of Orange Drive	47,000
114	University Drive	South of Nova Road	52,500

1- Site numbers represent both FDOT and Broward County count locations. Volumes are AADT, Average Annual Daily Traffic (2-way)

**1.1h Existing University Trip Generation**

To estimate the FAU Davie Campus auto trip generation (external to campus), a person based trip generation approach was used. This approach utilizes the trip characteristics information centered in the State University System Transportation Study (SUSTS) conducted and prepared in 1993. This study documented the trip generation and characteristics at 14 University campuses including the FAU Davie Campus. The primary results or products of the study were the estimated auto trip rates (external) and average trip lengths (external) for both students and employees (faculty/staff). The FAU Davie Campus characteristics are presented in **Table 11.4**

**TABLE 11.4 FAU Davie Campus Trip Characteristics (External Trips)**

Population	Auto Trip Rate <sup>1</sup>	Auto Occupancy <sup>2</sup>	Average Trip Length
Students	1.87	1.04	8.87
Faculty/Staff	3.21	1.24	4.18

<sup>1</sup>Number of vehicle trip ends per day

<sup>2</sup> Persons per vehicle

These FAU Davie Campus specific characteristics were based on personal interviews and daily trip logs administered to students and employees. To determine the total auto trip

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generation associated with the students and faculty/staff, a direct application of these rates to population totals (headcounts) was prepared.

**Table 11.5** details these calculations. As noted, a total of 13,305 auto trip ends per day is estimated for the 2003-04 academic year. It should be noted that actual traffic counts have not been conducted at the two College Ave driveways proximate to the FAU facilities. Segregating BCC and FAU traffic is difficult given the joint use of the parking lots, athletic, and other facilities.

**TABLE 11.5 External Auto Trip Generation: By Population Totals (2003-04)**

Population	Size	Auto Trip Rate	Auto Occupancy	Average Daily Trip Ends
Student	6459	1.87	1.04	11,614
Faculty/Staff	577	3.21	1.24	1,494
Visitors/Service <sup>1</sup>	N.A..	N.A.	N.A.	197
<b>TOTALS</b>				<b>13,305</b>

<sup>1</sup> Estimated at 1.5% of student/faculty/staff levels

**1.i Existing TAZ Identification**

The FAU Davie Campus is located in Traffic Analysis Zone (TAZ) #567 approximately bounded by Davie Road, Nova Road, Kirkland Road and S.W.39th Street.

**1.j Transit Route Identification**

Currently, Broward County Transit offers Fixed Route Bus service along University Drive, Nova Road, and Davie Road. Buses enter the BCC Campus from Davie Road.

Planned Bus Rapid Transit (BRT) is planned for University Drive from the Dade County line to north of the FAU Campus (entire University Dr corridor) with a super stop planned for the SW 30<sup>th</sup> Street/University intersection area. Additional discussions regarding other transit options for the entire “higher education” area surrounding and including the FAU Davie Campus are also occurring and should be monitored.

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2 Analysis Requirements

2.a Future Parking Needs Analysis

Future parking facilities were calculated based on the Final master plan layout. Table 11.6 presents a comparison of existing and future parking estimates for the periods 2003-04 and 2014-15. Figure 11.5 depicts the Future Parking (2014-15) for the Davie Campus.

**TABLE 11.6 Future Parking (spaces)**

Year	Enrollment (Headcount)	Parking Demand (sp)
2003-04	6,459	1,428
2014-15	7,665	2,100 <sup>1</sup>

<sup>1</sup>Number of spaces based on 0.274 spaces/student ratio.

<sup>2</sup>Actual spaces on campus is 750 spaces (FAU provided)

2.b Required Land Area Analysis

Table 11.7 details the net gain and land (acres) requirements for future parking facilities. The net gain in parking spaces between 2003-04 and 2014-15 is approximately 1,350 spaces above the existing 750 spaces provided by FAU. It should be noted that an existing *deficit* of approximately 678 spaces is estimated to exist currently and therefore, additional parking spaces are required prior to the planning horizon.

**TABLE 11.7 Future Parking Requirements in Acreage (2014-15)**

Facility Type	Spaces Added by 2014-15	Spaces per Area of coverage	Land Area Required
Surface Spaces	0	125 sp/acre	0
Garage Spaces	2,000	600 sp/acre	3.33

It should be noted that the above parking inventory is based on estimated and generalized parking facility layouts. An average of 350 sf/space for surface lots and 300 sf/space for structured/garage spaces was used. However, actual parking facility size will vary based on parcel configuration, landscaping, number of parking levels, and other factors. These estimates provide sound planning guidance. As noted in **Table 11.7**, land requirements were on calculated for garage or structured parking spaces. Section 2.c below describes this rationale.

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**SUPPORTING DATA****MASTER PLAN****11 Transportation****2.c Assessment of Campus Capacity**

The Davie Campus is planned to contain sufficient land capacity to accommodate the construction of two (2) 1,000 space parking garages, as noted in Table 11.7 above. The location of the planned garages is depicted in Figure 11.5. As noted, structured or parking garage options were evaluated, versus surface lot construction. This reasoning is primarily based on the limited land acreages available to the FAU Davie Campus, in addition to the urban framework of the buildings and joint use of facilities with Broward Community College.

For comparison purposes, to provide the additional 2,000 spaces in surface parking lots would require approximately 16 acres of land at 350 sf/sp or 125 sp/acre. Clearly, the available lanes at the Davie Campus would not accommodate significant surface parking.

**2.d Parking Reduction Analysis**

In regards to practical methods to reduce the amount of University parking needed, several goals, objectives and policies have been included to guide this outcome. Parking is dynamic in that *factors* such as parking supply, cost, auto ownership, transit service, lot location and access all play roles in determining the *demand*.

Policies contained in the Master Plan regarding these factors set a framework for addressing future parking at the campus. Balancing the supply of parking with the enhancements to alternative modes of travel (transit, bike, walking) is considered a key objective in the Master Plan.

**2.e Analysis of Context Parking**

For the purposes of the Davie Campus, the only context area parking is that of the BCC campus lots. In other words, no on-street parking or private lease lots exist near the campus itself.

**2.f Analysis of Off-Campus Parking to Context Area**

The University is not currently planning the addition of University parking outside of the campus limits, either East or West campuses.

**2.g Future Traffic Volumes**

Future traffic volumes for the campus are presented in **Table 11.8** for students, faculty/staff, and visitor/service. This 2014-15 projection represents an increase of 2,483 ADT, or daily trips when compared to the 13,305 ADT for 2003-04. This represents an increase of approximately 18.7% over the 10+ year period.

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**TABLE 11.8 Future External Auto Trip Generation: By Population Totals (2014-15)**

Population	Size	Auto Trip Rate	Auto Occupancy	Average Daily Trip Ends
Student	7665	1.87	1.04	13,782
Faculty/Staff	685	3.21	1.24	1,773
Visitors/Service <sup>1</sup>	N.A..	N.A.	N.A.	233
<b>TOTALS</b>				<b>15,788</b>

<sup>1</sup> Estimated at 1.5% of student/faculty/staff levels

It should be noted that the above projections are considered a worst-case estimate as these assume no reductions in automobile usage with transit, bike, or walking trips. Given the proposals for a transit system such as Bus Rapid Transit (BRT) or guide-way system for the Regional Activity Center, it is likely that some level of increased transit usage is likely by 2015.

**2.h Future Roadway System**

Given that the Davie Campus is essentially a portion of a commuter based community college campus; the campus roadway system is made up of a series of two-lane circulator type facilities and parking aisle. On the perimeter of the campus are College Avenue, Davie Road, SW 36<sup>th</sup> Street, and Nova Drive. Davie Road represents a 4-lane Minor Arterial. None of the perimeter roadways listed above are scheduled for improvements in 2005.

In fact, the Broward County MPO 2025 Cost Feasible Plan, which represents the transportation projects projected to be funded by 2025 is oriented toward non-roadway improvements. Of the 402 projects included in the Cost Feasible Plan, representing \$4.9 billion, \$3.2 b is used in transit and approximately \$1.5 b is used in roadway improvements. As stated earlier, there are no roadway improvements planned for the area around the Davie Campus.

**2.i Analysis of Future Roadway System**

Based on the decisions of the local communities, MPO and FDOT to focus on major/primary interstate level roadways and transit, the future roadway system will be essentially remain the same as today in terms of laneage and capacity. In fact, the Broward County Concurrency Management System and evaluation for the area around the Davie Campus is based on non-vehicular level-of-service, or transit and bike/pedestrian improvements.



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Notwithstanding the above transit plans, limited improvements to College Avenue and Nova Drive will be needed to facilitate improved access to the campus and area land uses. Therefore, intersection, landscaping, and pedestrian safety type improvements should be included in the future plans.

**2.j Future Transit Service**

While no major transit service for the context area is currently included in the 2025 Cost Feasible Plan, plans for the Regional Activity Center and Nova University include the development of a transit system and enhanced bus service in the area. These future services would include stops and service to the Davie Campus.

Therefore, the Davie Master Plan includes the provision of envelopes for future transit systems and stops. The Master Plan land use plan contemplates how these transit elements will relate to the future West Campus area and proposed parking garages.

**2.k Alternative Transportation Techniques**

The University has included Goals, Objectives, and Policies that embrace the concepts and intent of alternative modes of travel other than the single occupant vehicle (SOV). These policies will provide the framework by which the University will participate in the future transit and bike/pedestrian systems for the area.

**2.l Permit Description**

Currently there is a simple decal system used at the Davie Campus to identify FAU students and faculty and staff. All spaces on the BCC campus are available for use by FAU, and vice versa for BCC users.

**2.m Fee Description**

The future fees for parking and transportation at the Davie Campus is currently under discussion with the administration in regards to funding future parking and transportation improvements. The fee structure developed for the future will enable the University to evaluate a longer term capital improvements program for these improvements and therefore provide improved services to the student and staff populations.

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**SUPPORTING DATA****MASTER PLAN****11 Transportation****PEDESTRIAN AND NON-VEHICULAR CIRCULATION SUB-ELEMENT****1. Inventory and Analysis of Existing Conditions**

Florida Atlantic University, in its present configuration, is very user friendly to both bicycle and pedestrian traffic. Parking of automobiles is kept on the perimeter, away from the heart of the campus, and distances between buildings are easily walkable, thus allowing ample time between classes. This arrangement is encouraged as future growth occurs.

**1.a. Existing Pedestrian and Non-Vehicular Circulation on Campus**

Refer to **Figure 3.0** for a map showing primary pedestrian/biking circulation routes on campus, as well as locations of automobile conflicts. Surface material, in general, is concrete or asphalt in fairly good condition.

**1.b. Planned Location of Future Academics, Support, and Utility Facilities**

To be determined.

**1.c. Existing Pedestrian and Non-Vehicular Circulation in Off-Campus Context Areas**

Pedestrian and non-vehicular traffic enters and leaves the FAU campus primarily at the College Avenue or through the BCC Campus via one of BCC's various entries.

**1.d. Planned Future Pedestrian and Non-Vehicular Circulation Facilities in the Context Area**

Planned improvements within the context area for pedestrian and bicycle circulation will occur with the expansion of the existing FAU Campus and the addition of the new property across College Avenue.

**1.e. On-Campus Problem Areas**

The Town of Davie is a growing area that experiences crime such as home and car burglaries similar to other areas in Broward County. The town keeps records of local crime statistics. University Police handle on-campus conflicts.

**1.f. Future Concepts for Linking Activities**

Refer to **Element 3 Urban Design**.

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**SUPPORTING DATA****MASTER PLAN****11 Transportation****2. Future Needs/Requirements****2.a. Analysis of the Amount and Type of Future Pedestrian and Non-Vehicular Circulation Facilities Required**

Future pedestrian and non-vehicular circulation facilities will be required to serve the future campus buildings and spaces. Refer to **Figure 3.12** for Campus Activity Linkages. The original Davie Campus was arranged on property leased from BCC. The University constructed two substantial buildings of similar style to establish a presence on the campus. The buildings were sited in an “L” configuration to allow for a courtyard between them. A small village of modular classrooms now occupies this area. The pedestrian paths in the FAU Campus area follow the paths from the adjacent BCC Campus. As future growth occurs, FAU will begin to establish a pedestrian network of paths that relate to the new structures and to the common circulation patterns of the students.

**2.b. Pedestrian and Non-Vehicular Circulation in the Context Area Adjacent to the University**

Clear pedestrian and bicycle paths should be created to serve off-campus housing and student activities. These paths should be integrated into the City’s established pedestrian network and should be well lighted and safe to travel on.

**2.c. Lighting Conditions along Pedestrian and Non-Vehicular Circulation Routes**

Lighting along pedestrian and non-circulation routes should be increased to give feeling of security and safety. Areas especially in need of improvement are the routes leading to and from the parking areas.

**2.d. Permit Description/Fee Description**

FAU Davie Campus has the same parking rates as the Main Campus. BCC does not currently have a parking fee. However, BCC is planning a security/ parking fee for the 2006 academic year, pending Board of Trustee approval. Since the two entities share parking facilities, this makes enforcement of parking violations difficult. Both institutions are also interested in constructing a joint-use parking garage. The disparity in parking fees may be a hindrance in funding the project.