MIAMI-DADE COUNTY MPO

Improving Access in Florida International University

BISCAYNE BAY CAMPUS AREA

WORK ORDER #GPC IV-11

Prepared for

MIAMI-DADE MPO

Metropolitan Planning Organization

Prepared by

Kimley-Horn and Associates, Inc.

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Improving Access in Florida International University Biscayne Bay Campus
Final Report

Prepared for:

Miami-Dade County Metropolitan Planning Organization (Miami-Dade MPO)

Prepared by:

Kimley-Horn and Associates, Inc.
Fort Lauderdale, Florida

Work Order # GPC IV-11
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EXECUTIVE SUMMARY

BACKGROUND

At the request of MPO Governing Board, this study was conducted to evaluate the feasibility of adding another entrance to the Florida International University (FIU) Biscayne Bay Campus. Currently, only one entrance is provided via NE 151st Street. Four alternatives were considered including:

- Bay Vista Boulevard/NE 135th Street
- NE 143rd Street
- NE 151st Street (Improvements)
- NE 163rd Street (Oleta River State Park)

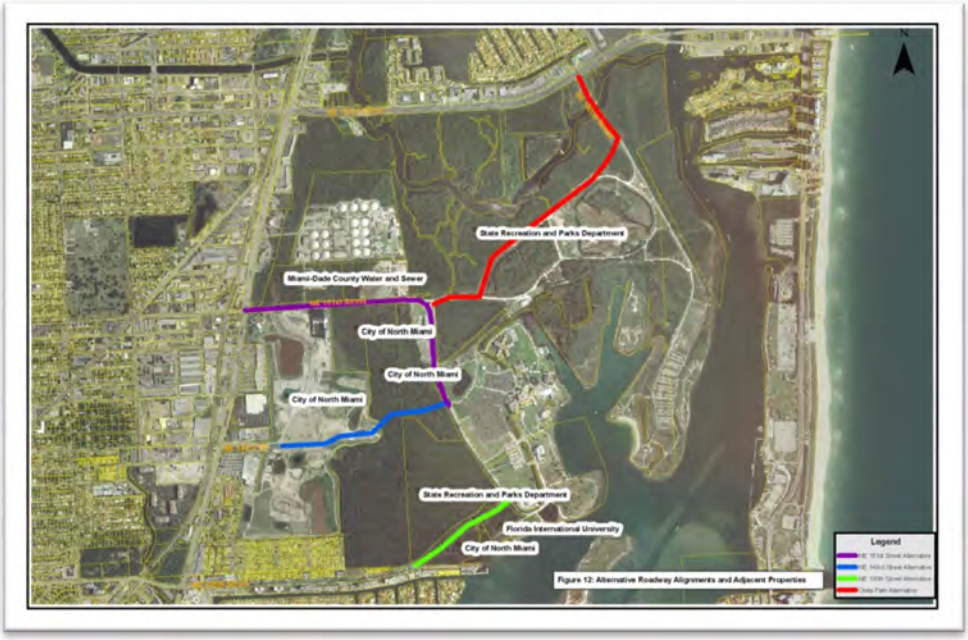

Figure 12: Alternative Roadway Alignments and Adjacent Properties

SUMMARY

This study examined the feasibility of providing an additional access connection to the FIU Biscayne Bay Campus. Only one access connection is currently provided via NE 151st Street. NE 151st Street also serves as primary access to the 193-acre Biscayne Landing master planned community, as well as the only access connection to the David Lawrence Jr. K-8 School and the Alonzo and Tracy Mourning Senior High School. These conditions have resulted in heavy traffic congestion along NE 151st Street and Biscayne Boulevard.

Existing conditions in the study area and project needs were analyzed. This assessment included reviewing and evaluating transportation improvement plans, FIU Biscayne Bay Campus population projections and future expansion plans, area school enrollment, area transit accommodations, Biscayne Landing development proposals, the NE 135th Street pedestrian bridge replacement project, environmental constraints, and traffic operations. Several contributing factors demonstrate that additional access to the FIU Biscayne Bay Campus is needed. These factors are listed below in two categories, existing needs and future needs.

Existing Project Needs

- Only one existing access to the FIU Biscayne Bay Campus and adjacent public schools.
- Poor drainage along NE 151st Street.
- School zones along NE 151st Street and Bay Vista Boulevard slow traffic.
- Poor operating level of service of several intersections in the study area including Biscayne Boulevard and NE 151st Street and Biscayne Boulevard and NE 163rd Street.

Future Project Needs

- No proposed future roadway capacity improvements in study area.
- Future FIU Biscayne Bay Campus growth.
- Future growth at the K-8 school and high school.
- Future degradation of level of service at Biscayne Boulevard and NE 151st Street.
- Future Biscayne Landing Development.

ALTERNATIVES SUMMARY/ACTION PLAN

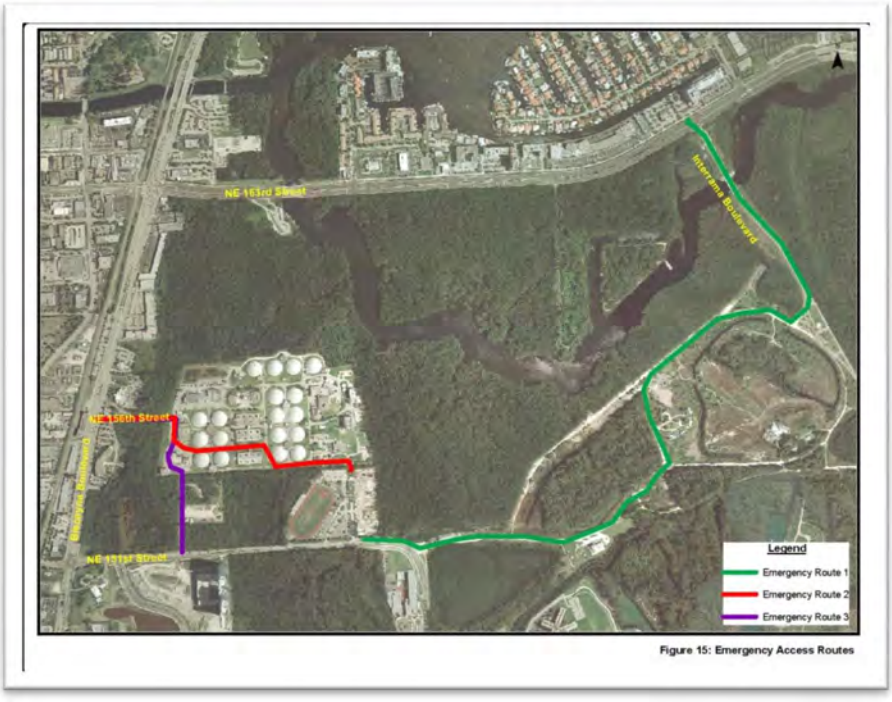

Figure 15: Emergency Access Routes

The three (3) new corridor alternatives (Bay Vista Boulevard/NE 135th Street, NE 143rd Street, and NE 163rd Street/Oleta River State Park) evaluated during the development of this study are feasible possibilities to be used as additional access to FIU Biscayne Bay Campus. However, all of these alternatives present environmental concerns and funding issues that are beyond the scope of this study. Furthermore, these alternatives are not fully within the direct jurisdiction of Miami-Dade County. Therefore, any decision to pursue one of these alternatives has to be coordinated between the City of North Miami, FIU, Miami Dade County Public Schools, and the private sector (Biscayne Landing Development).

During the development of this study, several issues were identified with the existing access provided via NE 151st Street. However, there are improvements that can be considered in order to alleviate traffic congestion in the area. An action plan was developed based on proposed

improvement/project time horizons. Time horizons defined for this study were short-term (0-2 years), medium-term (2-5 years), and long-term (5+ years). Table ES-1 provides a summary of short-term projects and recommended implementation tasks, Table ES-2 provides a summary of midterm projects and recommended implementation tasks, and Table ES-3 provides a summary of long-term projects and implementation tasks. Improvements/projects were prioritized based on needs as well as costs.

Since NE 151st Street is the only access to the FIU Biscayne Bay Campus and area schools, an emergency access route is proposed in case NE 151st Street is blocked due to an emergency or incident. An emergency access route through the North District Wastewater Treatment Plant is the preferred route, as this route is the shortest in length, provides access on paved facilities, and connects to Biscayne Boulevard via the signalized intersection with NE 156th Street.

Table ES-1: Short-Term Action Plan

	Improvement	Implementation Tasks	Possible Funding Sources	Cost
1.	Replace non-standard stop signs (Northbound Bay Vista Boulevard and FIU Biscayne Bay Campus Main Entrance)	City of North Miami Maintenance	City of North Miami	$1,500
2.	Improve drainage along NE 151st Street	Currently part of a Miami-Dade County Public Works project	Miami-Dade County	N/A
3.	Implement Emergency Access Plan via NE 156th Street through the North District Wastewater Treatment Plant and/or via Oleta State River Park	Coordination with Miami-Dade County Water and Sewer Department and State Parks and Recreation Department	N/A	N/A
4.	Relocate bus stops at High School next to crosswalk and provide bus shelters	Coordination with Miami-Dade Transit	Federal 5309 Grants – Bus Capital, MDT Local Option Gas Tax, Local Option Gas Tax	$43,000
5.	NE 151st Street and Biscayne Boulevard Intersection Improvement (westbound left-turn lane)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$120,000(1)

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

	Improvement	Implementation Tasks	Possible Funding Sources	Cost
6.	NE 151st Street and Biscayne Boulevard Intersection Improvement (westbound right-turn overlap phase)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$60,000
7.	NE 151st Street and Biscayne Boulevard Intersection Improvement (southbound left-turn lane)	Program improvements in TIP and FDOT Work Program	FDOT: Other arterial construction and/or TMA Funds, County Fuel Tax, Local Option Gas Tax	$130,000(1)
8.	Construct sidewalk (railing and canopy medium-term) along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$130,800(1)
9.	Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus (railing and canopy medium-term)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$19,200(1)
10.	Construct bicycle lane along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$131,000(1)
11.	Construct bicycle lane along south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$63,000(1)
12.	Provide transit amenities for bus stops at Biscayne Boulevard and NE 151st Street	Program improvements in TIP/TDP	Federal 5309 Grants – Bus Capital, MDT Local Option Gas Tax, Local Option Gas Tax	$42,000
13.	Examine transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street	Program improvements in TDP	State Grants – Bus, MDT Local Option Gas Tax, Local Option Gas Tax	N/A

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

Table ES-2: Medium-Term Action Plan

Improvement	Implementation Tasks	Possible Funding Sources	Cost
1. NE 151st Street and Biscayne Boulevard Intersection Improvements (northbound right-turn lane) – requires additional right-of-way	Program improvements in TIP and FDOT work program	FDOT: Other arterial construction and/or TMA Funds, County Fuel Tax, Local Option Gas Tax	$85,200(1)
2. NE 151st Street and Biscayne Boulevard Intersection Improvements (extend eastbound left-turn lane)	Program improvements in TIP	FDOT: Other arterial construction and/or TMA Funds, County Fuel Tax, Local Option Gas Tax	$9,600
3. Sidewalk railing and canopy along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$1,094,400(1)
4. Sidewalk railing and canopy along south side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$1,094,400(1)
5. Construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street	Program improvements in TIP	State Grants – Bus, MDT Local Option Gas Tax, Local Option Gas Tax, Road Impact Fee	TBD
6. Provide shuttle service from transit transfer facility to FIU Biscayne Bay Campus	Coordinate with FIU	FIU Operating Budget	TBD

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

Table ES-3: Long-Term Action Plan

Improvement	Implementation Task	Possible Funding Sources	Cost
1. Widen NE 151st Street to six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard (High School and K-8 School).	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax, Road Impact Fee	$2,300,000(1)
2. Implement Bus Rapid Transit (BRT) along Biscayne Boulevard	Fund project in TDP	FDOT Transit, PTP Sales Tax Revenue	TBD
3. Grade separate Biscayne Boulevard at NE 151st Street	Include project in LRTP	FDOT: Other arterial construction, TMA Funds	$38,500,000

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

The *Improving Access in Florida International University Biscayne Bay Campus Area Study* provides the framework for the programming of transportation improvements in the area of the FIU Biscayne Bay Campus. Agencies have been identified for implementing the improvements based on jurisdictional responsibility. The improvements should be adopted into the appropriate plans and programs of the specified agencies. Finally, the study should be examined periodically to assess the status of the implementation of the identified improvements.

The key stakeholders that will directly benefit from the proposed improvements include FIU, City of North Miami, Biscayne Landing, and Miami-Dade County Schools. Therefore, these stakeholders should contribute to the funding of the proposed improvements. Furthermore, stakeholder contribution would help in expediting these improvements toward implementation.

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ACKNOWLEDGEMENTS

The Miami-Dade Metropolitan Planning Organization (MPO) initiated the *Improving Access in Florida International University Biscayne Bay Campus Area* to evaluate the need and feasibility for an additional access connection to the campus, as only one access connection is currently provided via NE 151st Street. Several access alternatives were analyzed and evaluated including assessing the need for access improvements, evaluating the feasibility of various alternatives, defining alternatives to the level required to determine costs, and subsequently determining potential funding sources. At the outset of the study, the Miami-Dade County Metropolitan Planning Organization (MPO) organized a study advisory committee (SAC), whose members served as a steering group to review study documents and assist in developing recommendations. The SAC met regularly throughout the course of the study, providing data and input for this study. Representatives of the following agencies/entities participated in the SAC:

Improving Access in Florida International University Biscayne Bay Campus Area Study Advisory Committee

- Miami Dade MPO (Leading Agency)
- City of North Miami
- Florida International University (FIU)
- Florida Department of Transportation (FDOT)
- Miami Dade County Public Works Department (PWD)
- Miami Dade County Public Schools

The following list summarizes coordination activities in chronological order.

- August 31, 2010: Study Advisory Committee kick-off meeting
- December 16, 2010: Study Advisory Committee meeting #2
- February 7, 2011: Study Advisory Committee meeting #3
- March 7, 2011: Transportation Planning Council
- September 26, 2011: Study Advisory Committee meeting #4
- October 3, 2011: Transportation Planning Council

Meeting minutes for each specific meeting are included in Appendix A.

INTRODUCTION

Access to the Florida International University (FIU) Biscayne Bay Campus is currently provided by a single route via NE 151st Street. NE 151st Street also serves as primary access to the 193-acre Biscayne Landing master planned community, as well as the only access connection to the David Lawrence Jr. K-8 School and the Alonzo and Tracy Mourning Senior High School. This condition has resulted in heavy traffic congestion along NE 151st Street and at Biscayne Boulevard. Traffic congestion in the area will be further compounded by the future expansion plans of the FIU Biscayne Bay Campus and development of Biscayne Landing, driving the need to consider an additional access connection to the FIU campus.

The study area for this analysis is bounded by NE 163rd Street (Sunny Isles Boulevard) to the north, NE 135th Street to the south, Biscayne Bay to the east, and Biscayne Boulevard to the west. Figure 1 presents a location map of the FIU Biscayne Bay Campus and adjacent study area.

The purpose of this study is to assess potential new access connections to the FIU Biscayne Bay Campus including:

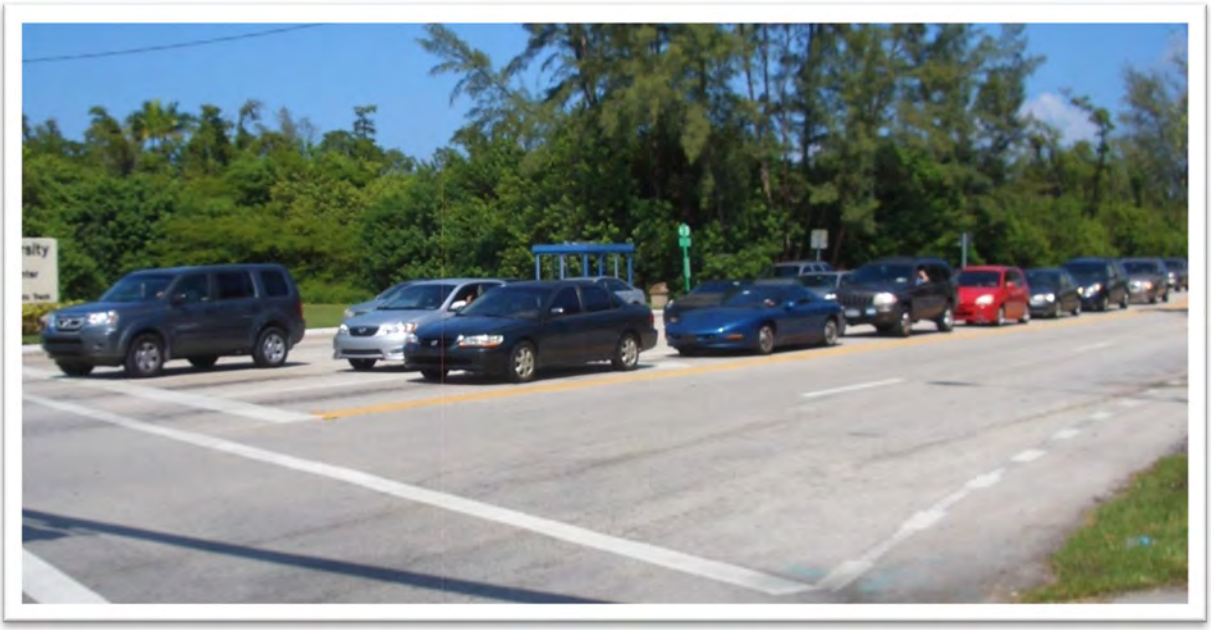
- Bay Vista Boulevard/NE 135th Street
- NE 143rd Street
- NE 151st Street (Improvements)
- NE 163rd Street (Oleta River State Park)

Phase 1 of this study consists of identification of potential access connections and the evaluation of the feasibility of these alternatives. Phase 2 consists of a detailed analysis of feasible alternatives including estimating costs, identifying potential funding sources, and examining the ease and duration of implementation.

Several key critical tasks were performed in the development and evaluation of alternatives including:

Phase 1

- Coordination with stakeholder agencies such as FIU, City of North Miami, Miami-Dade County Public Works Department (PWD), Miami-Dade MPO, Miami Dade County Public Schools, Florida Department of Transportation (FDOT), and Florida Department of Environmental Protection Division of Recreation and Parks
- Data gathering
- Determination of project needs
- Field inspections
- Analysis of alternatives
- Phase 1 final report



Westbound Approach of NE 151st Street at Biscayne Boulevard Experiences Recurring Congestion

Phase 2

- Traffic analysis
- Recommendations for improvements
- Action plan for implementation
- Visualization of improvements
- Final report

FIU Biscayne Bay Campus Entrance from Bay Vista Boulevard

Figure 1: Study Area

ANALYSIS OF EXISTING CONDITIONS

In order to verify the need for another access connection to the FIU Biscayne Bay Campus and identify potential alternatives, various data were collected and reviewed. Table 1 provides a summary of these data.

Table 1: Data Gathering Documents

Agency Data/Documents
Miami-Dade County
• 2011 Transportation Improvement Plan (TIP)
• 2035 Long Range Transportation Plan (LRTP)
• Transit Development Plan (TDP FY 2010 to 2019)
FDOT
• 5-year work program (FY 2010 to 2015)
FIU
• Enrollment projections
• Future facility needs
• Student registration by zip code
Miami-Dade Transit (MDT)
• Transit routes
City of North Miami
• Transit routes
• Biscayne Landings development information
• 135th Street Bridge Replacement Project
Miami-Dade School Board
• Location of nearby public schools
• Enrollment and hours of operation
Department of Environmental Protection Division of Recreation and Parks
• Use of recreational land for transportation purposes
Traffic Data
• Traffic counts
• Level of service (LOS)

Miami-Dade County

The Miami-Dade County Transportation Improvement Program (TIP) and 2035 Long Range Transportation Plan (LRTP) were reviewed to identify programmed and planned transportation capacity improvements within the study area. The TIP includes the Miami-Dade Transit Biscayne Bus Rapid Transit (BRT) project from the Omni Terminal to Aventura Mall. This project, known as Biscayne Rapid Bus, is expected to be completed by 2014 and is funded by three revenue sources: County Incentive Grant Program, Local Funds, and Transportation Regional Incentive Program.

Miami-Dade County's 2035 LRTP includes one project in the vicinity of the FIU Biscayne Bay Campus. This improvement is a bicycle facility improvement along NE 135th Street from Biscayne Boulevard to the FIU Campus, which is a Priority I project. Please note that this project is also listed in the TIP.

The MDT Transit Development Plan (TDP) 2010-2019 was reviewed to identify potential improvements in the vicinity of the FIU Biscayne Bay Campus. Two future projects are listed for the study area: Biscayne Rapid Bus and a transit hub (Northeast PAC) at NE 163rd Street and Biscayne Boulevard. The Biscayne Rapid Bus would provide limited-stop service along Biscayne Boulevard between Aventura and Downtown Miami, and would be created by adjusting the Route 93/Biscayne Max. Please note that the TDP does not identify funding for this project. The Northeast PAC will be an enhanced transit hub that will connect circulator, regional, and premium bus routes. This project is currently unfunded and MDT is seeking funding from state and federal sources.

Detailed information is provided in Appendix B.

FDOT

The FDOT 5-year work program does not include capacity improvements within the study area.

FIU Biscayne Bay Campus Population

FIU provides a vast and rapidly expanding assortment of educational opportunities for the 42,000+ students enrolled in the Fall 2010 academic degree programs. The majority of students attend classes at the Modesto A. Maidique Campus (Main Campus), although many students take classes at the Biscayne Bay campus or at more than one campus due to the availability of course offerings or convenience. Table 2 below summarizes the existing 2008 enrollment, year 2015 enrollment projections, and year 2034 enrollment projections for the Biscayne Bay Campus. Detailed information is provided in Appendix C.

FIU Biscayne Bay Campus student residence zip code data was examined to help determine the origin of trips accessing the campus. Student residential zip codes are shown in Figure 2. This figure illustrates that only 8 percent (or 606 students) of the student population arrives from east of the campus. Detailed information and graphics are provided in Appendix C.

Figure 2: FIU Biscayne Bay Campus Student Zip Code Data

Table 2: FIU Biscayne Bay Campus Enrollment Data

Population Type	2010	2015	2034
Full-Time Enrollee	2,971	3,413	4,972
Head Count (includes Part-Time Enrollee)	7,469	8,580	12,499
Faculty and Staff	460	528	769

Source: FIU Master Plan Update 2010

FIU Biscayne Bay Campus Roadway Network

Bay Vista Boulevard and NE 151st Street are four-lane divided roadways in the vicinity of the FIU Biscayne Boulevard Campus. All internal campus roadways accessing Bay Vista Boulevard are two-lane undivided roadways. The stop signs on the northbound approach at the intersection of Bay Vista Boulevard and FIU Biscayne Bay Campus Main Entrance are smaller than the standard (30" x 30") size. Bay Vista Boulevard is under City of North Miami jurisdiction. Additionally, a near collision was observed during field observations when a northbound vehicle on Bay Vista Boulevard failed to stop and nearly collided with a southbound left-turning vehicle.

Bay Vista Boulevard and FIU Biscayne Bay Campus Main Entrance (Two-Way Stop Control)

FIU Biscayne Bay Campus Future Expansion

In order to able to provide adequate and appropriate facilities for the future student projections, the following table provides information on the facilities that are proposed to be constructed on the FIU Biscayne Bay Campus by 2015. Detailed information and graphics are provided in Appendix C.

Table 3: FIU Biscayne Bay Campus Future Expansion Plan

Facility Type	Year 2015 Proposed Expansion	Beyond 2015 Proposed Expansion
Academic and Research	45,200 GSF	138,300 GSF
Support Facilities	14,300 GSF	77,250 GSF
Student Housing	683 beds	N/A
Faculty/Staff/Retiree Housing	40 units	N/A

Source: FIU Master Plan Update 2010

Miami-Dade County Public Schools

Two Miami-Dade County public schools are located in close proximity to the FIU Biscayne Bay Campus. The schools are the David Lawrence Jr. K-8 School, located on the west side of Bay Vista Boulevard south of NE 151st Street, and Alonzo and Tracy Mourning Senior High School, located on the north side of NE 151st Street to the northwest of David Lawrence Jr. K-8 School. School enrollment and class hours are provided below. Please note that currently senior (grade 12) students do not attend the high school. The enrollment of the high school will increase in the future with the introduction of a senior class.

Table 4: Area School Data

School	2010 Enrollment	Grades	School Hours
David Lawrence Jr. K-8 School	1,449	Pre-Kindergarten, Kindergarten, and 1	8:20 A.M. to 1:50 P.M.
David Lawrence Jr. K-8 School		2-8	8:35 A.M. to 3:05 P.M.
Alonzo and Tracy Mourning Senior High School	1,182	9-12	7:20 A.M. to 2:20 P.M.

A 15-mph school zone is posted from west of the high school extending east along NE 151st Street onto Bay Vista Boulevard to south of the K-8 school. The school speed zone is enforced weekdays from 6:30 A.M. to 8:45 A.M. and 1:45 P.M. to 3:30 P.M., except Wednesdays, when the speed zone is enforced from 1:45 P.M. to 2:30 P.M. The reduced school speed zone contributes to reduced capacity on NE 151st Street as well as increased congestion.

Miami-Dade Transit, City of North Miami Transit, and FIU Transit

Miami-Dade County Transit (MDT) provides bus service via four routes that serve the FIU Biscayne Bay Campus. The City of North Miami NOMI Express also provides service to the campus. In addition, FIU provides intercampus transit service between the Modesto A. Maidique Campus and Biscayne Bay Campus via the Golden Panther Express. Route information is provided below:

- MDT Route 3 operates on Biscayne Boulevard adjacent to the campus. This route serves the Adrienne Arsht Center Metromover Station/Bus Terminal, Downtown Bus Terminal, 163rd Street Mall, and Aventura Mall. This route operates at 20-minute headways throughout the day and provides connecting service to 30 additional Miami-Dade Transit bus routes, as well as the Metrorail via the Metromover.

- MDT Route 75 operates on NE 151st Street and accesses the FIU Biscayne Bay Campus. This route serves the 163rd Street Mall, Carol City, and Miami Lakes. This route operates at 30-minute headways throughout the day.

Miami-Dade Transit Bus along NE 151st Street

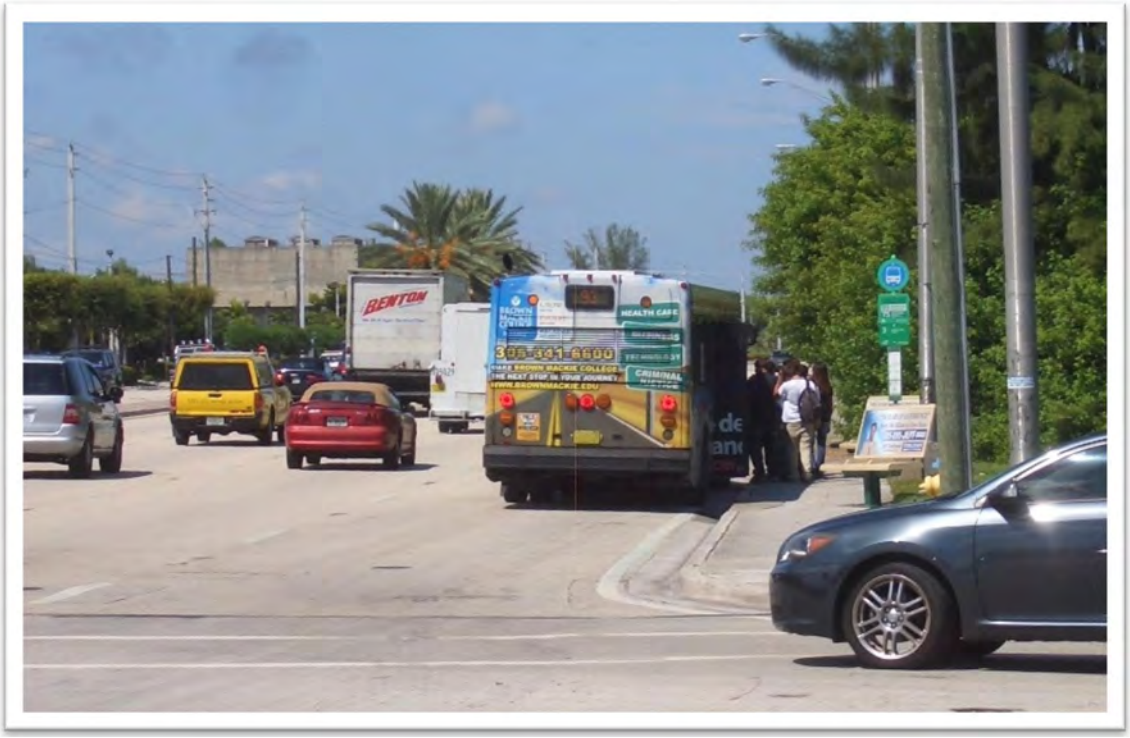
- MDT Route 93/Biscayne MAX operates on Biscayne Boulevard adjacent to the campus. This route serves the Adrienne Arsht Center Metromover Station/Bus Terminal, Downtown Bus Terminal, and Aventura Mall. This limited-stop route operates at 20-minute headways throughout the day and provides connecting service to 25 additional Miami-Dade Transit bus routes.

- MDT Route 135 operates on NE 151st Street and accesses the FIU Biscayne Bay Campus. This route serves NE 135th Street, Opa-Locka Tri-Rail Station, and Hialeah Metrorail Station, and operates at 30-minute headways throughout the day.

- The NOMI Express operates on NE 151st Street and accesses the FIU Biscayne Bay Campus. This route is operated by the City of North Miami and provides service throughout the City operating at 60-minute headways. This route also shares approximately 18 bus stops with Miami-Dade Transit.

- The Golden Panther Express provides shuttle service between the FIU Modesto A. Maidique Campus and FIU Biscayne Bay Campus. This route operates at 20-minute headways during peak A.M., mid-day, and P.M. periods, and 60-minute headways during off-peak periods.

Detailed route alignment and schedule information are provided in Appendix D. Figure 3 illustrates the alignments of the transit routes.



Miami-Dade Transit Route 93 at Biscayne Boulevard/NE 151st Street Bus Stop


NE 163rd Street
NE 163rd Street
NE 151st Street
NE 143rd Street
NE 135th Street
Figure 3: Transit Routes
Legend
FIU Golden Panther Express Line 1
FIU Golden Panther Express Line 2
NOMI Blue Line
NOMI Red Line
Miami Dade Transit Route 3
Miami Dade Transit Route 75
Miami Dade Transit Route 93
Miami Dade Transit Route 135
N

Alonzo and Tracy Mourning High School Bus Stops

A new crosswalk has recently been installed at the high school central driveway. However, the eastbound and westbound bus stops along NE 151st Street are located approximately 400 feet to the east of this crosswalk. Students alighting the bus were observed crossing NE 151st Street mid-block. It is recommended to relocate both the eastbound and westbound bus stops next to the new crosswalk, as well as to provide amenities such as bus shelters and benches at these bus stops.

High School Students Crossing NE 151st Street Mid-Block from Eastbound Bus Stop

High School Students Waiting for Bus at Westbound NE 151st Street Bus Stop

New Crosswalk at High School's Central Driveway

Alonzo and Tracy Mourning High School Circulation

Traffic circulation was observed at the Alonzo and Tracy Mourning High School on Tuesday, March 22, 2011, during the A.M. school arrival and P.M. school dismissal. Three (3) driveways along NE 151st Street provide access to the high school. Figure 4 illustrates the location of the high school's driveways. Both the west and central driveways provide ingress and egress to the high school, while the east driveway provides only egress for school buses. During the A.M. school arrival school buses enter the center driveway from NE 151st Street and exit from the east driveway, which conflicts with parents dropping-off students and faculty arriving to campus. Faculty were observed primarily using the west driveway to enter the high school campus. Parents were observed entering the high school campus via the west and center driveways. Substantial eastbound left-turn queuing was observed on NE 151st Street during the A.M. school arrival due to the volume of parent drop-offs.

Eastbound Queue on NE 151st Street at High School Central Driveway during Morning Arrival

During the P.M. peak hour a number students were observed walking to the FIU Biscayne Bay Campus. These students crossed NE 151st Street to access the existing sidewalk along the south side of NE 151st Street and west side of Bay Vista Boulevard. This pedestrian movement caused increased delay and congestion to vehicular traffic along NE 151st Street. To address this deficiency, it is recommended to construct a sidewalk along the north side of NE 151st Street/east side of Bay Vista Boulevard to connect the high school and FIU Biscayne Bay Campus without precipitating the need to cross NE 151st Street.

Improvements to queue storage are discussed in the Roadway Capacity Improvement Section.

Figure 4: Alonzo and Tracy Mourning High School Circulation

David Lawrence K-8 School Circulation

Traffic circulation was observed at the David Lawrence K-8 School on Tuesday, March 22, 2011, during the A.M. school arrival and P.M. school dismissal. The school has separate dedicated drop-off/pick-up loops for parents and buses. The design of the loops allows for circulation on the site without queues spilling back onto Bay Vista Boulevard. During the P.M. dismissal hour the queues in the parent pick-up loop extends nearly the entire length of the right-turn storage lane along Bay Vista Boulevard. Figure 5 depicts the existing circulation patterns at the K-8 Center.

Queue in Parent Loop Extends into Bay Vista Boulevard Right-Turn Storage Lane during Dismissal at K-8 School

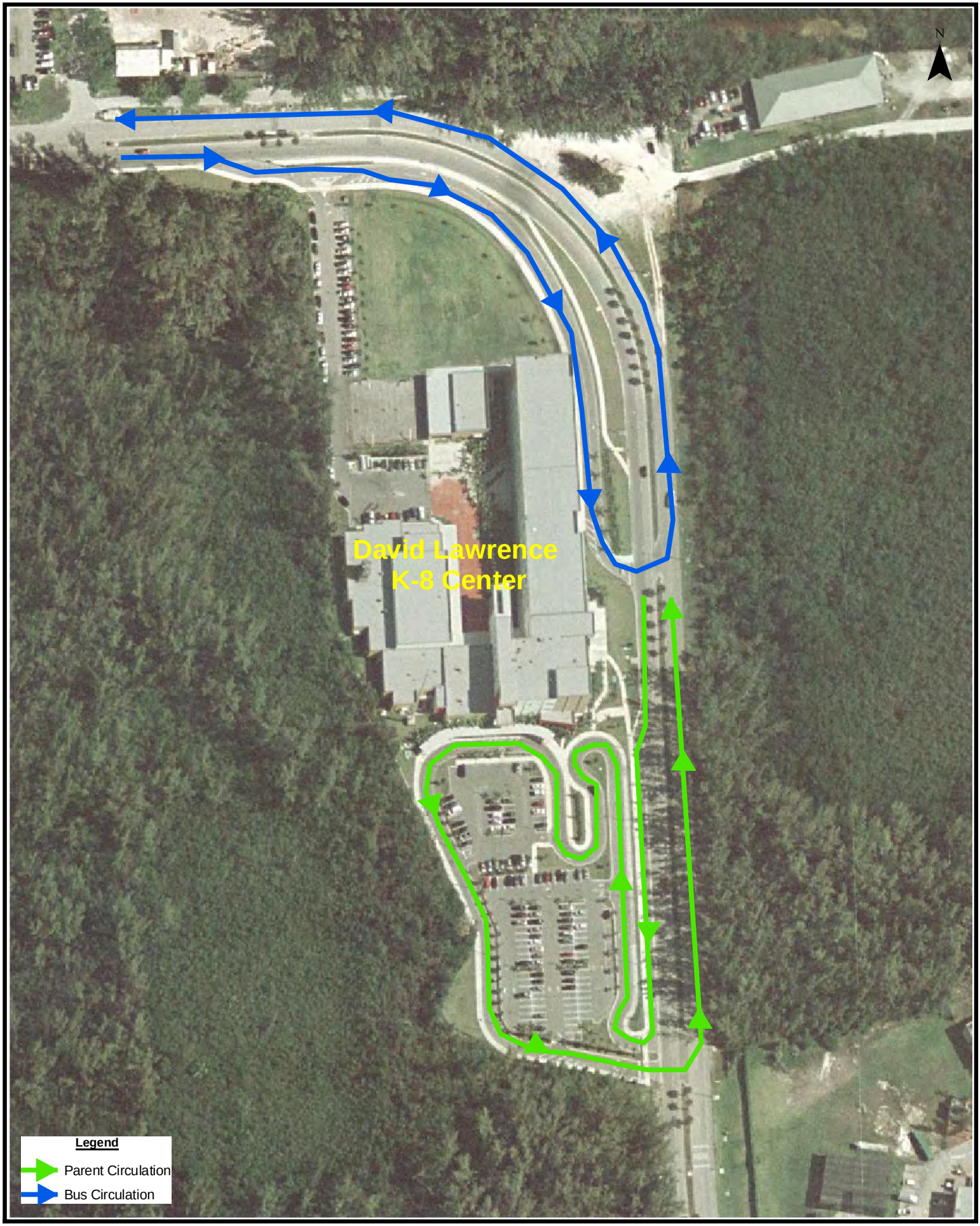


Figure 5: David Lawrence K-8 School Circulation

Biscayne Landing

The Biscayne Landing project is a planned mixed-use development located on the southeast corner of NE 151st Street and Biscayne Boulevard within the City of North Miami. The planned development program previously consisted of 5,999 residential units, 250-room hotel with 45,000 square-feet of conference area, 213,172 square-feet of office, and 176,125 square-feet of retail. To date, only 450 residential units have been constructed in two residential towers. The project had since entered into foreclosure.

As part of the traffic impact study prepared for Biscayne Landing, several improvements were proposed to accommodate the build-out of the entire project, including the improvements listed below for the intersection of Biscayne Boulevard and NE 151st Street.

- Additional southbound left-turn lane
- Additional westbound left-turn lane
- Extend eastbound left-turn lane

As part of the Biscayne Landing project, a traffic signal was proposed at the intersection of NE 151st Street and Biscayne Landing Boulevard. Figure 6 provides an illustration of the proposed improvements. Excerpts from the Biscayne Landing Traffic Impact Study are contained in Appendix E.

Oaks at Biscayne Landing Completed Residential Construction

Figure 6: Biscayne Landing Improvements

An indoor ski center was recently contemplated on the Biscayne Landing site after the foreclosure proceedings were initiated. The proposed center, called Solar Mountain, has been halted due to ongoing litigation on the site. Appendix E contains additional information regarding the proposal.

Proposed Solar Mountain at Biscayne Landing

As of June 2011, The City of North Miami has released a Request for Proposals (RFP #43-10-11(A)) requesting qualified developers to submit proposals for the purchase or lease of the Biscayne Landing property. The City does not provide specific land uses to be provided on but states that the City's Regional Activity Center (RAC), which includes FIU Biscayne Bay Campus, David Lawrence Jr. K-8 School, Alonzo and Tracy Mourning Senior High School, and the Oleta River State Park is approved for the following development:

- 1,550,000 s.f. of office
- 1,500,000 s.f. of industrial uses
- 550,000 s.f. commercial uses
- 7,000 residential units
- 400 hotel rooms
- 1,043 acres of park (Oleta River State Park)
- 1,776 K-8 students
- 1,200 9-12 grade students
- 8,199 college students

Detailed information about the proposal is contained in Appendix E.

Future Signal on NE 151st Street and Biscayne Landing Boulevard

As part of the Biscayne Landing development, a new traffic signal is proposed on NE 151st Street at Biscayne Landing Boulevard. The proposed signal is approximately 500 feet east of the signal at NE 151st Street and Biscayne Boulevard. The close proximity of this signal to Biscayne Boulevard may adversely impact traffic progression along NE 151st Street.

NE 151st Street Eastbound Bicycle Lane East of Biscayne Boulevard

NE 135th Street Bridge Replacement

Through a Local Agency Program (LAP) agreement with FDOT, the City of North Miami is in process of replacing two bicycle and pedestrian bridges along the section of NE 135th Street, connecting to the FIU Biscayne Bay Campus, which has been closed to vehicular traffic. The City has submitted permit applications for these bridges to the South Florida Water Management District (SFWMD) and Department of Environmental Protection (DEP). Currently, the City is in process of obtaining the final permits and City anticipates construction to begin by September 2011.

Pedestrian Bridge to be replaced along NE 135th Street

One of the access alternatives proposes to construct a roadway facility to accommodate vehicular traffic along the NE 135th Street alignment. If this alternative is moved forward, it would require the postponing and redesigning of the City of North Miami bicycle and pedestrian bridge replacement in order to accommodate vehicular traffic. Figure 7 presents the location map of the bridge replacements.

Figure 7: NE 135th Street Pedestrian and Bicycle Bridges

Department of Environmental Protection Division of Recreation and Parks

Since park lands are being considered for roadway access connection alternatives, the Department of Environmental Protection Division of Recreation and Parks (DEPDRP) was contacted to discuss the feasibility of providing a new access connection to the FIU Biscayne Bay Campus through the Oleta River State Park. Based on discussions with the Department of Environmental Protection Division of Recreation and Parks, the title to the Oleta River State Park is held by the Trustees of the Internal Improvement Trust Fund, with the express purpose of providing resource-based outdoor recreation and conservation. The conversion of park land for transportation uses would require the granting of an easement by the Trustees of the Internal Improvement Trust Fund to Miami-Dade County. Appendix F contains Chapter 18-2.018 of the Florida Administrative Code which outlines the requirements and process for an easement through the park.

If federal funds are involved in the construction of a new access road to the FIU Biscayne Bay Campus through the Oleta River State Park, the special provisions of Section 4(f) of the US Department of Transportation (USDOT) Act of 1966 would need to be followed. These provisions state that governmental agencies cannot approve the use of land designated as publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites, unless the following conditions apply:

- There is no feasible and prudent alternative to the use of the public/protected land.
- The action includes all possible planning to minimize harm to the public/protected land resulting from its use.

Dirt Path in the Oleta River State Park

Furthermore, an easement request for roadway construction through the Oleta River State Park would be evaluated by the Department of Environmental Protection on the basis of its direct and indirect impacts on the park's natural and cultural resources, specifically: hydrology, natural communities and wildlife, and impacts to safe public use and enjoyment of the recreational opportunities in the park.

Traffic Operations Analysis

Limited traffic count data is available within the study area from FDOT and Miami-Dade County Public Works Department. Therefore, new traffic count data were collected. The analysis periods selected for traffic operations analysis were based on 24-hour continuous traffic counts collected at the following locations in the vicinity of the FIU Biscayne Bay Campus:

- Biscayne Boulevard between NE 135th Street and NE 151st Street
- NE 151st Street east of Biscayne Boulevard
- NE 135th Street east of Biscayne Boulevard

Roadway segment peak periods are presented in Table 5. Detailed traffic count information is contained in Appendix G.

Table 5: Roadway Segment Peak Period

Roadway Segment	A.M. Peak Period	P.M. Peak Period
Biscayne Boulevard between NE 135th Street and NE 151st Street	8:00 A.M. to 10:00 A.M.	4:30 P.M. to 6:30 P.M.
NE 151st Street east of Biscayne Boulevard	6:45 A.M. to 8:45 A.M.	1:15 P.M. to 3:15 P.M.
NE 135th Street east of Biscayne Boulevard	7:45 A.M. to 9:45 A.M.	4:45 P.M. to 6:45 P.M.

The peak periods selected for the study intersections are listed below for the A.M. and P.M. peak periods.

A.M. Peak Period

- Biscayne Boulevard and NE 151st Street: 6:45 A.M. to 8:45 A.M.
- Biscayne Boulevard and NE 135th Street: 8:00 A.M. to 10:00 A.M.
- Biscayne Boulevard and NE 163rd Street: 8:00 A.M. to 10:00 A.M.
- Interama Boulevard and NE 163rd Street: 8:00 A.M. to 10:00 A.M.

P.M. Peak Period

- Biscayne Boulevard and NE 151st Street: 1:15 P.M. to 3:15 P.M.
- Biscayne Boulevard and NE 135th Street: 4:30 P.M. to 6:30 P.M.
- Biscayne Boulevard and NE 163rd Street: 4:30 P.M. to 6:30 P.M.
- Interama Boulevard and NE 163rd Street: 4:30 P.M. to 6:30 P.M.

The peak periods for the intersection of Biscayne Boulevard and NE 151st Street are influenced by the arrival and dismissal times of the adjacent schools. The volumes were sorted in 15-minute intervals and the peak highest one-hour interval was determined for each intersection. The FDOT peak season conversion factor was applied to the traffic counts to adjust the traffic to peak season volumes based on the week when the traffic counts were collected. Existing traffic signal phasing and timing patterns were obtained from the Miami-Dade County Public Works Department. The turning movement counts, FDOT peak season factor category report, signal timing data, and volume development worksheets are included in Appendix G.

Intersection Capacity Analysis

The existing operating conditions were analyzed for study intersections using Trafficware's SYNCHRO 6.0 Software, which applies methodologies outlined in the Highway Capacity Manual, 2000 Edition. Synchro worksheets for the study intersections are included in Appendix G. A summary of the intersection analyses for the A.M. and P.M. peak hours is presented in Table 6. As Table 6 indicates, the intersection of Biscayne Boulevard and NE 151st Street operates at level of service (LOS) E during both the A.M. and P.M. peak hours, as does the intersection of Biscayne Boulevard and NE 163rd Street during the P.M. peak hour. The other study intersections operate at LOS D or better during the A.M. and P.M. peak hours.

Upon closer examination of the study intersections, it was noted that the eastbound and westbound approaches at the intersections of Biscayne Boulevard and NE 135th Street, Biscayne Boulevard and NE 151st Street, and Biscayne Boulevard and NE 163rd Street, operate at LOS E and LOS F during the peak hours, as traffic signal's green time is predominantly provided to Biscayne Boulevard traffic. Detailed capacity analysis worksheets are contained in Appendix G.

Table 6: Existing Peak Hour Intersection Capacity Analysis

Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			NB	SB	EB	WB
A.M. Peak Hour (P.M. Peak Hour)						
Biscayne Boulevard and NE 135th Street	Signalized	D/38.1s (D/49.3s)	C (C)	C (D)	F (F)	E (E)
Biscayne Boulevard and NE 151st Street	Signalized	E/68.5s (E/63.7s)	C (C)	F (C)	E (E)	E (F)
Biscayne Boulevard and NE 163rd Street	Signalized	D/54.8s (E/75.0s)	D (F)	D (E)	D (E)	E (E)
Interama Boulevard and NE 163rd Street	Signalized	C/21.7s (C/25.8s)	E (E)	D (D)	C (C)	C (C)

Another factor that contributes to reduced capacity along NE 151st Street is the poor drainage of the roadway, as even minimal rain causes flooding. Field observations confirmed these drainage deficiencies in the area. This condition exacerbates traffic congestion and poses accessibility challenges at the bus stops and sidewalks along NE 151st Street. Currently, Miami-Dade County Public Works Department has an ongoing project along NE 151st Street to improvement the existing flooding conditions.

Westbound Approach Congestion on NE 151st Street at Biscayne Boulevard

Heavy congestion was observed on the westbound approach at the intersection of NE 151st Street and Biscayne Boulevard during both the A.M. and P.M. peak hours. The congestion is caused by the westbound left-turn queue exceeding the provided storage and extending into the through lanes on NE 151st Street. During the A.M. peak hour, the maximum observed queue length for the westbound approach was approximately 800 feet. During the P.M. peak hour, not only did the queue for the westbound left-turn movement exceed the provided storage length, but the westbound right-turn queue also exceeded the available storage. The maximum P.M. peak hour observed queue was approximately 2000 feet, backing up to near the high school. During the P.M. peak hour the queues built up for approximately 30 minutes before dispersing.

Additionally, a portion of the westbound through traffic on NE 151st Street was observed making a u-turn in the vicinity of the FEC railroad and then making a right-turn movement onto southbound Biscayne Boulevard. Vehicles were executing this maneuver in order to bypass the westbound left-turn queue.

Proposed Intersection Capacity Improvements

Based on the intersection capacity analysis results, intersection improvements have been recommended to improve level of service for existing conditions, as well as future conditions. The future conditions consider development plans for the FIU Biscayne Bay Campus as well as increased enrollment at the area public schools.

Future conditions include the future trip generation of the FIU Biscayne Bay Campus obtained from the campus master plan as well as an assumption of a 20 percent increase in enrollment at

both the K-8 school and high school. Trip generation calculations were prepared based on the Institute of Transportation Engineer's (ITE's) *Trip Generation*, 8th Edition. ITE Land Use Code: 550 University/College was used for the FIU Biscayne Bay Campus. ITE Land Use Code 522: Middle School/Junior High School was used for the David Lawrence K-8 School; please note that ITE Land Use Code 522: Middle School/Junior High School generates more trips than ITE Land Use Code 520: Elementary School. Therefore, the trip generation forecast for the David Lawrence K-8 School provides for a conservative analysis. For the Alonzo and Tracy Mourning High School, ITE Land Use Code 530: High School was used. Detailed trip generation calculations and intersection volume development data are included in Appendix H. Furthermore, a 0.25 percent (0.25%) annual growth rate was also applied to existing volumes.

Proposed Biscayne Boulevard and NE 151st Street intersection improvements include:

- Construct additional westbound left-turn lane (short-term)
- Install westbound right-turn overlap phase (short-term)
- Construct additional southbound left-turn lane (short-term)
- Extend eastbound left-turn lane (medium-term)
- Construct northbound right-turn lane (will require right-of-way dedication from City of North Miami) (medium-term)
- Optimize signal timings (continuous)

Graphic representations of the proposed intersection improvements short-term and medium-term are provided as Figures 8 and 9.

The proposed intersection improvements do not fully mitigate the traffic impacts associated with the expansion of the FIU Biscayne Bay Campus and increased area schools enrollment. The intersection of Biscayne Boulevard and NE 151st Street is forecast to operate at LOS E during both the A.M. and P.M. peak hours. Therefore, as a long-term improvement, grade separating the northbound and southbound through movement on Biscayne Boulevard was analyzed. This improvement results in the intersection of Biscayne Boulevard and NE 151st Street operating at LOS D and C during the A.M. and P.M. peak hours, respectively. A level of service summary is provided as Table 7. Detailed intersection analyses are provided in Appendix I.

Table 7: Biscayne Boulevard and NE 151st Street with Intersection Improvements

Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			NB	SB	EB	WB
Existing A.M. Peak Hour with Intersection Improvements (Existing P.M. Peak Hour with Intersection Improvements)						
Biscayne Boulevard and NE 151st Street	Signalized	D/37.6s (D/41.2s)	C (D)	C (D)	E (D)	E (E)
Future A.M. Peak Hour with Intersection Improvements (Future P.M. Peak Hour with Intersection Improvements)						
Biscayne Boulevard and NE 151st Street	Signalized	E/77.4s (E/69.9s)	F E	E E	F E	D E
Future A.M. Peak Hour with Grade Separation (Future P.M. Peak Hour with Grade Separation)						
Biscayne Boulevard and NE 151st Street	Signalized	D/39.2s (C/23.0s)	D C	D C	D C	B B

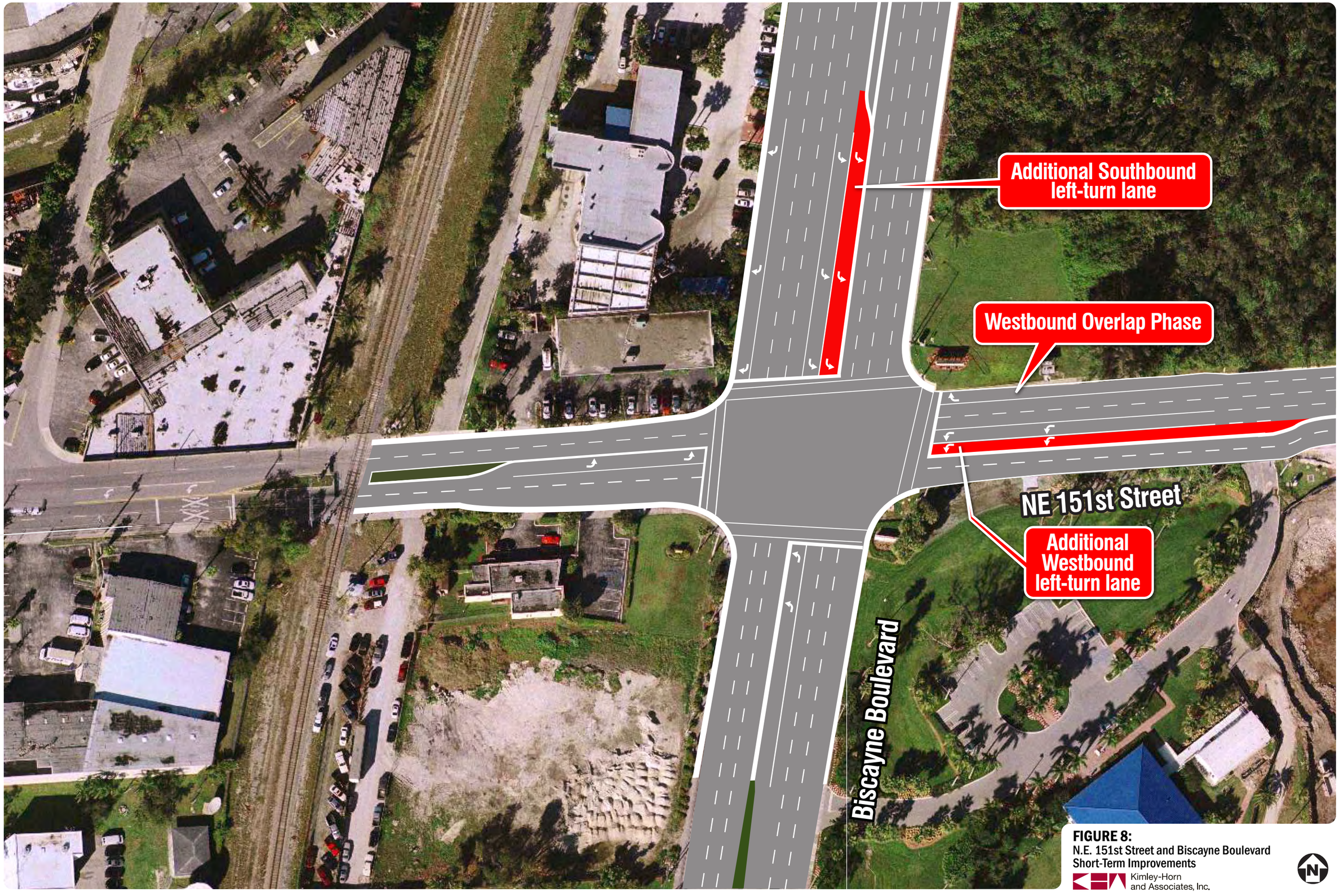


FIGURE 8:
N.E. 151st Street and Biscayne Boulevard
Short-Term Improvements

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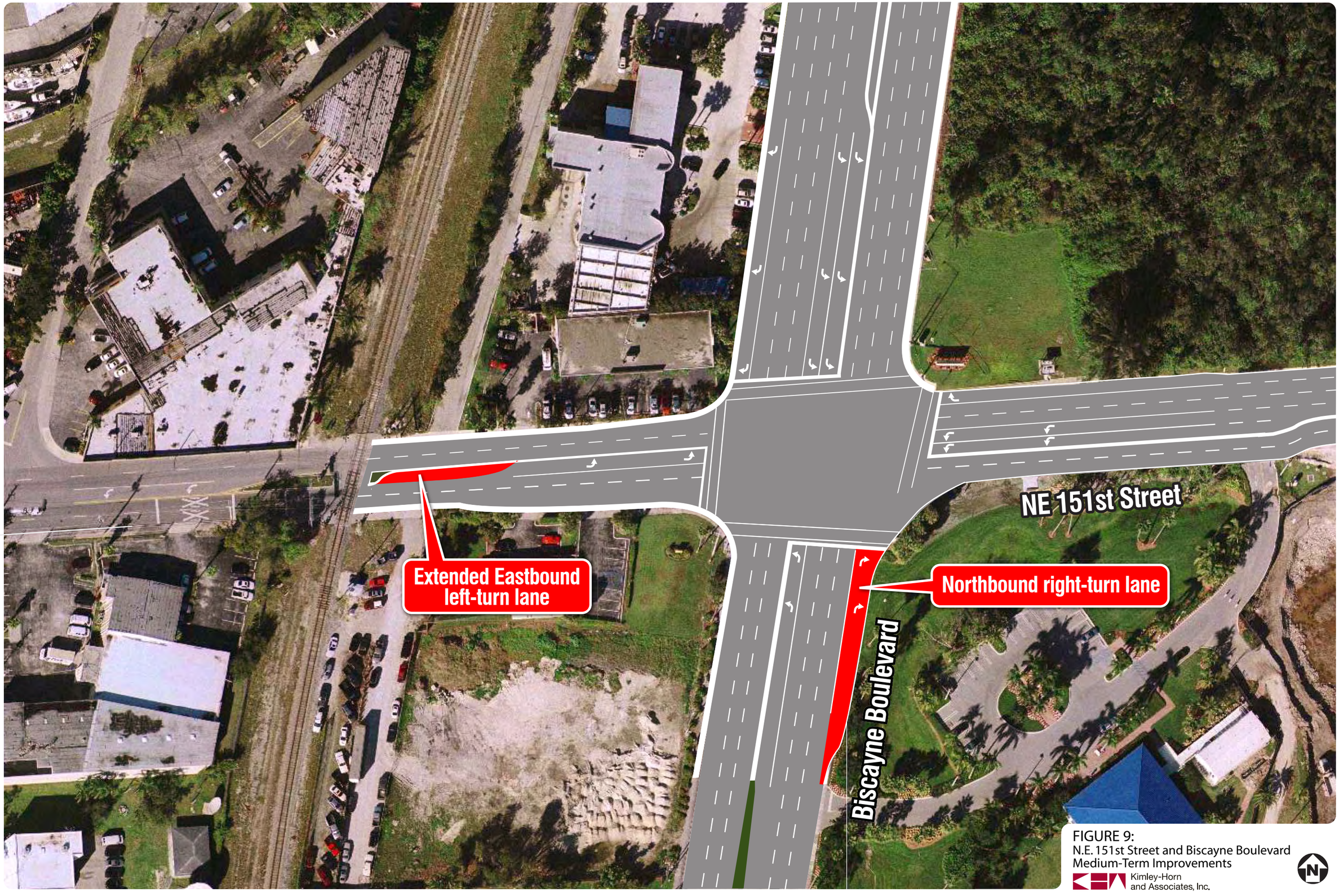

FIGURE 9:
N.E. 151st Street and Biscayne Boulevard
Medium-Term Improvements

Kimley-Horn
and Associates, Inc.

Roadway Segment Analysis

A roadway segment analysis was performed to assess the operation of NE 151st Street and NE 135th Street. Tables 8 and 9 provide a roadway segment analysis summary for existing weekday A.M. and P.M. peak hours. The results indicate that all study roadway segments operate within the adopted level of service standards under existing conditions. However, the poor operation of the intersection of NE 151st Street and Biscayne Boulevard, as well as the congestion observed at the high school driveways, creates bottlenecks which restrict capacity. Accordingly, the roadway segment analysis does not accurately reflect the observed congestion along NE 151st Street.

Future conditions roadway segment analysis was also conducted assuming the implementation of the campus master plan for FIU, increased enrollment at the area schools, and a 0.25 percent (0.25%) annual growth rate. Tables 10 and 11 provide a roadway segment analysis summary for future conditions during the A.M. and P.M. peak hours. Based on this analysis, NE 151st Street is forecasted to operate overcapacity in the eastbound direction during the A.M. peak hour and in the westbound direction in the P.M. peak hour.

Congestion during Afternoon on Westbound Approach of NE 151st Street at Biscayne Boulevard

Table 8: Weekday Existing A.M. Peak Hour Roadway Segment (Directional) Capacity Analysis

Roadway	Segment	Facility Type	2010 Counts	Peak Season Conversion Factor	Peak Season 2010 Volume	LOS C Standard Volume	LOS D Standard Volume	LOS E 120%	2010 LOS
NE 151st Street (Eastbound)	East of Biscayne Boulevard	4LD	931	1.04	968	865	1,150	1,459(1)	D
NE 151st Street (Westbound)	East of Biscayne Boulevard	4LD	617	1.04	642	865	1,150	1,459(1)	C
NE 135th Street (Eastbound)	East of Biscayne Boulevard	2LD	148	1.04	154	663	962	1,225(1)	C
NE 135th Street (Westbound)	East of Biscayne Boulevard	2LD	256	1.04	266	663	962	1,225(1)	C

Note: 2LD – two-lane divided, 4LD – four-lane divided

(1) Based on 120% of LOS E per Miami-Dade County Comprehensive Master Plan Urban Infill Area. Class II: Other Signalized Roadways

Table 9: Weekday Existing P.M. Peak Hour Roadway Segment (Directional) Capacity Analysis

Roadway	Segment	Facility Type	2010 Counts	Peak Season Conversion Factor	Peak Season 2010 Volume	LOS C Standard Volume	LOS D Standard Volume	LOS E 120%	2010 LOS
NE 151st Street (Eastbound)	East of Biscayne Boulevard	4LD	807	1.04	839	865	1,150	1,459(1)	C
NE 151st Street (Westbound)	East of Biscayne Boulevard	4LD	924	1.04	961	865	1,150	1,459(1)	D
NE 135th Street (Eastbound)	East of Biscayne Boulevard	2LD	308	1.04	320	663	962	1,225(1)	C
NE 135th Street (Westbound)	East of Biscayne Boulevard	2LD	193	1.04	201	663	962	1,225(1)	C

Note: 2LD – two-lane divided, 4LD – four-lane divided

(1) Based on 120% of LOS E per Miami-Dade County Comprehensive Master Plan Urban Infill Area. Class II: Other Signalized Roadways

Table 10: Future A.M. Peak Hour Roadway Segment (Directional) Capacity Analysis

Roadway	Segment	Facility Type	Peak Season 2010 Volume	New School Traffic and Background Growth	Peak Season 2034 Volume	LOS C Standard Volume	LOS D Standard Volume	LOS E 120%	Future LOS
NE 151st Street (Eastbound)	East of Biscayne Boulevard	4LD	968	1,017	1,985	865	1,150	1,459(1)	F
NE 151st Street (Westbound)	East of Biscayne Boulevard	4LD	642	343	985	865	1,150	1,459(1)	D
NE 135th Street (Eastbound)	East of Biscayne Boulevard	2LD	154	11	165	663	962	1,225(1)	C
NE 135th Street (Westbound)	East of Biscayne Boulevard	2LD	266	23	289	663	962	1,225(1)	C

Note: 2LD – two-lane divided, 4LD – four-lane divided

(1) Based on 120% of LOS E per Miami-Dade County Comprehensive Master Plan Urban Infill Area. Class II: Other Signalized Roadways

Table 11: Future P.M. Peak Hour Roadway Segment (Directional) Capacity Analysis

Roadway	Segment	Facility Type	Peak Season 2010 Volume	New School Traffic and Background Growth	Peak Season 2034 Volume	LOS C Standard Volume	LOS D Standard Volume	LOS E 120%	Future LOS
NE 151st Street (Eastbound)	East of Biscayne Boulevard	4LD	839	422	1,261	865	1,150	1,459(1)	E
NE 151st Street (Westbound)	East of Biscayne Boulevard	4LD	961	982	1,943	865	1,150	1,459(1)	F
NE 135th Street (Eastbound)	East of Biscayne Boulevard	2LD	320	21	341	663	962	1,225(1)	C
NE 135th Street (Westbound)	East of Biscayne Boulevard	2LD	201	21	222	663	962	1,225(1)	C

Note: 2LD – two-lane divided, 4LD – four-lane divided

(1) Based on 120% of LOS E per Miami-Dade County Comprehensive Master Plan Urban Infill Area. Class II: Other Signalized Roadways

Non-Vehicular Roadway Review

NE 151st Street and Bay Vista Boulevard were reviewed for pedestrian and bicycle facilities. Limited pedestrian and bicycle facilities are provided along these roadways. A sidewalk and bicycle lane are provided along the south side of NE 151st Street from Biscayne Boulevard to the David Lawrence K-8 School. No pedestrian or bicycle facilities are provided along the north side of NE 151st Street. Additionally, a bicycle lane is provided for a limited distance from the FIU Biscayne Bay Campus to the David Lawrence K-8 School.

Students Walking Southbound along Bay Vista Boulevard

The following improvements are proposed as a result of the field review.

- Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus. Provide railings and canopy on sidewalk to separate vehicles from pedestrians and protect pedestrians from the elements.
- Construct bicycle lane on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus.
- Construct sidewalk along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus. Provide railings and canopy on sidewalk to separate vehicles from pedestrians and protect pedestrians from the elements.
- Construct bicycle lane on north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus.

Existing Bicycle Lane Northbound on Bay Vista Boulevard

Proposed Roadway Capacity Improvements

NE 151st Street would need to be widened to a six-lane facility in order for the roadway to operate at adopted LOS "E 120%" in the future, as shown in Table 12. As an eight-lane facility the roadway would operate at LOS D during the A.M. peak hour and LOS C during the P.M. peak hour, as shown in Table 13. The existing directional split is 60 percent of traffic flow in the eastbound direction during the A.M. peak hour and 53 percent of traffic flow in the westbound direction during the P.M. peak hour. Please note that this directional volume split does not support the implementation of reversible lanes.

The available right-of-way along NE 151st Street is approximately 110 feet. Therefore, a six-lane roadway section improvement is possible within the existing right-of-way, a graphic representation of the improvement along NE 151st Street is provided as Figure 10. The roadway widening along NE 151st Street from Biscayne Boulevard The limits of the widening would encompass Biscayne Boulevard to the west and the Alonzo and Tracy Mourning High School to the east. The inside eastbound lane will serve as a dedicated left-turn lane at the Alonzo and Tracy Mourning High School. A typical section is provided as Figure 11.

Table 12: Future NE 151st Street 6-Lane Peak Hour Roadway Segment (Directional) Capacity Analysis

Roadway	Segment	Facility Type	Peak Season 2010 Volume	New School Traffic and Background Growth	Peak Season 2034 Volume	LOS C Standard Volume	LOS D Standard Volume	LOS E 120%	Future LOS
A.M. Peak Hour									
NE 151st Street (Eastbound)	East of Biscayne Boulevard	6LD	968	1,017	1,985	1,352	1,742	2,207(1)	E
NE 151st Street (Westbound)	East of Biscayne Boulevard	6LD	642	343	985	1,352	1,742	2,207(1)	C
P.M. Peak Hour									
NE 151st Street (Eastbound)	East of Biscayne Boulevard	6LD	839	422	1,261	1,352	1,742	2,207(1)	C
NE 151st Street (Westbound)	East of Biscayne Boulevard	6LD	961	982	1,943	1,352	1,742	2,207(1)	E

Note: 6LD – six-lane divided

(1) Based on 120% of LOS E per Miami-Dade County Comprehensive Master Plan Urban Infill Area. Class II: Other Signalized Roadways

Table 13: Future NE 151st Street 8-Lane Peak Hour Roadway Segment (Directional) Capacity Analysis

Roadway	Segment	Facility Type	Peak Season 2010 Volume	New School Traffic and Background Growth	Peak Season 2034 Volume	LOS C Standard Volume	LOS D Standard Volume	LOS E 120%	Future LOS
A.M. Peak Hour									
NE 151st Street (Eastbound)	East of Biscayne Boulevard	8LD	968	1,017	1,985	1,840	2,334	2,948(1)	D
NE 151st Street (Westbound)	East of Biscayne Boulevard	8LD	642	343	985	1,840	2,334	2,948(1)	C
P.M. Peak Hour									
NE 151st Street (Eastbound)	East of Biscayne Boulevard	8LD	839	422	1,261	1,840	2,334	2,948(1)	C
NE 151st Street (Westbound)	East of Biscayne Boulevard	8LD	961	982	1,943	1,840	2,334	2,948(1)	D

Note: 8LD – eight-lane divided

(1) Based on 120% of LOS E per Miami-Dade County Comprehensive Master Plan Urban Infill Area. Class II: Other Signalized Roadways

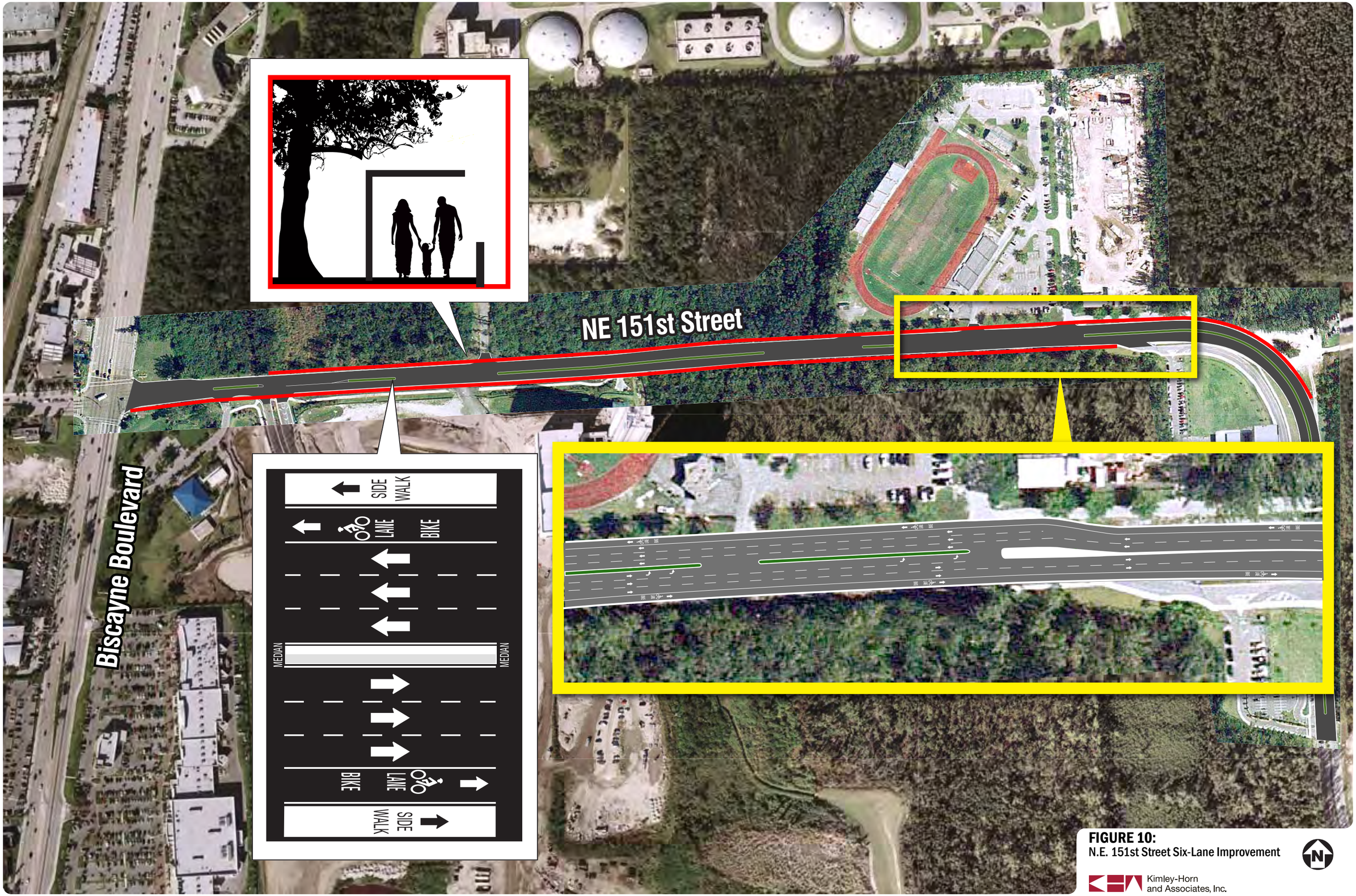

FIGURE 10:
N.E. 151st Street Six-Lane Improvement

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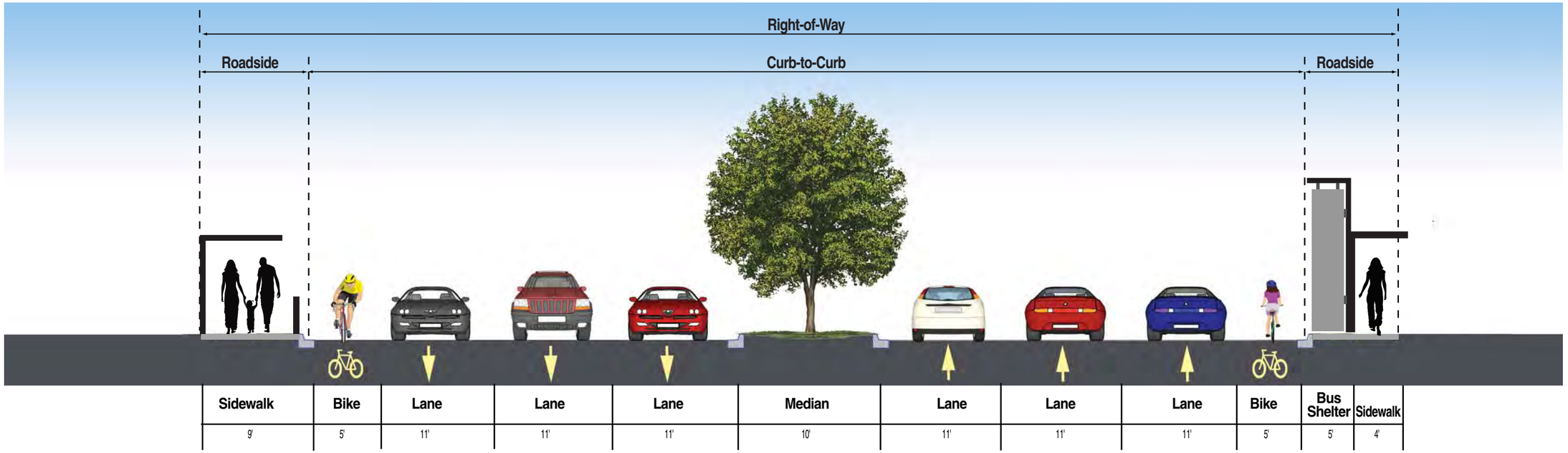
NE 151st Street
Six-Lane Divided



Sidewalk	Bike	Lane	Lane	Lane	Median	Lane	Lane	Lane	Bike	Bus Shelter	Sidewalk
9'	5'	11'	11'	11'	10'	11'	11'	11'	5'	5'	4'

Curb to curb denotes front of curb to front of curb

FIGURE 11:
N.E. 151st Street Typical Section

PROJECT NEEDS

Data were reviewed and analyzed to determine the need for an additional access connection to serve the FIU Biscayne Bay Campus. Several factors were considered for evaluating the needs of providing additional access to the FIU Biscayne Bay Campus. These needs are grouped in two categories: existing and future needs. The table below summarizes the needs for existing and future conditions.

Table 14: Project Needs Considerations

Existing Project Needs
• Only one existing access to FIU Biscayne Bay Campus and adjacent public schools.
• No emergency access to FIU Biscayne Bay Campus and adjacent public schools.
• Poor drainage along NE 151st Street.
• School zones along NE 151st Street and Bay Vista Boulevard slow traffic.
• FIU Biscayne Bay Campus student trip origin.
• Level of service at Biscayne Boulevard and NE 151st Street intersection.
Future Project Needs
• No proposed future roadway capacity improvements in study area.
• Future FIU Biscayne Bay Campus growth.
• Future growth at K-8 school and high school.
• Future level of service of Biscayne Boulevard and NE 151st Street.

Existing Project Needs

Specific details regarding each existing project need are discussed below.

Only One Access to Biscayne Bay Campus and Adjacent Schools

An important concern for the Biscayne Bay Campus, as well as for the adjacent Miami-Dade County public schools, is that NE 151st Street is the only vehicular access to these facilities. This condition causes traffic congestion and could present logistical issues in the case of an emergency situation where NE 151st Street is blocked. Having only one access route also is not desirable if evacuation of the area is required. Furthermore, no secondary emergency evacuation route is provided to the campus or area schools.

Flooding along NE 151st Street

Another factor that needs to be considered in the development of improvements along NE 151st Street is the poor drainage of the roadway, as even minimal rain causes flooding along NE 151st

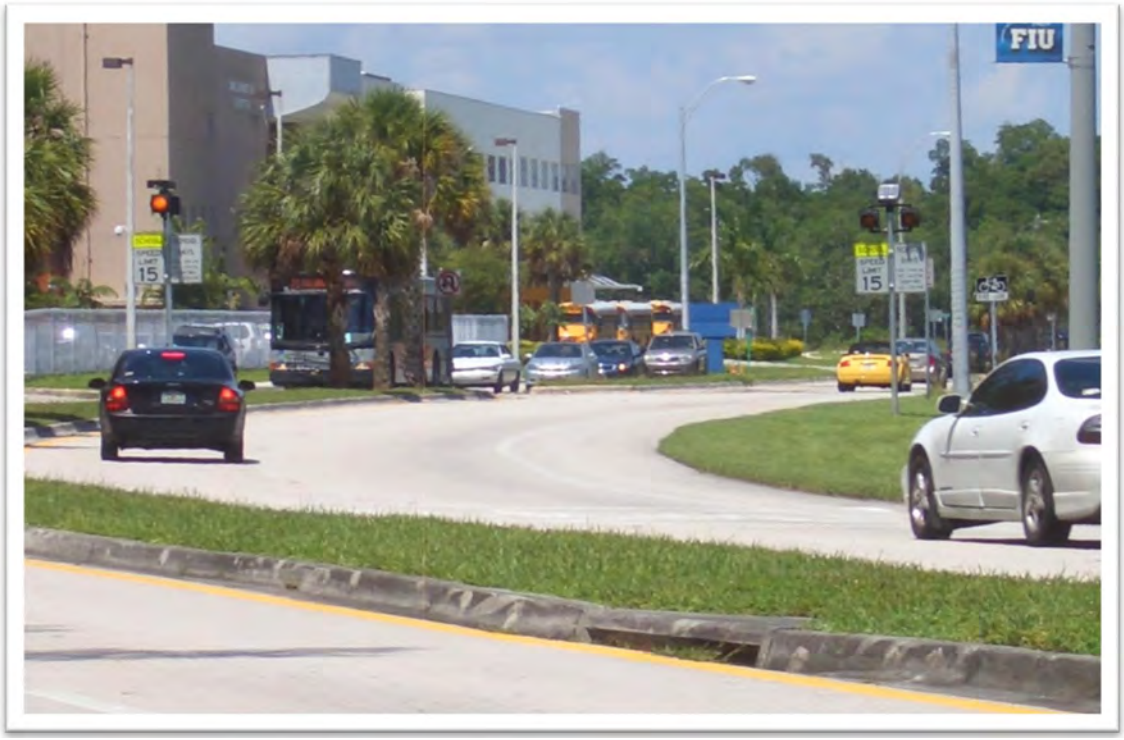
Street. Field observations confirmed these drainage deficiencies. This condition exacerbates traffic congestion and poses accessibility challenges at the bus stops and sidewalks along NE 151st Street.

Flooding along NE 151st Street east of Biscayne Boulevard

School Zones

The David Lawrence K-8 School class hours are 8:35 A.M. to 3:05 P.M. for grades 2-8 and 8:20 A.M. to 1:50 P.M. for pre-kindergarten, kindergarten, and first grade. The Alonzo and Tracy Mourning High School's class hours are 7:20 A.M. to 2:20 P.M. A 15-mph school zone is posted from west of the high school extending east along NE 151st Street onto Bay Vista Boulevard and south past the K-8 school. The school speed zone is enforced weekdays from 6:30 A.M. to 8:45 A.M. and 1:45 P.M. to 3:30 P.M., except Wednesdays, when the speed zone is enforced from 1:45 P.M. to 2:45 P.M.

The typical A.M. peak period (7:00 A.M. to 9:00 A.M.) of the adjacent roadway network coincides with the A.M. peak hour for traffic from the public schools, resulting in a concentrated A.M. peak period traffic volume on NE 151st Street and Biscayne Boulevard. The typical P.M. peak hour (4:00 P.M. to 6:00 P.M.) of the adjacent roadway network does not coincide with the P.M. peak hour for traffic of the public schools, as the schools begin releasing students at 1:50 P.M. and end at 3:05 P.M. This school schedule causes traffic to be heavy throughout the afternoon from approximately 2:00 P.M. to 6:00 P.M.



NE 151st Street/Bay Vista Boulevard School Zone

NE 151st Street/Bay Vista Boulevard School Zone Hours

FIU Student and Faculty/Staff Population Trip Origin

As stated in the existing conditions section, only 8 percent (or 606 students) of the FIU student population arrives from east of the campus. This origin-destination pattern precipitates the functionality of providing additional access to the campus from Biscayne Boulevard to the west rather than from NE 163rd Street or from Oleta River State Park to the north, as a connection to the north would add little value in diverting traffic and alleviating congestion on NE 151st Street. However, a dirt path does provide access between NE 151st Street and Interama Boulevard within Oleta River State Park. The dirt road could be used to facilitate emergency vehicle access with a formal traffic emergency access plan.

Existing Level of Service

As stated in the existing conditions section, the operating conditions were analyzed for study intersections. The intersection of Biscayne Boulevard and NE 151st Street operates at level of service (LOS) E during both the A.M. and P.M. peak hours, as does the intersection of Biscayne Boulevard and NE 163rd Street during the P.M. peak hour.

The eastbound and westbound approaches at the intersections of Biscayne Boulevard and NE 135th Street, and Biscayne Boulevard and NE 151st Street, operate at LOS E or LOS F during the peak hours. The poor operation of these approaches results from the allocation of the majority of the green time at these intersections to the northbound and southbound approaches on Biscayne Boulevard, in order to accommodate the heavy traffic flow and facilitate progression along Biscayne Boulevard.

Future Project Needs

Specific details regarding future project needs are discussed below.

Future Proposed Capacity Improvements

Based on a review of the Miami-Dade County TIP, LRTP, and FDOT 5-Year Work Program, no future roadway capacity projects are proposed in the study area. Therefore, the future operations of NE 151st Street and other area roadways need to be considered in light of the additional traffic demand anticipated with the expansion of the FIU Biscayne Bay Campus and the development of the Biscayne Landing property.

Future Biscayne Bay Campus Growth

The FIU Biscayne Bay Campus future academic and on-campus housing expansion plans include 215,550 square-feet of academic space and over 723 beds/housing units. The first expansion phase is expected to be complete by 2015 and would consist of 59,500 square-feet of academic facilities and 723 beds/housing units. The expansion of the campus will increase traffic on NE 151st Street.

Future Level of Service

The poor level of service condition experienced at the intersections of Biscayne Boulevard and NE 151st Street, and Biscayne Boulevard and NE 163rd Street, are expected to be exacerbated under future conditions as traffic volumes increase. Furthermore, the Biscayne Boulevard bus rapid transit (BRT) project is the only capacity improvement proposed within the study area.

NE 151st Street East of Biscayne Boulevard

LOCATION ANALYSIS

The study area boundaries of the *Improving Access in Florida International University Biscayne Bay Campus Area* study are defined as NE 163rd Street to the north, NE 135th Street to the south, Biscayne Boulevard to the east, and Biscayne Bay to the west.

Individual alternative location analysis sheets were developed for enhanced access connection options and are presented on the following pages. These sheets include a description of each access connection alternative, political jurisdiction, notes about the alternative, alternative specific issues/challenges, tasks involved for implementation, lead agencies to champion the alternative, project cost, funding, and implementation timeframe. The following list is a summary of the access alternatives.

- Alternative 1: Bay Vista Boulevard/NE 135th Street Connection
- Alternative 2: NE 143rd Street Connection
- Alternative 3: NE 151st Street Improvements
- Alternative 4: NE 163rd Street (Oleta River State Park) Connection

Figure 12 provides an illustration of the various alternatives and adjacent property owners. Detailed cost estimates are provided in Appendix J. All cost estimates include any bridge costs, maintenance of traffic plan, mobilization, environmental impact study, professional engineering design, and construction engineering and inspection.

NE 135th Street Recreational Path

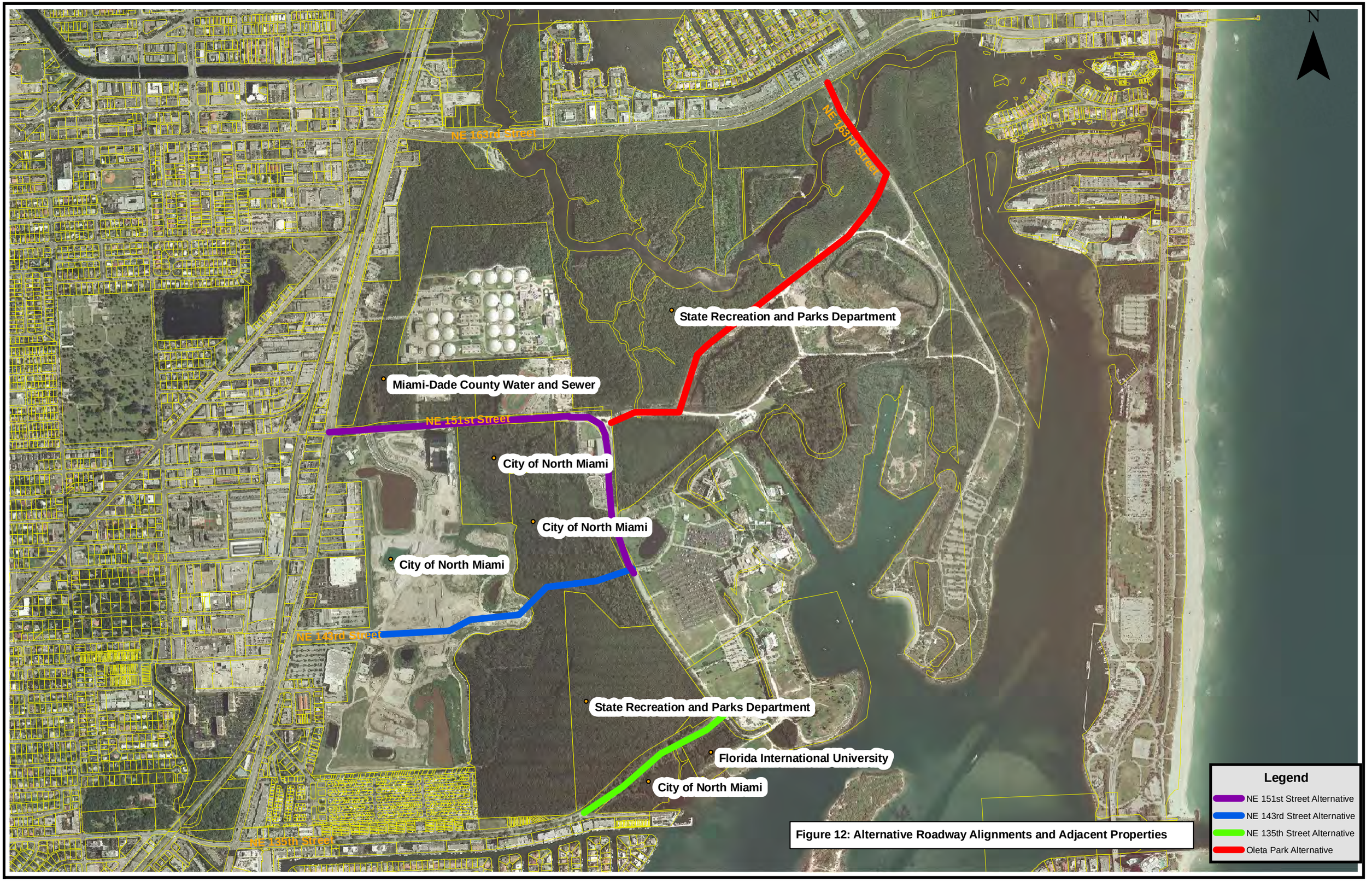


Figure 12: Alternative Roadway Alignments and Adjacent Properties

Alternative 1: Bay Vista Boulevard/NE 135th Street Connection

Project	Roadway and bridge reconstruction along NE 135th Street to connect to Bay Vista Boulevard. Figure 13 provides a graphic representation of the alternative.
Political Jurisdiction	City of North Miami
Notes	This improvement would require the reconstruction of two bridges along NE 135th Street that were removed when the facility was designated as a recreational walking and bicycle path. Resurfacing the roadway would also be required. The City of North Miami has a LAP agreement with FDOT for the replacement of the existing bicycle and pedestrian bridges. Permit applications are being processed with South Florida Water Management District (SFWMD) and Department of Environmental Protection (FDEP).
Issues/Challenges	**Community Opposition:** Area residents have expressed opposition to this alternative because of the increase in traffic expected on NE 135th Street and its impact on the recreational pedestrian and bicycle path. City of North Miami Resolution 2007-52 declaring Arch Creek East Environmental Preserve Area in perpetuity. **Environmental:** Tidal wetlands consisting mainly of mangroves and two tidal creeks would be impacted by this alternative. Due to previous activity in this area, there are disturbed uplands on both sides of the existing pedestrian/bicycle path. The uplands between the recreational path and the wetland areas vary from 25 to 100 feet. Thus, wetland impacts could be minimized with bridging over the tidal creeks. There was minimal submerged aquatic vegetation observed at the existing pedestrian bridges over the tidal creeks. No seagrass or hard bottom resources (oyster beds or coral) were observed. More detailed environmental analysis would be required to determine exact environmental impact. This alternative would appear to impact a lesser amount of wetlands, in comparison to the other alternatives. **State Environmental:** A portion of the Oleta River State Park is located north of the existing path. This portion of the State Park is not contiguous with the main part of the State Park, but appears in the Florida Department of Environmental Protection's (FDEP) on-line data as State Park and State Owned Lands. Coordination with the State Parks and State Lands departments will be required if impacts to the park land cannot be avoided. This alternative is located adjacent to the Biscayne Aquatic Preserve. Direct impacts to the Biscayne Aquatic Preserve most likely can be avoided. However, secondary effects would have to be addressed. The

Oleta River State Park and Biscayne Bay are Outstanding Florida Waters (OFW). Additional water quality treatment would be required for stormwater runoff (additional 50 percent required).

Federal Environmental: National Marine Fisheries Service (NMFS) considers this area Essential Fish Habitat (EFH); therefore, coordination with NMFS will be required. Dependent on the animal species in the area, coordination with US Fish and Wildlife Service (USFWS) may be required in accordance with the Endangered Species Act.

A wetland jurisdictional determination for Local, State and Federal permitting would be required. The following permits would be anticipated: an Environmental Resource Permit from South Florida Water Management District (SFWMD), a Section 404 Dredge and Fill Permit from the US Army Corps of Engineers (USACE), and a Class I permit from Miami-Dade County, Department of Environmental Resources Management (DERM).

Pedestrian/Bicycle Bridge Replacement/Construction: The City of North Miami has a LAP agreement with FDOT for the replacement of the existing bicycle and pedestrian bridges. Permit applications are being processed with South Florida Water Management District (SFWMD) and Department of Environmental Protection (DEP). If this alternative was moved forward, it would require postponing and redesigning the City of North Miami bicycle and pedestrian bridge replacement in order to accommodate vehicular traffic.

NE 135th Street Recreational Path

Traffic Impact: If this alternative were pursued, additional traffic will be diverted through the residential neighborhood along NE 135th Street.

	Additionally, NE 135th Street may require widening which would result in a reduced median width.
Tasks Involved	Include project in LRTP and/or Campus Master Plan Update.
Lead Agencies	City of North Miami and FIU
Cost	$5,000,000 for two-lane roadway $11,700,000 for four-lane roadway
Funding	City of North Miami and FIU
Implementation Timeframe	Long-Term

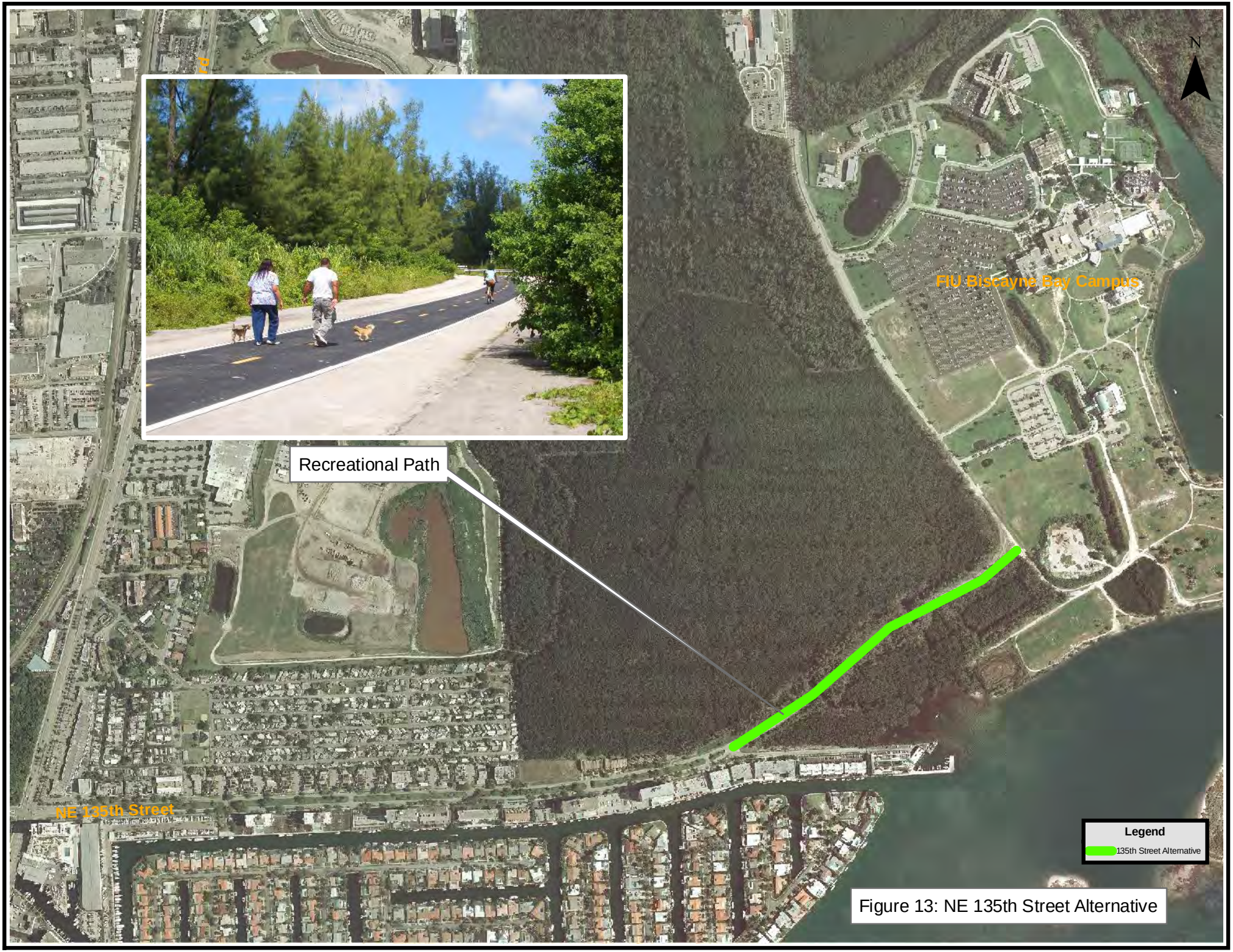


Figure 13: NE 135th Street Alternative

Alternative 2: NE 143rd Street Connection

Project	Provide a new roadway connection via NE 143rd Street from Biscayne Landings east to Bay Vista Boulevard. Figure 14 provides a graphic representation of the alternative.
Political Jurisdiction	City of North Miami
Notes	This alternative would be constructed almost entirely over wetlands. It is anticipated that a bridge would be required over the entire wetland area.
Issues/Challenges	**Financial Feasibility:** The financial feasibility of bridge construction, as well as Federal and State environmental constraints, are the primary challenges associated with this alternative. Construction of a bridge spanning the wetland area may be cost prohibitive. **Environmental Feasibility:** A major portion of this alternative would impact mangrove wetlands. Although the wetlands are disturbed along the edges of Bay Vista Boulevard and the Biscayne Landing development, mature red mangroves were observed throughout the wetland. Other species observed included leather fern, sawgrass, coco plum and white mangroves. This area is tidally connected.  **NE 143rd Street Alignment through Wetlands** **State/Federal Environmental:** This alternative would avoid impacts to the Oleta River State Park property, but would result in the most wetlands impact of all the alternatives considered. Requirements regarding secondary effects to the Biscayne Aquatic Preserve and the OFW discharge criteria would also have to be met. The same permits (SFWMD, USACE, and DERM) described for Alternative 1 would be required for this alternative. FDEP's, Division of Recreation and Parks and Division of State Lands, US Fish and Wildlife Service, and USACE would require more significant analysis and explanation of this alternative in comparison to other

	alternatives. State and Federal permitting criteria require that avoidance and minimization of wetland impacts be evaluated. Since this is not a water dependent activity, it would be presumed that an upland alternative exists. Therefore, a detailed alternatives analysis would be required. **Construction:** A bridge would most likely be required over the entire wetland area which would increase the complexity and cost of this alternative. Additionally, traffic improvements would need to be considered at the intersection of NE 143rd Street and Biscayne Boulevard. **Future Biscayne Landing Development:** Currently, the Biscayne Landing development has entered into foreclosure and has an uncertain future. A cross access connection through the Biscayne Landing development would be required in order to construct this alternative.
Tasks Involved	Coordination with Biscayne Landing Development
Lead Agencies	City of North Miami and FIU
Cost	$25,300,000 for two-lane roadway $38,900,000 for four-lane roadway
Funding	City of North Miami, FIU, and Biscayne Landing
Implementation Timeframe	Long-Term

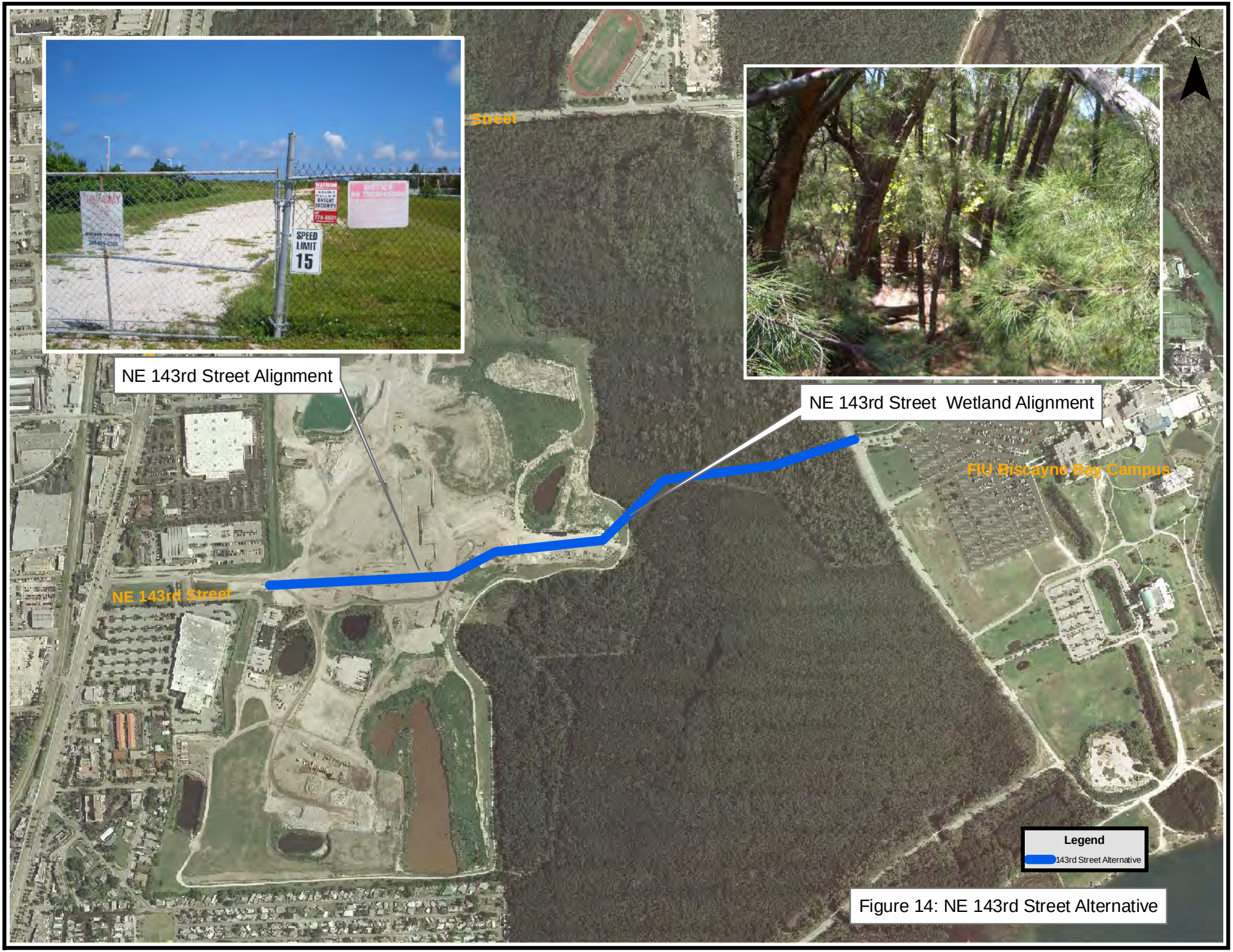


Figure 14: NE 143rd Street Alternative

Alternative 3: NE 151st Street Improvements

Project	Provide intersection improvements at NE 151st Street and Biscayne Boulevard. Figure 15 provides a graphic representation of the alternative.
Political Jurisdiction	Unincorporated Miami-Dade County
Notes	Intersection improvements would focus on the westbound approach, where the ROW is approximately 110 feet and can accommodate geometric improvements. All other approaches to the intersection are built out to the ROW limits. NE 151st Street is a four-lane facility.
Issues/Challenges	Limited opportunity for significant intersection improvements within existing ROW. This improvement does not provide secondary or emergency access to the campus.  **NE 151st Street and Biscayne Boulevard Intersection** ***Source: © 2010 Microsoft Corporation*** School zones along NE 151st Street and Bay Vista Boulevard reduce roadway capacity. The poor drainage along NE 151st Street, as even minimal rain causes flooding along NE 151st Street. This condition exacerbates traffic congestion and poses accessibility challenges at the bus stops and sidewalks along NE 151st Street. Intersection of Biscayne Boulevard and NE 151st Street already operates overcapacity in existing conditions. This condition is further exacerbated by the various types of vehicles that utilize the roadway including passenger cars, school buses, and public transit buses.
Tasks Involved	Coordinate with Miami-Dade County Public Works Department and FDOT to include the proposed improvements in the Transportation Improvement Program (TIP).
Lead Agencies	Miami-Dade County Public Works Department, FDOT, Miami-Dade School System, FIU, and Biscayne Landing
Cost	Provided in Action Plan
Funding	Provided in Action Plan
Implementation Timeframe	Short-term, medium-term, and long-term

Figure 15: NE 151st Street Alternative

Alternative 4: NE 163rd Street Connection (Oleta River State Park)

Project	Provide a new roadway connection through Oleta River State Park. Figure 16 provides a graphic representation of the alternative.
Political Jurisdiction	State of Florida Department of Environmental Protection Division of Recreation and Parks
Notes	This improvement would require the construction of a new roadway connection through the Oleta River State Park and connecting to the existing State Park road system to access NE 163rd Street (Sunny Isles Causeway). The proposed alignment would place the roadway on the existing bicycle trails. This alternative would create a circuitous travel route through a State Park to access the FIU campus, as most origins and destinations of campus trips are to the west of Biscayne Boulevard.
Issues/Challenges	**State Opposition:** The Department of Environmental Protection Division of Recreation and Parks has stated that other alternatives should be considered. **State Environmental:** This alternative would impact mangrove dominated wetland habitat. However, there is existing development and roads in the park, and there are upland areas along the existing bicycle trails. Depending upon the route, impacts to wetlands for this alternative could have similar impacts to Alternative 1 and less impacts than Alternative 2. This alternative would impact Oleta State River Park. A wetland jurisdictional determination for Local, State and Federal permitting would be required. The conversion of park land for transportation uses would require the granting of an easement by the Trustees of the Internal Improvement Trust Fund to Miami-Dade County. Coordination with the State Parks and State Lands departments will be required.  **Oleta River State Park** ***Source: © 2010 Microsoft Corporation*** The Oleta River State Park is designate as an OFW. Additional water

	quality treatment would be required for stormwater runoff (additional 50 percent required). **Federal Environmental:** National Marine Fisheries Service (NMFS) considers this area Essential Fish Habitat (EFH); therefore, coordination with NMFS will be required. Dependent on the animal species in the area, coordination with US Fish and Wildlife Service (USFWS) may be required in accordance to the Endangered Species Act. The following permits would be anticipated: an Environmental Resource Permit from South Florida Water Management District (SFWMD), a Section 404 Dredge and Fill Permit from the US Army Corps of Engineers (USACE), and a Class I permit from Miami-Dade County, Department of Environmental Resources Management (DERM). The other impacts, coordination, and permits required, as described for Alternative 1, would also apply to this alternative. Intersection improvements at the intersection of NE 163rd Street and Interama Boulevard may be required.
Tasks Involved	Coordination with FDOT and Parks and Recreation Department.
Lead Agencies	FDOT
Cost	$6,500,000 for two-lane roadway $9,400,000 for four-lane roadway
Funding	TBD
Implementation Timeframe	Long-term

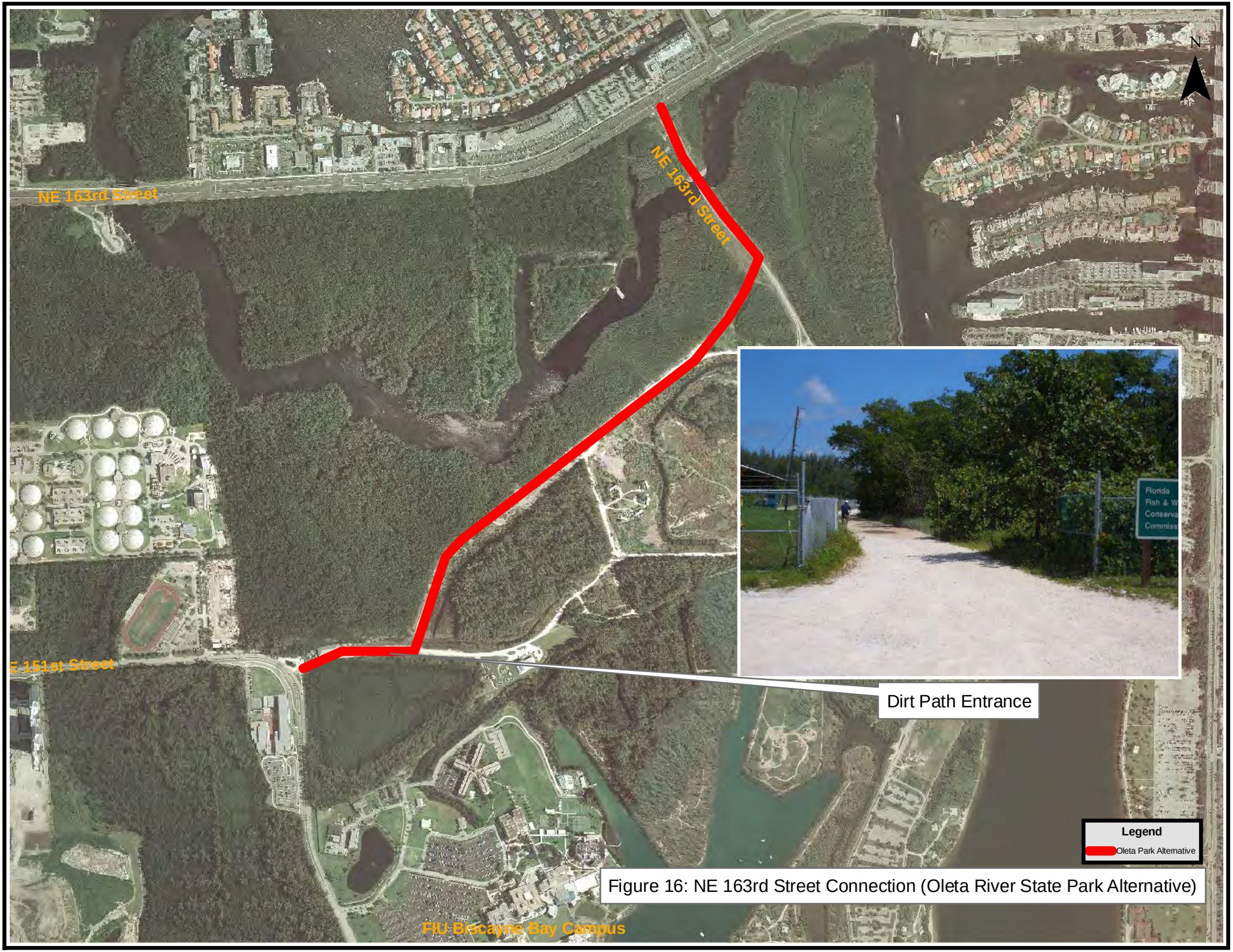


Figure 16: NE 163rd Street Connection (Oleta River State Park Alternative)

ALTERNATIVES SUMMARY

This study examined the feasibility of providing an additional access connection to the FIU Biscayne Bay Campus. Only one access connection is currently provided via NE 151st Street. NE 151st Street also serves as the primary access to the 193-acre Biscayne Landing master planned community, as well as the only access connection to the David Lawrence Jr. K-8 School and the Alonzo and Tracy Mourning Senior High School. These conditions have resulted in heavy traffic congestion along NE 151st Street and Biscayne Boulevard.

Existing conditions in the study area and project needs were analyzed. This assessment included reviewing and evaluating agency improvement plans, FIU Biscayne Bay Campus population projections and future expansion plans, area school enrollment, area transit accommodations, Biscayne Landing development proposals, the NE 135th Street bridge replacement project, environmental constraints, and traffic operations. Several contributing factors were revealed in determining that additional access to the FIU Biscayne Bay Campus is needed. These factors are listed below in two categories, existing needs and future needs.

Existing Project Needs

- Only one existing access to the FIU Biscayne Bay Campus and adjacent public schools.
- Poor drainage along NE 151st Street.
- School zones along NE 151st Street and Bay Vista Boulevard slow traffic.
- Poor operating level of service of several intersections in the study area including Biscayne Boulevard and NE 151st Street.

Future Project Needs

- No proposed future roadway capacity improvements in study area.
- Future FIU Biscayne Bay Campus growth.
- Future growth at the K-8 schools and high school.
- Future degradation of level of service at Biscayne Boulevard and NE 151st Street.

As a result of the project needs determination, a location analysis was developed for each of the four access connection alternatives. The four alternatives include:

- Alternative 1: Bay Vista Boulevard/NE 135th Street Connection
- Alternative 2: NE 143rd Street Connection
- Alternative 3: NE 151st Street Improvements
- Alternative 4: NE 163rd Street (Oleta River State Park) Connection

Based on the findings of the alternatives analysis, the benefits and challenges of each alternative are presented in the following section.

Alternative 1: Bay Vista Boulevard/NE 135th Street Connection

Benefits

- This alternative appears to impact a lesser amount of wetlands, in comparison to Alternatives 2 and 4.
- This alternative would create additional access to the FIU Biscayne Bay Campus and area schools and provide secondary emergency access to the schools.
- Congestion at the intersection of Biscayne Boulevard and NE 151st Street would be reduced.

Challenges

- Area residents have expressed opposition to this alternative because of the increase in traffic expected on NE 135th Street and impacts to the recreational pedestrian and bicycle path.
- City of North Miami resolution 2007-52 declaring Arch Creek East Environmental Preserve Area in perpetuity would need to be rescinded.
- Environmental concerns need to be addressed.

Next Steps for Implementation

- Within the study area, NE 135th Street is under City of North Miami jurisdiction. If this alternative is pursued, the City of North Miami will need to act as the lead agency and coordinate with FIU in addressing the challenges stated for this alternative. The following steps will need to be addressed by the City:

    - Define the specific environmental issues related to this alternative. Identify mitigation measures, obtain the required permits, estimate implementation costs, determine funding source and development implementation plan. Coordination with the following agencies will be required, DEP, SFWMD, USACE, DERM, and the NMFS.
    - Evaluate the additional traffic that will be diverted through the residential neighborhood along NE 135th Street. As a result, NE 135th Street may require widening and other improvements, which would result in a reduced median width and traffic intersection improvements should be considered at Biscayne Boulevard.
    - Postpone the City of North Miami's LAP agreement with FDOT for the construction of the bicycle/pedestrian bridges along this alignment. The City will need to reconsider and redesign the bicycle and pedestrian bridge to accommodate vehicular traffic.
    - Identify funding sources for the construction of this alternative.

Alternative 2: NE 143rd Street Connection

Benefits

- This alternative would create additional access to the FIU Biscayne Bay Campus and area schools.
- Congestion at the intersection of Biscayne Boulevard and NE 151st Street would be reduced.

Challenges

- This alternative would be constructed almost entirely over wetlands. It is anticipated that a bridge would be required over the entire wetland area. Construction of a bridge spanning the wetland area may be cost prohibitive.
- This alternative would avoid impacts to the Oleta River State Park property, but would result in the most significant wetland impact of all the alternatives considered.
- Requirements regarding secondary effects to the Biscayne Aquatic Preserve and the OFW discharge criteria would have to be met. The financial feasibility of bridge construction, as well as Federal and State environmental constraints, are the primary challenges associated with this alternative.
- As of August 2011, the City of North Miami has released a Request for Proposal (RFP) requesting qualified developers to submit proposals for the purchase or lease of the Biscayne Landing property. A cross access connection through the Biscayne Landing development would be required in order to construct this alternative.
- Additional environmental concerns need to be addressed.

Next Steps for Implementation

- Within the study area, NE 143rd Street as well as the Biscayne Landing development are under City of North Miami jurisdiction. If this alternative is pursued, the City of North Miami will need to act as the lead agency and coordinate with FIU and the Biscayne Landing development in addressing the challenges stated for this alternative. Additionally, the following actions items will be required of this alternative:

    - Coordination with FDOT regarding the impacts to the intersection of Biscayne Boulevard and NE 143rd Street. Based on the proposed Biscayne Landing development major intersection improvements are anticipated at this location.
    - Define the specific environmental issues related to this alternative. Identify mitigation measures, obtain the required permits, estimate implementation costs, determine funding source and development implementation plan. Coordination with the following agencies will be required, DEP, SFWMD, USACE, DERM, and the NMFS.
    - Identify funding sources for the construction of this alternative.
    - Coordinate with the Biscayne Landing Development and FIU for cross access agreements related to the proposed bridge as part of this agreement.

<u>Alternative 3: NE 151st Street Improvements</u>

Benefits

- This alternative would help alleviate congestion at the intersection of Biscayne Boulevard and NE 151st Street.
- This alternative has the least environmental impact out of the proposed alternatives.

Challenges

- Intersection improvements at NE 151st Street and Biscayne Boulevard would focus on the westbound approach, where the ROW is approximately 110 feet and can accommodate geometric improvements. Other approaches to the intersection are largely built-out to the ROW limits.
- The poor drainage along NE 151st Street, as even minimal rain causes flooding. This condition exacerbates traffic congestion and poses accessibility challenges at the bus stops and sidewalks along NE 151st Street.
- Approaches to the intersection of Biscayne Boulevard and NE 151st Street already operate over capacity in existing conditions. This condition is further exacerbated by the various types of vehicles that utilize the roadway including passenger cars, school buses, and public transit buses.
- This improvement does not provide secondary or emergency access to the FIU Biscayne Bay Campus.
- The proposed traffic signal providing access to the Biscayne Landing development via Royal Oak Lane will cause additional traffic congestion on NE 151st Street.

Next Steps for Implementation

- NE 151st Street is under Miami-Dade County jurisdiction. Bay Vista Boulevard is under City of North Miami jurisdiction. If this alternative is pursued, Miami-Dade County and City of North Miami will need to act as the lead agencies and coordinate with FIU, FDOT, and the Miami-Dade County Public Schools. The following steps will need to be addressed.

  County Next Steps
  - Coordinate and discuss funding options for implementing recommended improvements with agencies mentioned above.
  - Establish Interlocal Agreements, as appropriate, with the participating agencies to program and allocate the required funding to include improvements in the Transportation Improvement Plan (TIP) for the design and construction of the recommended improvements.
  - Coordinate and evaluate with FDOT the impacts of the proposed improvements at the intersection of Biscayne Boulevard and NE 151st Street.
  - Evaluate the potential environmental impact of the proposed improvements.

  City Next Steps
  - Coordinate with the Biscayne Landing development and County, regarding the impact of the Biscayne Landing development onto NE 151st Street.
  - Require the Biscayne Landing development to construct/fund some of the propose improvements to alleviate Biscayne Landing project traffic at the intersection of NE 151st Street and Biscayne Boulevard.
  - Dedicate the parcel located at the southeast corner of NE 151st Street and Biscayne Boulevard for the construction of the proposed transit hub.

  Public Schools System Next Steps
  - Evaluate the impact of the proposed improvements on the area schools.

- Identify potential funding sources to support the construction of the proposed improvements.

FIU Next Steps

- Evaluate the impact of the proposed improvements on the FIU Biscayne Bay Campus.
- Identify potential funding sources to support the construction of the proposed improvements.

Alternative 4: NE 163rd Street (Oleta River State Park) Connection

Benefits

- This alternative would create additional access to the FIU Biscayne Bay Campus and area schools.
- Congestion at the intersection of Biscayne Boulevard and NE 151st Street would be reduced.

Challenges

- Based on a review of the zip codes of the students' residences, only 8 percent of the FIU Biscayne Bay Campus population arrives from east of the campus. Therefore, the need to provide access from the east through the Oleta River State Park is not supported.
- The Department of Environmental Protection Division of Recreation and Parks has stated opposition to this alternative.
- This alternative would impact mangrove dominated wetland habitat. However, there is existing development and roads in the park, and there are upland areas along the existing bicycle trails. Depending upon the route, impacts to wetlands for this alternative could have similar impacts to Alternative 1 and less impacts than Alternative 2.
- This alternative would impact Oleta River State Park. A wetland jurisdictional determination for Local, State and Federal permitting would be required.
- The conversion of park land for transportation uses would require the granting of an easement by the Trustees of the Internal Improvement Trust Fund to Miami-Dade County. Coordination with the State Parks and State Lands departments will be required.
- The following permits would be anticipated: an Environmental Resource Permit from South Florida Water Management District (SFWMD), a Section 404 Dredge and Fill Permit from the US Army Corps of Engineers (USACE), and a Class I permit from Miami-Dade County, Department of Environmental Resources Management (DERM).

Next Steps for Implementation

- This alternative is under jurisdiction of the State of Florida Department of Environmental Protection Division of Recreation and Parks. If this alternative is pursued, Miami-Dade County Public Works Department should act as the lead agency and coordinate with FDEP. The following steps will need to be addressed.

    - Define the specific environmental issues related to this alternative. Identify mitigation measures, obtain the required permits, estimate implementation costs, determine funding source and development implementation plan. Coordination with the following agencies will be required, DEP, SFWMD, USACE, DERM, and the NMFS.

- Coordinate with FDOT regarding the impacts to the intersection of NE 163rd Street and Interama Boulevard.
- Identify funding sources for the construction of this alternative.

Emergency Access Plan

Since NE 151st Street is the only access to the FIU Biscayne Bay Campus and area schools, an emergency access route is proposed in case this route to Biscayne Boulevard is blocked due to an emergency or incident. Three (3) alternative routes were reviewed for emergency access.

The first alternative emergency access route provides access to NE 163rd Street via the dirt path through the Oleta River State Park. Recently, a curb was installed along Bay Vista Boulevard limiting access to this dirt path, which is located to the east of the High School's easternmost driveway. Accessing this route when exiting the FIU Biscayne Bay Campus would require a right-turn u-turn movement for eastbound traffic on NE 151st Street.

Access to Dirt Path within Oleta State Park

A jurisdictional agreement with the Department of Environmental Protection Division of Recreation and Parks would be required to establish criteria for permitting vehicular access through the park, as well as maintenance of traffic plan in order to protect recreational park users from vehicular traffic.

The second alternative emergency access route provides access to NE 156th Street via the North District Wastewater Treatment Plant, which is adjacent to the high school to the north. This route would require circulation through the high school and through a large portion of the plant operations area.

Route 2: Access to North District Wastewater Treatment Plant

As with the second route, the third alternative emergency access route provides access to NE 156th Street via the North District Wastewater Treatment Plant. However, this alternative accesses the plant further west and provides a more direct connection to NE 156th Street.

Route 3: Access to North District Wastewater Treatment Plant

Figure 17 provides an illustration of the three (3) potential alternative emergency access routes.

Protocol will need to be established for the using an emergency route. The emergency route should only be used if access to Biscayne Boulevard is completely blocked for an extended period of time. Coordination will be required with the wastewater treatment plant staff in order to obtain access through the facility when emergency conditions occur. Additionally, traffic control will require coordination with law enforcement either FIU Campus Police, Miami-Dade County, or City of North Miami police may need to assist in directing traffic.

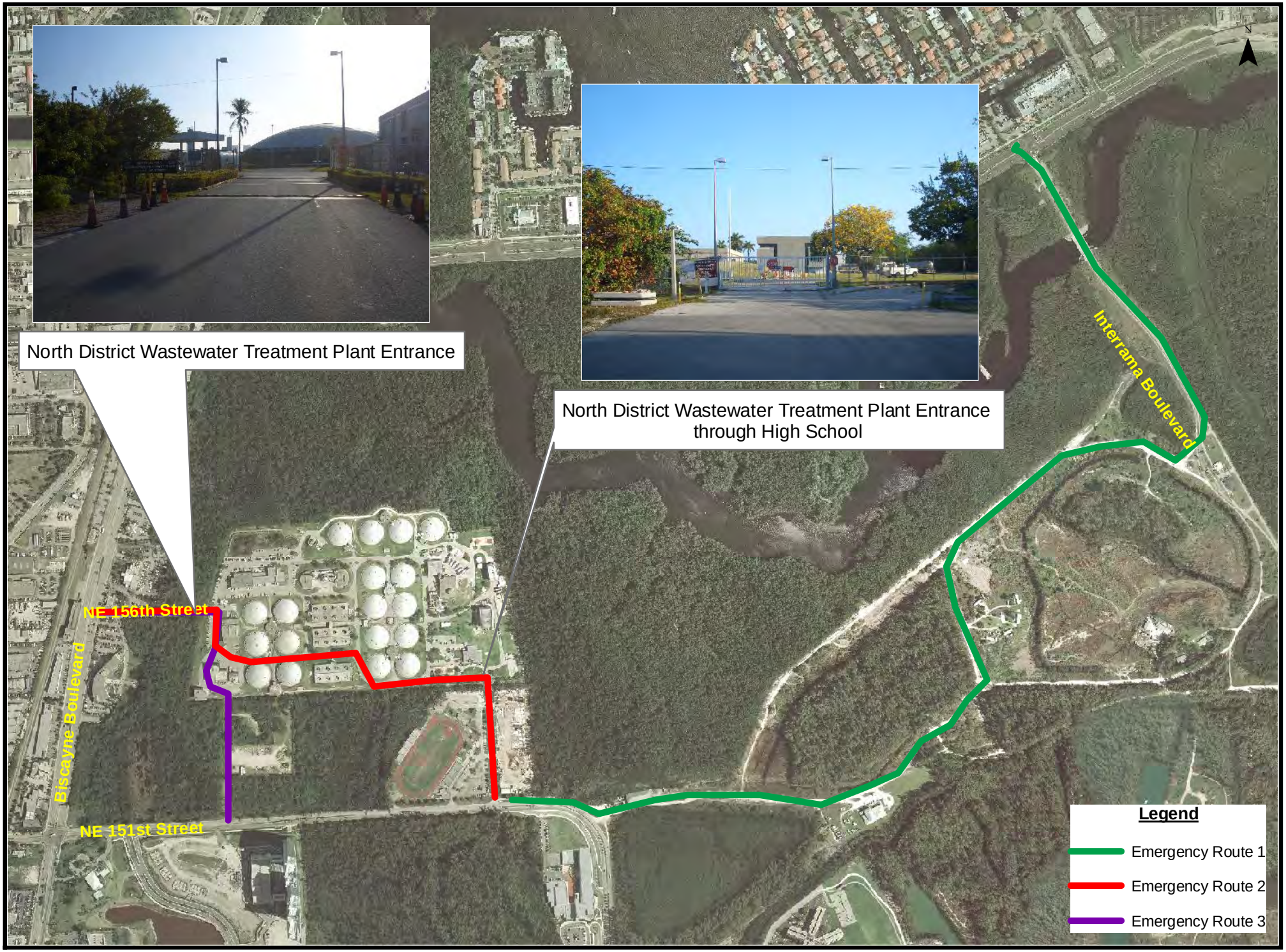


Figure 17: Emergency Access Routes

ACTION PLAN

Based on the benefits and challenges discussed, the only alternative that is under jurisdiction of Miami-Dade County is Alternative 3: NE 151st Street Improvements. Alternative 1: Bay Vista Boulevard/NE 135th Street Connection and Alternative 2: NE 143rd Street Connection are under the jurisdiction of the City of North Miami. Alternative 4: NE 163rd Street (Oleta River State Park) Connection is under State of Florida Department of Environmental Protection Division of Recreation and Parks jurisdiction.

The City of North Miami will need to decide which alternative under their jurisdiction to pursue. Accessibility to FIU Biscayne Bay Campus through NE 135th Street, NE 143rd Street, and NE 163rd Street present major funding, environmental and/or community issues that will not be resolved in the short-term. Extensive mitigation measures will be required for these alternatives.

Therefore, an action plan was developed based on proposed improvement/project time horizons. Time horizons defined for this study were short-term (0-2 years), medium-term (2-5 years), and long-term (5+ years). The following recommendations are proposed. These recommendations are analyzed in greater detail within the action plan section.

- Replace the non-standard stop signs on the northbound approach at the intersection of Bay Vista Boulevard and the FIU Biscayne Bay Campus Main Entrance with standard (30" x 30") stop signs under City of North Miami jurisdiction.
- Relocate existing bus stops at high school to next to crosswalk recently constructed and provide bus shelters at these stops.
- FIU and the Miami-Dade Public Schools need to coordinate with State of Florida Department of Environmental Protection Division of Recreation and Parks and Miami-Dade County Water and Sewer Department to facilitate the emergency access routes.
- Alternative 3: NE 151st Street Improvements
  - Several improvements could be considered with this alternative including:
  - Short-term Improvements
    - Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus. Provide railings and canopy on sidewalk to separate vehicles from pedestrians and protect pedestrians from the elements, as medium-term improvement.
    - Extend bicycle lane on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus.
    - Construct sidewalk along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus. Provide railings and canopy on sidewalk to separate vehicles from pedestrians and protect pedestrians from the elements as medium-term improvement.
    - Construct bicycle lane on north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus.
    - Intersection improvements at NE 151st Street and Biscayne Boulevard
      - Construct additional westbound left-turn lane
      - Construct additional southbound left-turn lane
      - Construct northbound right-turn lane
      - Install westbound right-turn overlap phase

- Extend eastbound left-turn lane to FEC rail corridor
- Optimize signal timings for intersection improvements

- Improve drainage on NE 151st Street to alleviate flooding problems.
- Improve transit stop amenities along Biscayne Boulevard and NE 151st Street.
- Examine a transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street. Include shuttle service from transit transfer facility to FIU Biscayne Bay Campus.

o Medium-term Improvements
- Construct transit transfer facility (transit hub) on southeast corner of Biscayne Boulevard and NE 151st Street. Graphics of the proposed transfer facility are provided as figures 17 and 18.
- Provide shuttle service from transit transfer facility to FIU Biscayne Bay Campus.

o Long-term Improvements
- Widen NE 151st Street to six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard (High School and K-8 School). The inside eastbound through lane would terminate at the high school, essentially operating as a dedicated lane serving the high school. Furthermore, signage and pavement markings will be provided to emphasize access to the high school. It is recommended that a reversible lane study be conducted at a future time to determine if traffic patterns warrant this improvement.
- Implement Bus Rapid Transit (BRT) along Biscayne Boulevard.
- Grade separate Biscayne Boulevard at NE 151st Street.

Figures 18 and 19 illustrate the proposed transit hub located on the southeast quadrant of NE 151st Street and Biscayne Boulevard. Table 15 provides a summary of short-term projects and necessary implementation tasks, Table 16 provides a summary of midterm projects and necessary implementation tasks, and Table 17 provides a summary of long-term projects and implementation tasks. Improvements/projects were prioritized based on needs as well as costs. Detailed cost estimates are provided in Appendix J.

FIGURE 18:
N.E. 151st Street and Biscayne Boulevard
Transit Hub

Kimley-Horn
and Associates, Inc.

Kimley-Horn and Associates, Inc.

FIGURE 19: Transit Hub
NE 151st Street and Biscayne Boulevard

Table 15: Short-Term Action Plan

	Improvement	Implementation Tasks	Possible Funding Sources	Cost
1.	Replace non-standard stop signs (Northbound Bay Vista Boulevard and FIU Biscayne Bay Campus Main Entrance)	City of North Miami Maintenance	City of North Miami	$1,500
2.	Improve drainage along NE 151st Street	Currently part of a Miami-Dade County Public Works project	Miami-Dade County	N/A
3.	Implement Emergency Access Plan via NE 156th Street through the North District Wastewater Treatment Plant and/or via Oleta State River Park	Coordination with Miami-Dade County Water and Sewer Department and State Parks and Recreation Department	N/A	N/A
4.	Relocate existing bus stops at High School next to crosswalk, provide bus shelters	Coordination with Miami-Dade Transit	Federal 5309 Grants – Bus Capital, MDT Local Option Gas Tax, Local Option Gas Tax	$43,000
5.	NE 151st Street and Biscayne Boulevard Intersection Improvement (westbound left-turn lane)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$120,000(1)
6.	NE 151st Street and Biscayne Boulevard Intersection Improvement (westbound right-turn overlap phase)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$60,000
7.	NE 151st Street and Biscayne Boulevard Intersection Improvement (southbound left-turn lane)	Program improvements in TIP and FDOT Work Program	FDOT: Other arterial construction and/or TMA Funds, County Fuel Tax, Local Option Gas Tax	$130,000(1)
8.	Construct sidewalk (railing and canopy medium-term) along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$130,800(1)
9.	Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus (railing and canopy medium-term)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$19,200(1)
10.	Construct bicycle lane along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$131,000(1)
11.	Construct bicycle lane along south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$63,000(1)

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

	Improvement	Implementation Tasks	Possible Funding Sources	Cost
12.	Provide transit amenities for bus stops at Biscayne Boulevard and NE 151st Street	Program improvements in TIP/TDP	Federal 5309 Grants – Bus Capital, MDT Local Option Gas Tax, Local Option Gas Tax	$42,000
13.	Examine transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street	Program improvements in TDP	State Grants – Bus, MDT Local Option Gas Tax, Local Option Gas Tax	N/A

Table 16: Medium-Term Action Plan

Improvement	Implementation Tasks	Possible Funding Sources	Cost
1. NE 151st Street and Biscayne Boulevard Intersection Improvements (northbound right-turn lane) – requires additional right-of-way	Program improvements in TIP and FDOT work program	FDOT: Other arterial construction and/or TMA Funds, County Fuel Tax, Local Option Gas Tax	$85,200(1)
2. NE 151st Street and Biscayne Boulevard Intersection Improvements (extend eastbound left-turn lane)	Program improvements in TIP	FDOT: Other arterial construction and/or TMA Funds, County Fuel Tax, Local Option Gas Tax	$9,600
3. Sidewalk railing and canopy along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$1,094,400(1)
4. Sidewalk railing and canopy along south side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax	$1,094,400(1)
5. Construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street	Program improvements in TIP	State Grants – Bus, MDT Local Option Gas Tax, Local Option Gas Tax, Road Impact Fee	TBD
6. Provide shuttle service from transit transfer facility to FIU Biscayne Bay Campus	Coordinate with FIU	FIU Operating Budget	TBD

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

Table 17: Long-Term Action Plan

Improvement	Implementation Task	Possible Funding Sources	Cost
1. Widen NE 151st Street to six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard (High School and K-8 School)	Program improvements in TIP	County Fuel Tax, Local Option Gas Tax, Road Impact Fee	$2,300,000(1)
2. Implement Bus Rapid Transit (BRT) along Biscayne Boulevard	Fund Project in TDP	FDOT Transit, PTP Sales Tax Revenue	TBD
3. Grade separate Biscayne Boulevard at NE 151st Street	Include project in LRTP	FDOT: Other arterial construction, TMA Funds	$38,500,000

Note: (1) Does not include potential wetland mitigation costs along NE 151st Street.

FUNDING/COST ESTIMATES

Preliminary order of magnitude cost estimates were developed for the improvements/projects and are presented in the action plan. The purpose of these cost estimates is to provide planning level estimates for improvements/projects, and the cost estimates were used as a prioritization/implementation parameter. Cost estimates were based on FDOT typical cost per mile information. Cost estimates and cost per mile calculations are contained in Appendix J. As specific improvements/projects are developed and detailed construction needs are identified, more precise engineering cost estimates should be prepared to identify required funds that will need to be programmed for implementation of the projects.

Funding/revenue source forecasts for FDOT (state and federal), Miami-Dade Transit (MDT), and Miami-Dade County gas taxes and road impact fees for public works projects were reviewed. A summary of FDOT funding is provided as Table 16, Miami-Dade Transit funding is provided as Table 17, and Miami-Dade County gas taxes and road impact fees are provided as Table 18.

Table 18: FDOT (State and Federal) Funding

	FDOT Capacity Program Revenue Forecast FY 2014-2035 Estimates for Miami-Dade County *(Millions of Year-of-Expenditure Dollars)*					
Capacity Programs	FY 2014-2015 Subtotal	FY 2016-2020 Subtotal	FY 2021-2025 Subtotal	FY 2026-2030 Subtotal	FY 2031-2035 Subtotal	22 Year Total
SIS/FIHS Construction/ROW	$233	$259	$277	$317	$287	$1,374
Other Arterial Construction/ROW	$116	$355	$398	$427	$465	$1,760
Transit	$23	$58	$58	$56	$47	$242
Total Capacity Program	$372	$671	$733	$800	$798	$3,376
Transportation Management Areas (TMA) Funds	$92	$243	$257	$265	$266	$1,123
Districtwide TRIP Funds[1]	$35	$77	$74	$74	$74	$335
Port of Miami Tunnel & SR 836/I-95[2]						$2,713
TOTAL YEAR-OF-EXPENDITURE	$500	$992	$1,065	$1,139	$1,139	$7,547

Source: Miami-Dade County 2035 LRTP Financial Resources Review, May 2009

[1] Transportation Regional Incentive Program

[2] Included separately in SIS Cost Feasible Plan as "State Mega Project Phased over Time"

Other Arterial Construction/Right-of-Way

This capacity program allocates funds for construction, improvements, and associated right-of-way on State Highway System roadways not designated as part of the SIS or FIHS. This program also includes funds for the Economic Development Program, County Incentive Grant Program, and the Small County Outreach Program.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Grade separate Biscayne Boulevard and NE 151st Street
- Intersection Improvements at Biscayne Boulevard and NE 151st Street

Transit

The transit program includes funding for technical and operating/capital assistance to transit, paratransit, and ridesharing systems.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Biscayne Boulevard Bus Rapid Transit

Transportation Management Areas (TMA) Funds

In order for an MPO to receive TMA funds, the following conditions must be satisfied.

1. Recent use of TMA funds (previous 5 – 10 years) among the various categories in the FDOT revenue forecast. These categories include Other Arterials Construction & ROW, Product Support (e.g., Planning, PD&E studies, Engineering Design, Construction Inspection, etc.), Transit, Resurfacing, etc.
2. Planned use of TMA funds – based on policies regarding the planned use of TMA funds through the long range transportation plan horizon year.
3. Clear articulation in the long range transportation plan documentation of the policies regarding the use of TMA funds, and estimates of TMA funds planned for each major program and time period.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Grade separate Biscayne Boulevard and NE 151st Street
- Intersection Improvements at Biscayne Boulevard and NE 151st Street

Table 19: Miami-Dade Transit Funding

	Miami-Dade Transit Revenue Forecast FY 2014-2035 *(Millions of Year-of-Expenditure Dollars)*					
Capital Funding Sources	FY 2014-2015 Subtotal	FY 2016-2020 Subtotal	FY 2021-2025 Subtotal	FY 2026-2030 Subtotal	FY 2031-2035 Subtotal	22 Year Total
Federal 5309 Grants - Rail Capital (NS)	$71	$214	$279	$365	$477	$1,406
Federal 5309 Grants - Rail Mod	$27	$71	$118	$181	$262	$659
Federal 5309 Grants - Bus Capital	$13	$36	$42	$50	$58	$199
State Grants - Rail	$35	$107	$140	$183	$239	$703
State Grants - Bus	$18	$26	$5	$49	$43	$140
MDT Local option gas tax (LOGT)	$37	$97	$104	$112	$121	$472
Total Capacity Revenue	$200	$551	$689	$940	$1,201	$3,580
Operating Funding Sources						
System Fares & Other Operating Revenue	$332	$953	$1,128	$1,344	$1,522	$5,279
Federal 5307 Formula Funds	$106	$313	$387	$479	$566	$1,851
State Block Grants/Operating Assist./TD&CE	$58	$155	$172	$190	$209	$784
MDT General Fund Subsidy - Original MOE (3.5 percent)	$342	$964	$1,145	$1,360	$1,615	$5,425
Interest Income	$14	$40	$48	$58	$73	$233
Operating Funding Sources	$852	$2,425	$2,879	$3,431	$3,985	$13,572
PTP Sales Tax Revenues	$354	$1,069	$1,397	$1,825	$2,386	$7,030
(Net of 20 Percent to Municipalities)						
Additional County General Fund Revenue	$0	$0	$0	$0	$0	$0
TOTAL YEAR-OF-EXPENDITURE	$1,406	$4,044	$4,964	$6,196	$7,572	$24,182

Source: Miami-Dade County 2035 LRTP Financial Resources Review, May 2009

Table 20: Miami-Dade County Gas Taxes and Road Impact Fees Funding

	Miami-Dade County Gas Taxes and Road Impact Fees Revenue Forecast FY 2014-2035 *(Millions of Year-of-Expenditure Dollars)*					
Gas Taxes	FY 2014-2015 Subtotal	FY 2016-2020 Subtotal	FY 2021-2025 Subtotal	FY 2026-2030 Subtotal	FY 2031-2035 Subtotal	22 Year Total
Secondary Gas Tax	$39	$103	$111	$119	$128	$500
County Fuel Tax	$18	$47	$50	$54	$59	$228
6-cent Local option gas tax (LOGT)	$87	$230	$248	$267	$288	$1,121
5-cent Local option gas tax (LOGT)	$40	$104	$112	$121	$130	$508
Ninth-cent Gas Tax	$22	$58	$62	$67	$72	$282
Total Gas Taxes	$206	$542	$584	$629	$678	$2,638
Road Impact Fees	$26	$64	$64	$64	$64	$283

Source: Miami-Dade County 2035 LRTP Financial Resources Review, May 2009

Miami-Dade Transit Funding

Federal 5309 Grants – Bus Capital

This grant provides capital assistance for new and replacement buses, related equipment, and facilities. Eligible capital projects include the purchasing of buses for fleet and service expansion; bus maintenance and administrative facilities; transfer facilities; bus malls; transportation centers; intermodal terminals; park-and-ride stations; acquisition of replacement vehicles; bus rebuilds; bus preventive maintenance; passenger amenities such as passenger shelters and bus stop signs; accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers, and shop and garage equipment.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Provide transit amenities for bus stops at Biscayne Boulevard and NE 151st Street
- Relocate existing bus stops at High School to next to crosswalk and provide bus shelters

State Grants – Bus

The State of Florida provides technical and operating/capital assistance to transit, paratransit, and ridesharing systems. Projects and programs eligible for funding include: capital and operating assistance to public transit systems and Community Transportation Coordinators, through the Public Transit Block Grant Program; service development projects, which are special projects can receive initial funding from the state; transit corridor projects that are shown to be the most cost effective method of relieving congesting and improving congestion in the corridor; commuter assistance programs that encourage transportation demand management strategies, ridesharing and public/private partnerships to provide services and systems designed to increase vehicle occupancy; and assistance with acquisition, construction, promotion, and monitoring of park-and-ride lots.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Examine/construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street

MDT Local Option Gas Tax

Currently, three (3) cents per gallon of fuel sales are allocated for programs to assist transportation of disadvantaged people through Miami-Dade Transit.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Examine/construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street
- Relocate existing bus stops at High School to next to crosswalk and provide bus shelters
- Provide transit amenities for bus stops at Biscayne Boulevard and NE 151st Street

Federal 5307 Formula Funds

These funds provide transit capital and operating assistance for incorporated urbanized areas with a population of 50,000 or more for the purpose of transit capital and operating assistance. Eligible programs include planning, engineering design, and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as replacement of buses,

overhaul of buses, rebuilding of buses, crime prevention and security equipment, and construction of maintenance and passenger facilities; and capital investments in new and existing fixed guideway systems including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software. All preventive maintenance and some Americans with Disabilities Act complementary paratransit service costs are also considered capital costs. For urbanized areas with populations of 200,000 or more, operating assistance is not an eligible expense. In these areas, at least one (1) percent of the funding apportioned to each area must be used for transit enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Examine/construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street

PTP Sales Tax Revenue

The proceeds from this surtax are collected by the State and distributed to Miami-Dade County. The proceeds specified to transit are designated for the purposes of development, construction, equipment, maintenance, operation, supportive services (including a countywide bus system), and related costs of a fixed guideway rapid transit system. These proceeds can also be used for payment of principal and interest on bonds issued for the construction of fixed guideway rapid transit systems, bus systems, roads, or bridges, and such proceeds may be pledged by the Board of County Commissioners for bonds issued to refinance existing bonds or new bonds issued for the construction of such fixed guideway rapid transit systems, bus systems, roads, or bridges.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Implement Bus Rapid Transit (BRT) along Biscayne Boulevard

Miami-Dade County Gas Taxes and Roadway Impact Fees Funding

County Fuel Tax

The County fuel tax is a one (1) cent tax that can be used for any legitimate transportation purpose.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- NE 151st Street and Biscayne Boulevard Intersection Improvements
- Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus; provide railings and canopy on entire sidewalk
- Construct sidewalk (with railing and canopy) along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus
- Construct bicycle lane along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus
- Construct bicycle lane along south side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus

Local Option Gas Tax (LOGT)

Miami-Dade County can levy a maximum twelve (12) cent local option fuel tax allocated as three (3) types of taxes. The first tax is a six (6) cent maximum on every gallon of motor and diesel fuel. The proceeds from this levy may be used for any legitimate county or municipal transportation purpose such as public transportation operations and maintenance, road construction or reconstruction. The second tax is a five (5) cent maximum on every gallon of motor fuel. These funds may be used for transportation purposes to meet the requirements of the capital improvement element of an adopted comprehensive plan. Eligibility includes roadway construction, reconstruction, or resurfacing, but excludes routine maintenance. The third tax, a tax of one (1) cent also known as the Ninth-Cent fuel tax, is imposed on every gallon of motor and diesel fuel sold. These funds may be used for any legitimate county or municipal transportation purpose such as public transportation operations and maintenance, construction, or reconstruction of roads.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- Relocate existing bus stops at High School next to crosswalk, provide bus shelters
- NE 151st Street and Biscayne Boulevard Intersection Improvements
- Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus
- Construct sidewalk (with railing and canopy) along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus
- Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus; provide railings and canopy on entire sidewalk
- Construct bicycle lane along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus
- Construct bicycle lane along south side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus
- Examine/construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street

Road Impact Fees

Road impact fees are collected from developers and are intended primarily for roadway capacity improvements identified in the Miami-Dade MPO's Long Range Transportation Plan or short range Transportation Improvement Program. The highest priority projects intended for expenditure of these funds are projects that serve new development. In addition to roadway capacity improvements, select transit capital improvements can be funded by road impact fees. Transit capital improvements are specific transit capital projects located inside the Urban Infill Area that have been determined by the Board of County Commissioners to be of strategic value in providing roadway capacity inside the Urban Infill Area.

FIU Biscayne Bay Campus improvements/projects potentially funded by this program:

- NE 151st Street and Biscayne Boulevard Intersection Improvements
- Widen NE 151st Street to six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard (High School and K-8 School)
- Examine/Construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street

Other Funding Sources

The key stakeholders that will directly benefit from the proposed improvements include FIU, City of North Miami, Biscayne Landing, and Miami-Dade County Schools. Therefore, these stakeholders should also contribute to the funding of the proposed improvements.

FIU

As the FIU Biscayne Bay Campus expands it will contribute to the overcapacity conditions of NE 151st Street. FIU should be required to program capital within FIU's Capital Improvement Plan to help finance the proposed roadway widening of NE 151st Street.

City of North Miami

The City of North Miami should program capital within the City's Capital Improvement Plan to help fund the short, middle, and long term roadway improvement projects. Additionally, the City should provide the land necessary to construct the transit hub as part of the Biscayne Landing development.

Biscayne Landing

As the development is within a Transportation Concurrency Exemption Area (TCEA) it is not subject to traffic concurrency. Therefore, the site should be required to contribute to the proposed transit hub on the southeast quadrant of NE 151st Street and Biscayne Boulevard. Currently, this area is occupied by the Biscayne Landing sales office.

Miami-Dade County Public Schools

As the proposed sidewalk and bicycle lane improvements directly benefit the students of the David Lawrence Jr. K-8 School and the Alonzo and Tracy Mourning Senior High School the Miami-Dade County Public Schools should assist in obtaining financing for these improvements. Federal funding is available for several of the proposed improvements through several funding grants within the Safe Routes to School program. Specifically the pedestrian and bicyclist improvements are eligible for funding through

Transportation Enhancements, Congestion Mitigation and Air Quality Improvement, and Highway Safety Improvement Program.

SUMMARY AND NEXT STEPS

This study examined access to the FIU Biscayne Bay Campus and area schools. Currently, only one entrance is provided via NE 151st Street. Four alternatives were considered including:

- Bay Vista Boulevard/NE 135th Street
- NE 143rd Street
- NE 151st Street (Improvements)
- NE 163rd Street (Oleta River State Park)

Input was obtained from the study advisory committee, Miami-Dade County Public Works Department, Florida Department of Transportation, and affected municipalities to further develop the transportation improvements. An Action Plan of necessary steps was developed and funding sources were identified to advance the improvements/projects.

The *Improving Access in Florida International University Biscayne Bay Campus Area Study* provides the framework for the programming of transportation improvements in the area of the FIU Biscayne Bay Campus. Agencies have been identified for implementing the improvements based on jurisdictional responsibility. The improvements should be adopted into the appropriate plans and programs of the specified agencies. Finally, the study should be examined periodically to assess the status of the implementation of the identified improvements.

APPENDICES

APPENDIX A:
Meeting Minutes

Improving Access in Florida International University Biscayne Bay Campus Area
Study Advisory Committee Meeting Notes
August 31, 2010

The kick-off meeting for the *Improving Access in Florida International University Biscayne Bay Campus Area* was held on Tuesday, August 31, 2010, at the Miami-Dade MPO Conference Room. The attendees of the meeting were:

- Jesus Guerra – Miami-Dade MPO
- John Cal – FIU
- Steven Moll – FIU
- Steve Sauls – FIU
- Miguel Caldera – FDOT
- John O'Brien – City of North Miami
- Muhammad Khan – Miami Dade County Public Works
- Rolando Jimenez – Miami Dade County Public Works
- Greg Kyle – Kimley-Horn and Associates, Inc.
- Adrian Dabkowski – Kimley-Horn and Associates, Inc.

At the outset, Kimley-Horn distributed several handouts, including agenda, scope of study, schedule, campus population projections, 2015 campus space needs, future campus capital improvement plan, and summary sheets for alternatives considered. The following list describes the pertinent discussion topics during the meeting.

- Background information related to the project including:
    - Project scope and schedule
    - FIU population projections
    - FIU 2015 space needs and capital improvement plan
- SAC agreed that a secondary access to campus is critical from a public safety perspective.
- Discussion of alternative roadway improvements.
    - Alternative #1: NE 135th Street Alternative
        - Would serve as additional access to Biscayne Campus.
        - Original FIU vision was for access from NE 135th Street and NE 151st Street.
        - Would serve for emergency vehicle access.
        - City of North Miami received a FDOT LAP grant to replace the two (2) new pedestrian and bicycle bridges designed by Keith and Schnars. Danny Iglesias is FDOT's LAP Coordinator.
            - Project team needs to coordinate alternative with FDOT
        - Proposed alternative would need to accommodate vehicular, pedestrian, and bicycle traffic.
        - Secondary environmental impacts to Biscayne Aquatic Preserve.
    - Alternative #2: NE 143rd Street Alternative

        - Federal and State level environmental issues effectively eliminate this alternative.
        - This alternative will require grade separated (bridge) construction throughout the length of alternative.
        - Biscayne Landings Development plan is uncertain.
    - Alternative #3: NE 151st Street Alternative
        - NE 151st Street floods with minimal amounts of rain.
        - Look into grade separation along Biscayne Boulevard.
        - This alternative does not provide secondary access to campus.
        - The NOMI bus is at capacity with high school students. The City of North Miami expects to provide an additional bus.
        - Potentially provide a park-n-ride and/or transfer terminal option at Biscayne Boulevard and NE 151st Street for FIU Biscayne Bay Campus.
        - The 15 mph school zone in the vicinity of the elementary and high school varies on a daily basis.
    - Alternative #4: Oleta River State Park Alternative
        - Federal and State level environmental issues with this alternative effectively eliminate this alternative.
        - Roadway would be located on existing bicycle trails.

Next Steps/Action Items

- Jesus Guerra to add Vivian Villaamil from Miami-Dade School Board to Study Advisory Committee
- John O'Brien to provide schedule for NE 135th Street bridge replacements.
- John O'Brien to provide Kimley-Horn with approved development program for Biscayne Landings.
- FIU to provide Biscayne Bay Campus student enrollment by zip code.
- FIU to provide history of development of Biscayne Campus.
- FIU to provide intercampus bus data including ridership and frequency.
- Kimley-Horn to obtain Elementary and High School enrollment data, schedule, and number of buses.

Improving Access in Florida International University Biscayne Bay Campus Area
Study Advisory Committee Meeting Notes
December 16, 2010

The Study Advisory Committee meeting for the *Improving Access in Florida International University Biscayne Bay Campus Area* was held on Thursday, December 16, 2010, at the Miami-Dade MPO Conference Room. The attendees of the meeting were:

- Larry Foutz – Miami-Dade MPO
- John Cal – FIU
- Steven Moll – FIU
- Steve Sauls – FIU
- Miguel Caldera – FDOT
- John O'Brien – City of North Miami
- Rolando Jimenez – Miami Dade County Public Works
- Leandro Ona – Miami Dade County Public Works
- Greg Kyle – Kimley-Horn and Associates, Inc.
- Adrian Dabkowski – Kimley-Horn and Associates, Inc.

Kimley-Horn presented the agenda, study findings/project needs, analysis of alternatives, and recommendations. The following list describes the pertinent discussion topics during the meeting.

- Existing Project Needs
    - Only one existing access to FIU Biscayne Bay Campus and adjacent public schools.
    - Poor drainage along NE 151st Street.
    - School zones along NE 151st Street and Bay Vista Boulevard slow traffic.
    - FIU Biscayne Bay Campus student trip origin.
    - Level of service at Biscayne Boulevard and NE 151st Street intersection.

- Future Project Needs
    - No proposed future roadway capacity improvements in study area.
    - Future FIU Biscayne Bay Campus growth.
    - Future growth at elementary and high schools.
    - Future level of service of Biscayne Boulevard and NE 151st Street.
    - Future traffic signal at NE 151st Street and Biscayne Landing Driveway.
    - Future development of Biscayne Landing property.
        - A plan which included big box retail, hotel and assisted living facility was recently presented to the City of North Miami Commission but was not approved because of concerns over the developer's financial capacity to fund the project.

- Existing and future project needs should be defined as the problem statement in order to establish purpose of solutions/improvements.

- Discussion of benefits and challenges of each alternative including:
  1. Bay Vista Boulevard/NE 135th Street Connection
     - There is a LAP (Local Agency Program) project for improvements to the pedestrian bridges, and the project is likely to go out for bid around April 2011.
     - There was discussion of a City of North Miami resolution (R-2007-52) passed in 2007 designating the Arch Creek East Environmental Preserve in perpetuity.
     - The MPO has been contacted by City of North Miami elected officials expressing opposition to construction of a roadway along this alignment
       - Several members of the SAC felt that the larger public interest must also be considered.
     - Further research will be performed to confirm that the City owns the right-of-way along this alignment.
  2. NE 143rd Street Connection
     - This alignment crosses over wetlands and would likely require a bridge, which would increase the cost of this alternative.
  3. NE 151st Street Improvements
     - Members of the SAC viewed improvements along NE 151st Street as short-term solutions.
     - It was noted that it can take almost 30 minutes to exit FIU at 3:00 in the afternoon.
  4. NE 163rd Street Connection (Oleta River State Park)
     - This alignment could potentially serve as a secondary emergency access in conjunction with improvements along NE 151st Street.

- Project Recommendations
  - Replacing non-standard stop signs on northbound approach at Bay Vista Boulevard and FIU Biscayne Bay Campus. Also, look at all-way stop control as an option and advance warning signs.
    - Miami-Dade Public Works will confirm ownership of Bay Vista Boulevard to determine who should implement the signage improvements.
  - Consider eliminating Alternatives 1, 2, and 4 based on public opposition, environmental constraints, and construction costs.
    - Several members of the SAC felt that all options need to be further studied before being eliminated.
    - It was discussed that the MPO Board would decide which options would be advanced into the second phase of the study.
  - Alternative 3: NE 151st Street Improvements

- Several improvements could be considered with this alternative and would require further analysis including:
    - Intersection improvements at NE 151st Street and Biscayne Boulevard.
        - Improvements that were the responsibility of the Biscayne Landing developers have not been implemented.
    - Constructing additional westbound left-turn and right-turn lanes.
    - Examine grade separation at intersection as long-term solution.
    - Examine widening, using reversible lanes, or dedicated school lanes on NE 151st Street from Biscayne Boulevard to Bay Vista Boulevard.
    - Improve drainage to alleviate flooding problems.
    - Improve transit stop amenities on NE 151st Street.
    - Consider a transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street. Include shuttle service from transfer facility to FIU Biscayne Bay Campus.
    - Consider providing sidewalk along north side of NE 151st Street. Provide railings on sidewalk to separate vehicles from pedestrians and discourage crossing at undesignated locations.
    - Consider extending sidewalk from NE 151st Street to FIU Biscayne Bay Campus.
    - Consider canopy cover sidewalk.
    - Consider reconstructing school bus and vehicle access at area schools to improve circulation.
- Concerns were raised over emergency evacuation if an additional connection were not provided, as increasing capacity along NE 151st Street does not solve the secondary access issue.
- It was pointed out that there is limited opportunity to widen NE 151st Street because of adjacent wetlands.
- Providing a better pedestrian connection between the public high school and FIU is necessary, as there are programs that bring students between the two schools.

Next Steps/Action Items

- Miami-Dade County Public Works to determine jurisdiction of Bay Vista Boulevard.
- Committee members to review report and provide comments by January 10th, 2011.
- Kimley-Horn to revise recommendations not to eliminate any alternatives at this time.
- The study findings will be presented to the MPO TPC and Board at upcoming meetings.

Improving Access in Florida International University Biscayne Bay Campus Area
Study Advisory Committee Meeting Notes
February 7, 2011

The Study Advisory Committee meeting for the *Improving Access in Florida International University Biscayne Bay Campus Area* was held on Monday, February 7, 2011, at the Miami-Dade MPO Conference Room. The attendees of the meeting were:

- Jesus Guerra – Miami-Dade MPO
- Steven Moll – FIU
- John O'Brien – City of North Miami
- Rolando Jimenez – Miami Dade County Public Works
- Leandro Ona – Miami Dade County Public Works
- Vivian Villaamil – Miami-Dade Public Schools
- Greg Kyle – Kimley-Horn and Associates, Inc.
- Adrian Dabkowski – Kimley-Horn and Associates, Inc.

Kimley-Horn and the MPO presented existing conditions, challenges to alternatives, conclusions, and recommendations. The following list describes the pertinent discussion topics during the meeting.

- Existing Conditions
    - Only one existing access to FIU Biscayne Bay Campus and adjacent public schools.
    - Poor drainage along NE 151st Street.
    - No secondary emergency evacuation route.
    - Traffic congestion at Biscayne Boulevard and NE 151st Street intersection.
    - FIU Biscayne Bay Campus and area public schools growth.
    - Biscayne Landing.
    - No proposed future roadway capacity improvements in study area.
    - Lack of funding sources for construction.

- Public Works has drainage project scheduled for next month to address ponding issue on south side of NE 151st Street near Biscayne Boulevard.

- Discussion of challenges of each alternative including:
    1. NE 163rd Street Connection (Oleta River State Park)
        - Opposition from the Department of Environmental Protection.
        - An easement is required from the Trustees of the Internal Improvement Trust Fund to Miami-Dade County.
        - Grantee shall accept all liability.
        - In-depth environmental study required.
        - Several permits would be required.

- Environmental Resource Permit from South Florida Water Management District (SFWMD)
- Section 404 Dredge and Fill Permit from the US Army Corps of Engineers (USACE)
- Class I permit from the Department of Environmental Resources Management (DERM).

2. NE 143rd Street Connection
   - This alignment crosses over wetlands and would likely require an expansive bridge.
   - Traffic improvements would be needed at NE 143rd Street Biscayne Boulevard.
   - Coordination required with uncertain Biscayne Landing area.
3. Bay Vista Boulevard/NE 135th Street Connection
   - There is a LAP (Local Agency Program) project for improvements to the pedestrian bridges, and the project is likely to go out for bid around April 2011.
   - There was discussion of a City of North Miami resolution (R-2007-52) passed in 2007 designating the Arch Creek East Environmental Preserve in perpetuity.
   - The MPO has been contacted by City of North Miami elected officials expressing opposition to construction of a roadway along this alignment
     - Several members of the SAC felt that the larger public interest must also be considered.
4. NE 151st Street Improvements
   - Traffic congestion due to FIU and area public schools.
   - Intersection of Biscayne Boulevard and NE 151st Street needs operational improvements.
   - Improvements grouped in short-term, medium-term, and long-term.

- Conclusions
  1. Oleta River Park
     - Potential use of this alternative as an emergency evacuation road
  2. NE 143rd Street
     - Environmental impacts on the wetland would require major mitigation measures and construction of a bridge would be very expensive.
  3. NE 135th Street
     - Less environmental impact but still requires mitigation measures.
     - Will face strong opposition from the residents of the area.
     - Construction of the pedestrian/bicycle bridges need to be postponed
     - In 2007, the City of North Miami approved Resolution R-2007-52 declaring the area as environmental preserve in perpetuity.
  4. NE 151st Street
     - Short-medium and long-term improvements have been identified to improve access to FIU and the public schools within the study area.

- Project Recommendations
    - NE 151st Street Improvements
        - Improvements grouped in short-term, medium-term, and long-term.
        - Short-term improvements include
            - Improve drainage to solve flooding issues.
            - Complete existing sidewalk and bicycle lane along south side of NE 151st Street from Biscayne Landing to FIU Campus.
            - Provide hand railing and covered sidewalk on south side.
            - Construct bicycle lane and sidewalk along north side of NE 151st Street from Biscayne Boulevard to FIU Campus.
            - Evaluate a transit transfer facility on the southeast corner of Biscayne Boulevard and NE 151st Street.
            - Evaluate school bus and vehicle access to schools improving circulation.
            - Replace the non-standard stop signs to improve visibility.
            - Intersection improvements at NE 151st Street and Biscayne Boulevard
                - Auxiliary lanes for right-turn movements
                - Construct additional SB and WB left-turn lanes
                - Provide appropriate signage and pavement markings
        - Medium-term improvements include
            - Widening NE 151st to five (5) or six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard.
                - Use of reversible lanes
                - Implementation of dedicated school lanes
                - Implementation of the Biscayne Boulevard Bus Rapid Transit (BRT)
                - Improve transit stop amenities
                - Build a transfer transit facility at the southeast corner of NE 151st Street and Biscayne Boulevard.
        - Long-term improvements include
            - Grade separation along Biscayne Boulevard.
    - SAC members noted that a gateway signage feature is proposed for FIU on 151st Street near Biscayne Boulevard.

Next Steps/Action Items

- The SAC agreed to move the study into the second phase analyzing the NE 151st Street improvement pending review by the Miami-Dade School Representative.
- Miami-Dade School Representative stated that required internal coordination would be complete in the next two weeks, in order to provide direction to begin the second phase of the study.

Improving Access in Florida International University Biscayne Bay Campus Area
Transportation Planning Council
March 7, 2011

The *Access in Florida International University Biscayne Bay Campus Area* study was presented to the Miami-Dade County MPO's Transportation Planning Council (TPC).

Kimley-Horn and the MPO presented background for the project, study findings, benefits and challenges to alternatives, conclusions, and an improvement plan.

The following list describes the pertinent discussion topics during the meeting.

- Discussion of challenges of each alternative including:
    1. NE 163rd Street Connection (Oleta River State Park)
        - Opposition from the Department of Environmental Protection.
        - An easement is required from the Trustees of the Internal Improvement Trust Fund to Miami-Dade County.
        - Grantee shall accept all liability.
        - In-depth environmental study required.
        - Several permits would be required.
            - Environmental Resource Permit from South Florida Water Management District (SFWMD)
            - Section 404 Dredge and Fill Permit from the US Army Corps of Engineers (USACE)
            - Class I permit from the Department of Environmental Resources Management (DERM).
    2. NE 143rd Street Connection
        - This alignment crosses over wetlands and would likely require an expansive bridge.
        - Traffic improvements would be needed at NE 143rd Street Biscayne Boulevard.
        - Coordination required with uncertain Biscayne Landing area.
    3. Bay Vista Boulevard/NE 135th Street Connection
        - There is a LAP (Local Agency Program) project for improvements to the pedestrian bridges, and the project is likely to go out for bid around April 2011.
        - There was discussion of a City of North Miami resolution (R-2007-52) passed in 2007 designating the Arch Creek East Environmental Preserve in perpetuity.
        - The MPO has been contacted by City of North Miami elected officials expressing opposition to construction of a roadway along this alignment

- Several members of the SAC felt that the larger public interest must also be considered.

4. NE 151st Street Improvements
    - Traffic congestion due to FIU and area public schools.
    - Intersection of Biscayne Boulevard and NE 151st Street needs operational improvements.
    - Improvements grouped in short-term, medium-term, and long-term.

- Conclusions
    1. Oleta River Park
        - Potential use of this alternative as an emergency evacuation road
    2. NE 143rd Street
        - Environmental impacts on the wetland would require major mitigation measures and construction of a bridge would be very expensive.
    3. NE 135th Street
        - Less environmental impact but still requires mitigation measures.
        - Will face strong opposition from the residents of the area.
        - Construction of the pedestrian/bicycle bridges need to be postponed
        - In 2007, the City of North Miami approved Resolution R-2007-52 declaring the area as environmental preserve in perpetuity.
    4. NE 151st Street
        - Short-medium and long-term improvements have been identified to improve access to FIU and the public schools within the study area.

- Project Recommendations
    - NE 151st Street Improvements
        - Improvements grouped in short-term, medium-term, and long-term.
        - Short-term improvements include
            - Improve drainage to solve flooding issues.
            - Complete existing sidewalk and bicycle lane along south side of NE 151st Street from Biscayne Landing to FIU Campus.
            - Provide hand railing and covered sidewalk on south side.
            - Construct bicycle lane and sidewalk along north side of NE 151st Street from Biscayne Boulevard to FIU Campus.
            - Evaluate a transit transfer facility on the southeast corner of Biscayne Boulevard and NE 151st Street.
            - Evaluate school bus and vehicle access to schools improving circulation.
            - Replace the non-standard stop signs to improve visibility.
            - Intersection improvements at NE 151st Street and Biscayne Boulevard
                - Auxiliary lanes for right-turn movements
                - Construct additional SB and WB left-turn lanes
                - Provide appropriate signage and pavement markings

- Medium-term improvements include
    - Widening NE 151st to five (5) or six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard.
        - Use of reversible lanes
        - Implementation of dedicated school lanes
        - Implementation of the Biscayne Boulevard Bus Rapid Transit (BRT)
        - Improve transit stop amenities
        - Build a transfer transit facility at the southeast corner of NE 151st Street and Biscayne Boulevard.
- Long-term improvements include
    - Grade separation along Biscayne Boulevard.

Next Steps/Action Items

- The TPC requested that additional analysis be prepared for analyzing all alternatives in Phase 2 of the report and to provide order of magnitude cost estimates for all four (4) access alternatives.

Improving Access in Florida International University Biscayne Bay Campus Area
Study Advisory Committee Meeting Notes
September 26, 2011

The Study Advisory Committee meeting for the *Improving Access in Florida International University Biscayne Bay Campus Area* was held on Monday, September 26, 2011, at the Miami-Dade MPO Conference Room. The attendees of the meeting were:

- Jesus Guerra – Miami-Dade MPO
- Steven Moll – FIU
- Steve Sauls – FIU
- John Cal – FIU
- Scott Galvin – City of North Miami Commissioner
- Rolando Jimenez – Miami Dade County Public Works
- Leandro Ona – Miami Dade County Public Works
- Muhammad Khan – Miami Dade County Public Works
- Greg Kyle – Kimley-Horn and Associates, Inc.
- Adrian Dabkowski – Kimley-Horn and Associates, Inc.

Kimley-Horn and the MPO presented background, study summary, next steps for implementation of each alternative, conclusions, and improvement action plan. The following list describes the pertinent discussion topics during the meeting.

- Scott Galvin stated that he is not supportive of the NE 135th Street alternative.
- FIU representatives stated that all new roadway alignments (NE 135th Street, NE 143rd Street, and Oleta River State Park/NE 163rd Street) would require agency coordination/environmental permits.
- FIU representatives stated that fatalities along NE 151st Street are a concern.
- FIU representatives stated that the emergency access route through the North District Wastewater Treatment Plant via the high school and the Oleta River State Park access were the preferred routes.
- FIU representatives stated that it was not a short walk from the proposed transit facility on the southeast corner of Biscayne Boulevard and NE 151st Street to the area schools.
- Scott Galvin stated that the Biscayne Landing project is in negotiations for a four-star hotel on the site of the proposed transit facility. Additionally, he stated that the two existing residential towers will be adding a driveway for access further to the east along NE 151st Street.
- Miami-Dade County and FDOT will review Biscayne Landing for traffic impacts.
- Miami-Dade County Public Works stated that the improvements for NE 151st Street need to incorporate potential wetland mitigation.

- Scott Galvin stated that the area elementary and high school are currently over-capacity and that enrollment would be going down.
- MPO representatives stated that NE 143rd Street should be considered an option to discuss with Biscayne Landing.
- FIU representatives stated that they are awaiting the study results before investigating potential for funding.

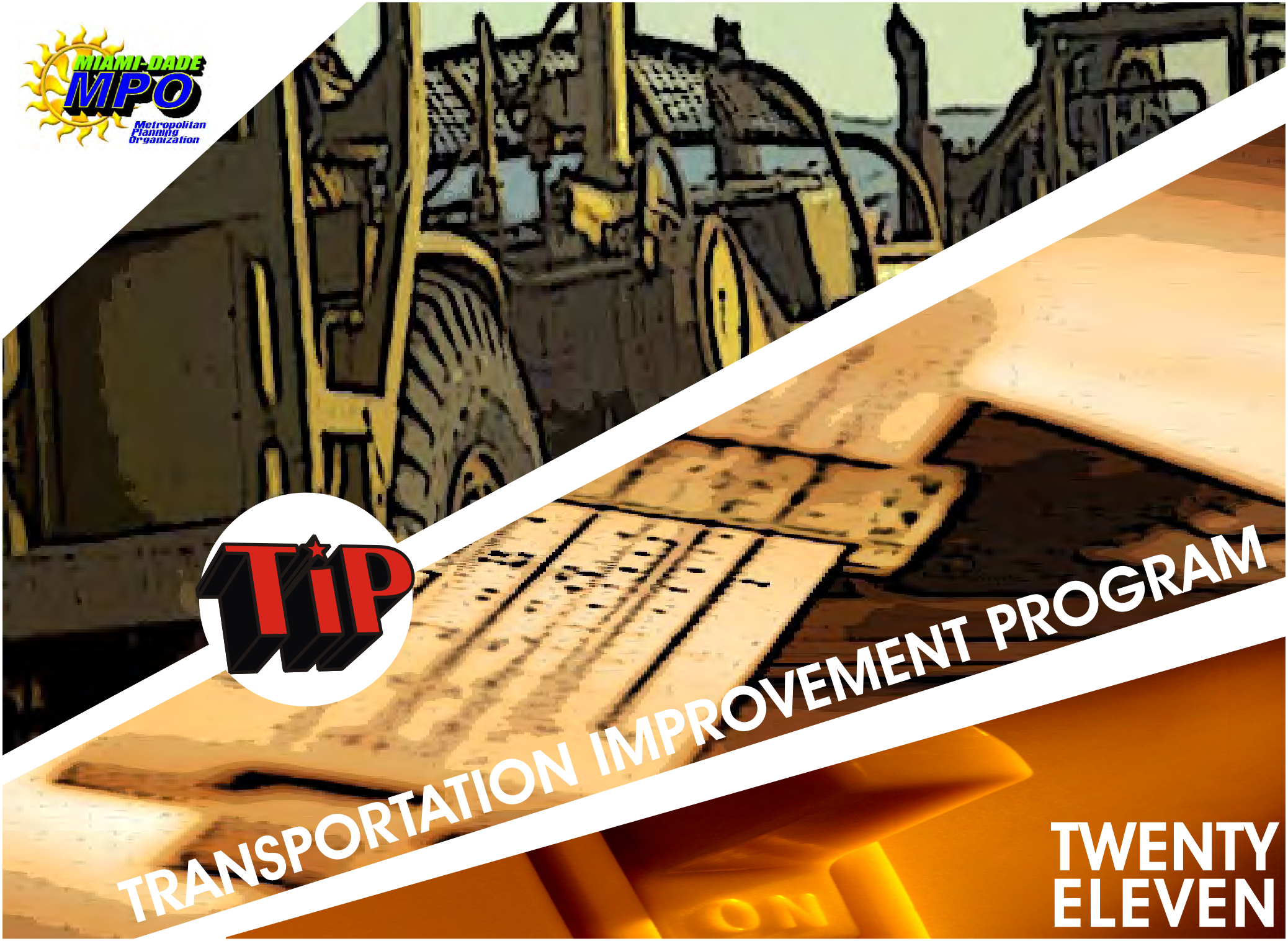
Next Steps/Action Items

- The project will be presented to the TPC on Monday, October 3, 2011.
- MPO Board Member, Mayor Pierre, will make decision on the next steps of this project including whether it will be presented to the MPO Board or City of North Miami.
- After the TPC meeting the final report will be provided incorporating final comments.

APPENDIX B:
Improvement Plans

Transportation Improvement Plan (TIP)

MIAMI-DADE MPO
Metropolitan Planning Organization



TiP

TRANSPORTATION IMPROVEMENT PROGRAM

TWENTY ELEVEN

TA4226751

MDTA - BRT BISCAYNE

Type of Work: TRANSIT IMPROVEMENT

Type of Project: Transit

Construction Year: N/A

Status:

Project Description:

Remarks/Comments:

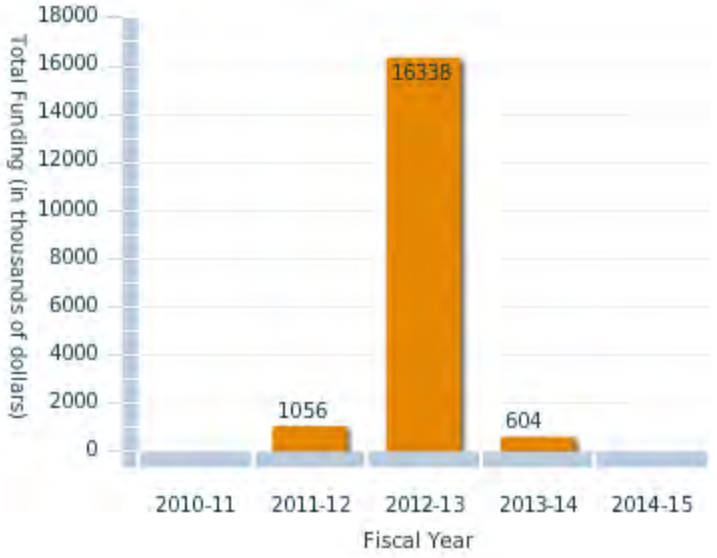
From: BLVD/SR 5/US-1 FROM OMNI

To: TERMINAL TO AVENTURA MALL

Agency: Miami-Dade Transit Agency

Funding Information

Phase	Fund Source	2010/11	2011/12	2012/13	2013/14	2014/15	Total
CAP	CIGP	0	528	4927	187	0	5642
CAP	LF	0	528	8169	302	0	8999
CAP	TRIP	0	0	3242	115	0	3357



Contact Information: CARSON, ED 470-5255 Edward.Carson@dot.state.fl.us

FUND SOURCE LEGEND	
CODE	**NAME**
BRTD	Federal Bridge Replacement - Discretionary
BRTZ	Federal Bridge Replacement - Off System
CCTSS	Charter County System Surtax
CD (Seaport)	Cash Donation
CIGP	County Incentives Grant Program
CIG-R	County Incentives Grant Program for Growth Management
CM	Congestion Mitigation for Air Quality
CMAQ	Congestion Management Air Quality
COE	Corp of Engineers
COR	Capital Outlay Reserve
D	State - Public Transportation Operations / Planning
DDR	District Dedicated Revenue (FDOT)
DDR/LFF	District Dedicated Revenue/Local Fund for Matching
DDRF	District Dedicated Revenue for Federal Matching
DI	State-Statewide Inter/Intrastate Highway
DIH	State In House Product Support
DIRS	Advance Acquisition - Intrastate Corridor

FUND SOURCE LEGEND	
CODE	**NAME**
HPP	High Priority Projects
HRRR	High Risk Rural Road
HSP	Highway Safety Program
IM	Interstate Maintenance / Rehabilitation
IMAC	Interstate Maintenance (Advanced Construction/Regular)
IMD	Interstate Maintenance - Discretionary
IVH	Mandated Congressional Earmark Funding
L	Local Funds
LF	Local Funds
LFF	Local Funds for Federal Match
LFNE	Local Funds not in Escrow
Liability Trust F	Liability Trust Fund
LOGT	Local Option Gas Tax
MDTA	Miami-Dade Transit Agency
MDX	Miami-Dade Expressway Authority
MG	Minimum Guarantee
MGBP	Minimum Guarantee - Bridge Supplemental

FUND SOURCE LEGEND	
CODE	**NAME**
STP/FLEX(M)	STP/Flex - Miami Dade County
STP/FLEX(P)	STP/Flex - Palm Beach County
SU	STP, Urban Areas > 200,000 Population
TCSP	Transportation, Community & System Preservation
TDDR	Transportation Disadvantaged - District Dedicated Revenue
TDTF	Transportation Disadvantaged Trust Fund
TIFI	Transportation Infrastructure Finance and Innovation Act
TOP	Transportation Outreach Program
TIMP	Transportation Improvement (Federal-100%)
TP	Turnpike District
TOBD	I-95 Express (State-100%)
TRIP	Transportation Regional Incentive Program
XA	Surface Transportation Any Area
XL	Surface Transportation Area < 200K Population
XU	Surface Transportation Area > 200K Population

Long Range Transportation Plan (LRTP)

Miami-Dade 2035 Long Range Transportation Plan

Final Report

October 29, 2009

2035 Miami-Dade Transportation Plan

Prepared by:

Gannett Fleming

In association with:

Advanced Transportation Engineering Consultants

AECOM Consult

Charesse Chester and Associates

Citilabs

Metropolitan Center at Florida International University

Strategy Solutions

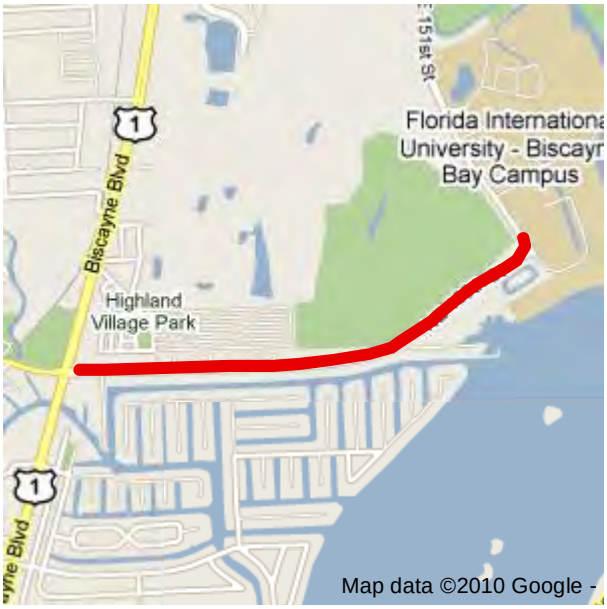
NE 135th Street

Project Information

NE 135th Street

Type:	Bicycle Facility Improvements
Facility:	NE 135th Street
From:	East of Biscayne Boulevard
To:	Bayvista Boulevard at FIU
Description:	On-road Bicycle Facility Improvements

* There is no media available for this project.



Transit Development Plan (TDP)

1.0 INTRODUCTION

The fiscal year (FY) 2010 – 2019 Transit Development Plan (TDP) Major Update is a strategic development and operational guide for public transportation used by Miami-Dade Transit (MDT) for the next 10 year planning horizon. The TDP includes an update of existing services, demographic and travel characteristics overview, a summary of local transit policies within the region, the development of proposed transit enhancements, and the preparation of a ten-year implementation plan that provides guidance for future MDT planning.

The State of Florida Public Transit Block Grant Program was enacted by the Florida Legislature to provide a stable source of state funding for public transportation. The Block Grant Program requires public transit service providers to develop and adopt a TDP. TDP updates must be submitted to the Florida Department of Transportation (FDOT) by September 1st of each year[1]. A major update is required every five years and minor updates are required in interim years.

1.1 Florida Statutes (F.S.)

The preparation of a TDP for all transit systems is mandated by the Florida Statutes for all systems that receive Block Grants from the State of Florida. This plan meets the requirements for a TDP Major Update in accordance with Rule Chapter 14-73, Florida Administrative Code (FAC).

Section 341.052

(1) There is created a public transit block grant program which shall be administered by the department…Eligible providers must establish public transportation development plans consistent, to the maximum extent feasible, with approved local government comprehensive plans of the units of local government in which the provider is located.

Section 341.072

(1) Where there is an approved local government comprehensive plan in the political subdivision or political subdivisions in which the public transportation system is located, each public transit provider shall establish public transportation development plans consistent with approved local government comprehensive plans.

1.2 Amended TDP Requirements

The TDP requirements were amended in February 2007 and this TDP meets the requirements for a major TDP update in accordance with Rule Chapter 14-73, Florida Administrative Code (FAC).

[1] On June 3, 2009, FDOT approved MDT's request to submit the FY 2010 – 2019 Major Update subsequent to the Board of County Commissioners" approval in November 2009.

1.3 TDP Adoption Process

Following the completion of the TDP Major Update, per rule requirement, the TDP must officially be adopted by the agency's governing body. Customarily, County and local commissioners adopt the TDPs of the transit agencies operating as a part of those general purpose governments.

The Board of County Commissioners formally adopted the TDP Major Update on November 4, 2009.

9.8.3 2019 Recommended Service Plan – New Transit Routes

A summary of the nine (9) new transit routes that are proposed under the 2019 RSP are provided in Table 9-8. Five of these routes would replace old existing routes as identified in the table. The table also includes data on the proposed service levels, number of peak vehicle requirement (buses) needed to operate the service, annual operating costs, along with the time frame for implementation. The preliminary programming of these routes was conducted in a systematic and regional approach based on coordination with major transit capital projects. These new routes also respond to citizen's request for new service throughout the County and increase the number of routes operated by MDT from 88 to 92 bus routes. Table 9-9 provides the additional services planned for the identified transit hub locations by these new routes.

The following paragraph describes the routes listed in Table 9-8 Recommended New Routes Description that are not funded or partially funded. These routes are also illustrated in the following figure.

- 95 Express: FDOT operating funds of $1,090,000 are provided for this route in FY 2009 (for the Urban Partnership FTA-funded bus purchases) and future year operational support is expected to continue at 100% from toll revenue. This route is also receiving $13.8 million from FTA grant to purchase 16 60-foot hybrid buses to run on that route. Service is expected to begin January, 2010.
- Biscayne Rapid Bus: No operating funds currently available.
- Flagler Rapid Bus: Currently receiving FDOT funds through 2013.
- Kendall Enhanced Bus Service: FDOT funds of $1,255,000 were awarded for this route in June 2008 to begin service in September 2010.
- Mid-North Beach Local: No funds currently available.
- South Beach/MIA: Will be funded through a Job Access and Reverse Commuting grant. Implementation planned for December 2009.
- State Road 836 Express: No funds available to-date
- SW 8 Street Rapid Bus: No funds currently available.

With rare exceptions, the only projects funded by FDOT that do not require a 50 percent (50%) or any operational match are the Transit Urban Corridor routes (Flagler MAX and the Busway routes).

Figure 9-3: 2019 Recommended Service Plan New Bus Routes

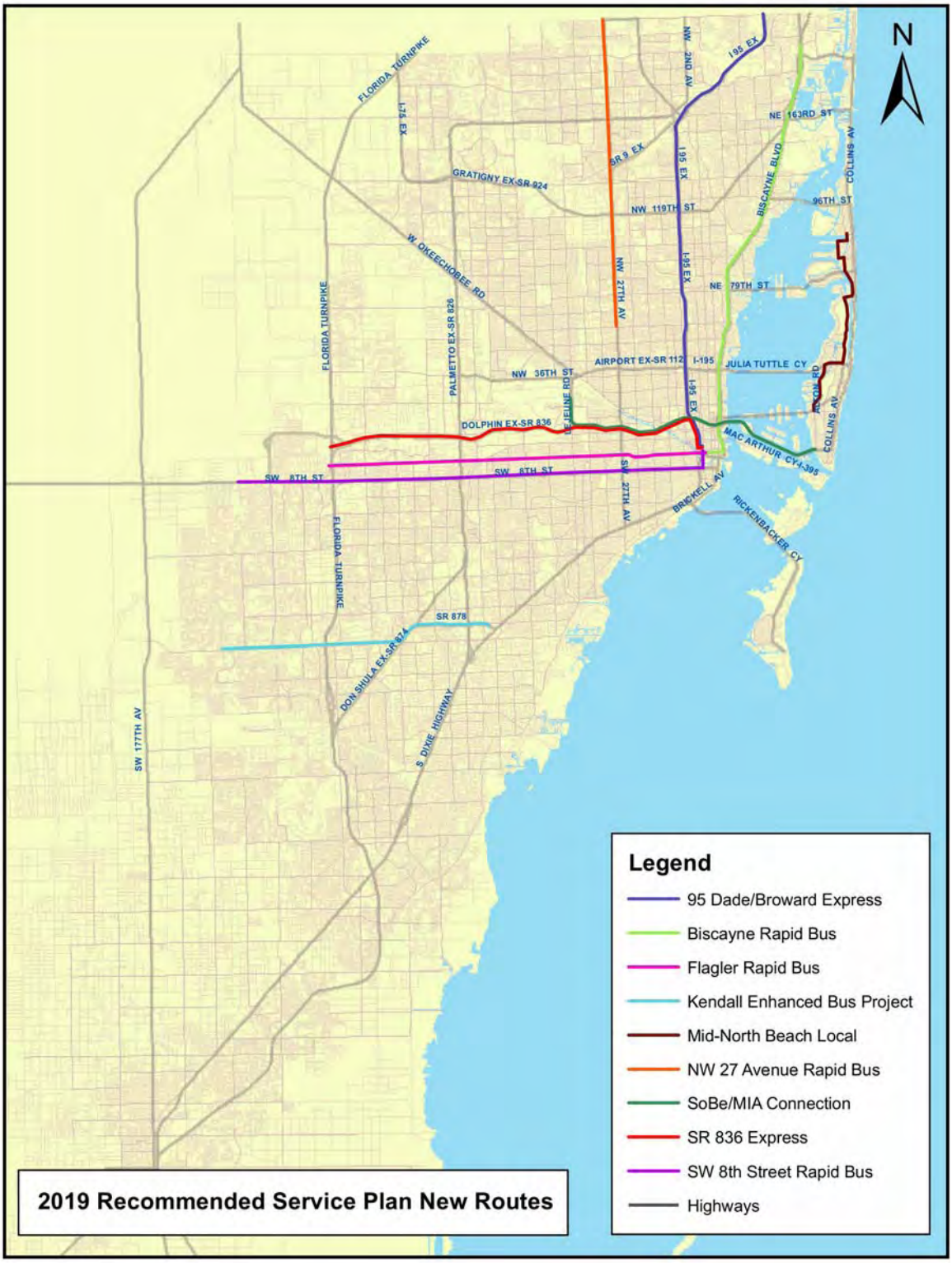


Table 9-8: 2019 Recommended Service Plan New Routes Description (2009$)

New Route	Description	Headways			2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Peak	Mid Day	Week End	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
95 Dade/ Broward Express	Express route from downtown Miami to Broward Boulevard and Sheridan Street. Headways of 15 minutes each. 100% funding by FDOT.	15	N/S	N/S	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13	$2,200,000	13
Biscayne Rapid Bus (old Route 93)	This route would provide limited-stop service along Biscayne Boulevard between Aventura and Downtown Miami, and would be created by adjusting the Biscayne MAX.	18	18	N/S			$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
Flagler Rapid Bus (old Route 51)	This route would provide limited-stop service along Flagler Street between west Miami-Dade County and Downtown Miami, and would be created by adjusting the Flagler MAX.	15	15	N/S			$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
Kendall Enhanced Bus project (old Route 288)	This route would provide limited-stop service along Kendall Drive between west Kendall and the Dadeland North Metrorail station, and would be created by adjusting the Kendall KAT.	10	15	N/S	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8	$2,510,000	8
Mid-North Beach Local	This route would provide circulator type service between 17th Street and 88th Street in Miami Beach serving Hawthorne Avenue, Pinetree Drive, and Alton Road. Possibly funded by City of Miami Beach.						$1,550,000	3	$1,550,000	3	$1,550,000	3	$1,550,000	3	$1,550,000	3	$1,550,000	3	$1,550,000	3	$1,550,000	3	$1,550,000	3
NW 27 Avenue Rapid Bus (old route 97)	This route would provide limited-stop service along NW 27 Avenue between the Broward/Miami-Dade county line and the MLK Metrorail station.	6.5	10	N/S					$3,100,000	9	$3,100,000	9	$3,100,000	9	$3,100,000	9	$3,100,000	9	$3,100,000	9	$3,100,000	9	$3,100,000	9
SoBe/MIA Connection	New premium service between South Beach and the Miami International Airport.	30	30	30	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5	$1,230,000	5

Table 9-10: 2019 Recommended Service Plan Transit Hub Needs

Transit Hubs	Status	Unfunded Needs
Flagler Marketplace	The existing downtown Miami bus terminal site will be expanded one block to the north as part of the Flagler Street Marketplace project. Additional upgrades are needed to provide necessary passenger amenities. The 2019 RSP provides the need for added bus bays at this location.	$3,185,000
Dadeland Stations	Both the Dadeland North and Dadeland South Metrorail stations provide a high degree of passenger amenities which in turn offer passengers efficient and convenient transfers. In addition to the kiosk placed at Dadeland South, the following is the cost for a similar kiosk at the Dadeland North station.	$42,500
West Kendall	A West Kendall hub is sought to address regional service linkages and as a western terminus of the Kendall "Priority Transit" Corridor. Currently, private developers have included the construction of a transit terminal in their development proposal. This station will be constructed through private/public partnership.	Committed Improvement
Northeast PAC	This facility will be developed as an enhanced bus hub that would connect circulator, regional, and premium bus routes within the area. The transit hub would replace and/or supplement the existing bus terminal located in the vicinity of the Mall at 163rd Street. There are currently (2009) fifteen bus routes that serve the area. It is planned that this facility will be part of a TOD for this area. MDT is seeking funding from state and federal sources to implement this terminal.	$6,100,000
Miami Intermodal Center (MIC)	FDOT is managing this project. FDOT has over $400 million programmed for the MIC distributed among 17 projects. These include the rental car HUB, the MIC Core Roadway and intersection improvements, transit connections to the terminal building, utilities relocation, etc. Phase I (MIC Core) includes the bus terminal facilities and infrastructure to coordinate with other modes.	Committed Improvement

Figure 9-2: Transit Hub Locations and Feeder Routes

APPENDIX C:
FIU Master Plan Documents

FLORIDA INTERNATIONAL UNIVERSITY
2000-2010 Comprehensive Master Plan Update
State Project No. BT-805

FINAL CAMPUS MASTER PLAN UPDATE

Prepared by

PERKINS
+WILL

P+W Project Number:
810200.000

June 2010

NOTES:

a) Projections based on 2008 FTE and 2% per annum growth rate to Year 2015

b) Space Standards Per Florida Bd of Governors, "Space Standards for Fixed Capital Outlay Needs Generation Formula"

c) Space Standards not listed by Florida Bd of Governors used a hybrid of CEFPI Standards and P+W benchmark data

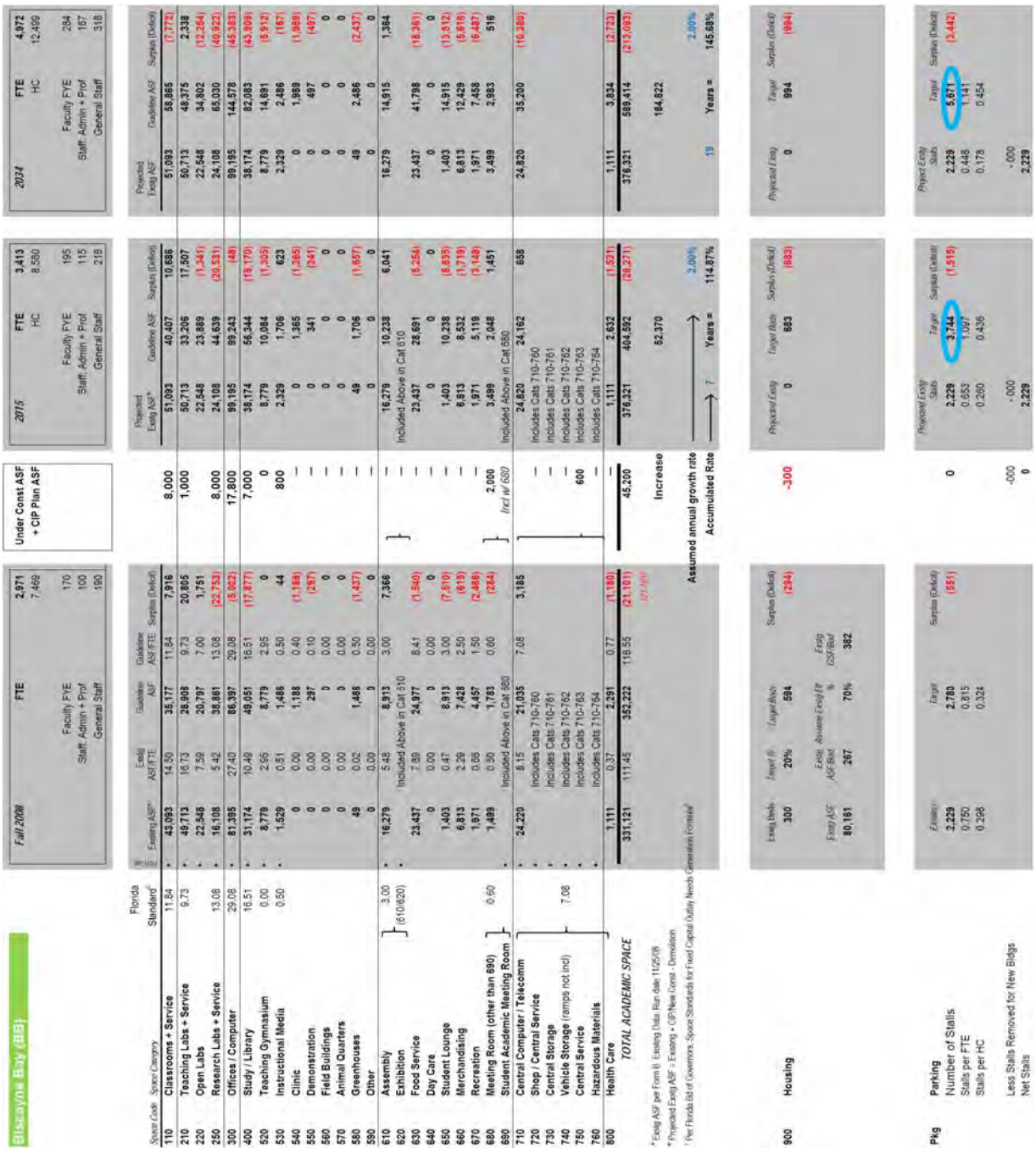
d) Grossing Factor: ASF = 62% of GSF

e) All space categories include supporting service space

f) Category 250 Research Lab space was prorated between MAM and EC as follows: MAM 90% and EC = 10%

g) Exstg ASF per 'SPA-FIU.MIS.SPAPRD.F200808.GOODFILE.G0396V00(BOR)' (forwarded by PC 8 Jan 09)

h) Proposed CIP projects soruce: 2008 CIP Plan



5.0 ACADEMIC & RESEARCH FACILITIES ELEMENT

Projected enrollment growth and the new College of Medicine are a catalyst for growth in academic and research facilities. Because of the tendency for "lag time" in the building planning, funding and design cycles, this process must be tightened and accelerated in order to "catch up" to present needs while also preparing to meet the needs which will exist in 2015.

To ensure optimum departmental adjacencies, interdisciplinary research, and space utilization, and to conserve precious and declining reserves of buildable land, guidelines call for the creation of a more compact "academic core" - as well as the designation of flexible development areas for future academic facilities. (See Figure 5.1: Modesto A. Maidique Campus, Figure 5.2: Engineering Center and Figure 5.3: Biscayne Bay Campus for the location of academic & research facilities.) In response, future academic and research facilities are clustered near existing academic and research facilities to strengthen academic/research zones. Academic and research facility designations include the following: Classroom, Teaching Lab, Research Lab, Library and Mixed-Use.

GOAL 1: **Provide academic and research facilities adequate to support the academic mission, meet needs of projected student enrollment and eliminate facility deficits by the end of the planning period.**

Objective 1.1 **Timing and Phasing:**
By 2015, FIU will phase future academic and research facility development in the following increments by location:

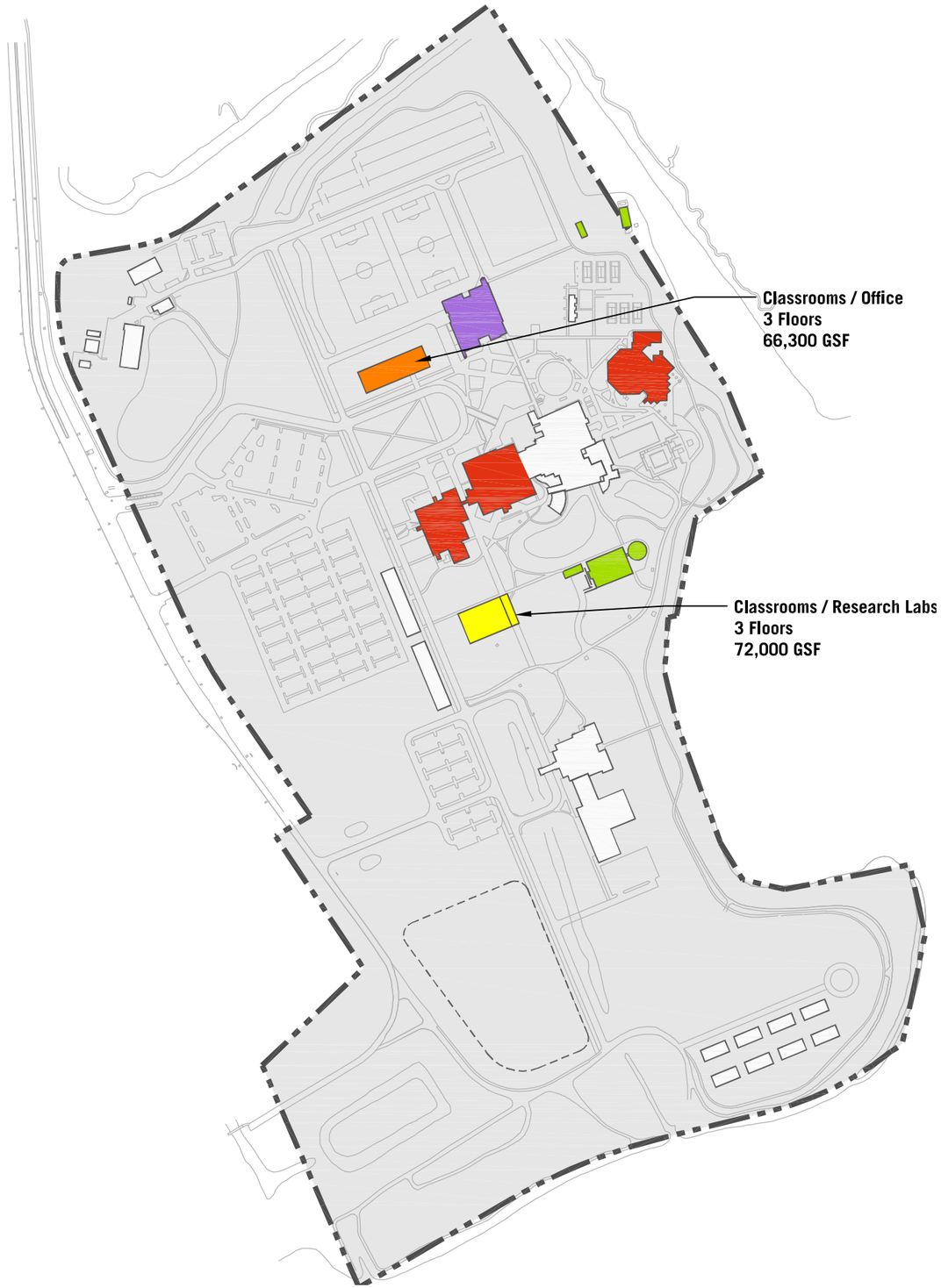
	Existing (Fall 2008)	2015	Total
UP	1,725,935	559,420	2,252,865 GSF
BBC	331,121	45,200	376,3212 GSF
Total	**2,057,056 GSF**	**604,620 GS**F	**2,629,186 GSF**

Includes classrooms, teaching labs, study areas, and research labs. Accounts for new facilities and renovation and expansion of existing structures.

Based on projects included in the 2005-2015 CIP

Policy 1.1.1 Apply space use standards in Chapter 6A-2 in determining future academic building programs and in planning the adaptive reuse of existing facilities to ensure optimum utilization of academic facilities.

Policy 1.1.2 Define building and facility use priorities strictly on the basis of academic need. Specific priorities for development of future facilities, including academic facilities, are described in Capital Improvements



LEGEND

- Classroom
- Teaching Lab
- Research Lab
- Library
- Mixed-Use

KEY MAP

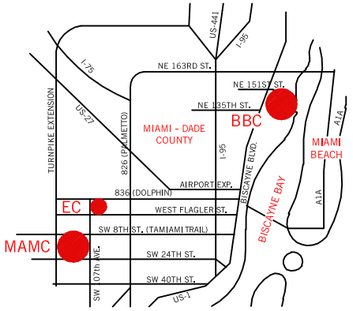


FIGURE 5.3
Biscayne Bay Campus
Academic & Research
Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS +WILL

LEGEND

- Administrative Offices
- Physical Plant
- Athletic / Recreation Facilities
- Student Support
- General Auxiliary

KEY MAP

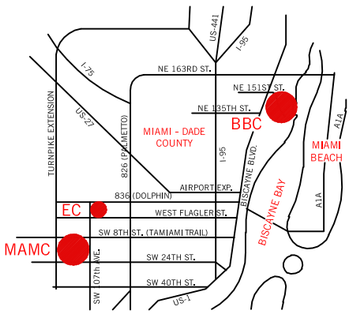


FIGURE 6.3
Biscayne Bay Campus
Support Facilities

FLORIDA INTERNATIONAL UNIVERSITY

Campus Master Plan - June 2010

0 250 500 1000

PERKINS +WILL

BBC DISTRIBUTION OF STUDENTS BY ZIP CODES

ZIP codes	Students
33160	279
33179	219
33181	211
33180	192
33162	192
33161	189
33015	159
International or Invalid Zip codes	148
33141	136
33186	131
33025	127
33027	116
33139	109
33169	108
33029	103
33024	100
33178	100
33165	95
33023	94
33018	94
33012	93
33176	93
33175	91
33021	90
33016	87
33138	86
33174	85
33014	83
33168	81
33009	81
33134	81
33155	81
33172	81
33156	80
33196	75
33183	71
33157	70
33326	67
33028	65
33137	64
33133	62
33140	62
33193	61
33020	60
33147	60
33173	58
33026	56
33143	55
33327	54
33185	53
33177	52
33019	51
33055	51
33154	48
33131	48
33166	48
33056	47
33129	45
33125	43
33126	43
33331	43
33324	39
33132	38
33145	38
33013	37
33142	37
33184	36
33312	35
33054	33
33010	32
33127	32
33130	31
33149	30
33167	29
33150	26
33325	26
33144	26
33135	25
33189	24
33330	24
33032	23
33321	23
33319	23
33182	23
33146	22
33068	22
33351	21
33332	21
33322	20
33328	18
33317	18
33033	18
33314	17
33313	17
33004	17
33311	16
33323	15
33194	15
33064	14
33030	13
33309	13
33187	13
33065	12
33076	12
33136	11
33301	11
33128	11
33071	11
33414	10
33031	10
33190	9
33415	8
33067	8
33433	8
33304	8
33411	7
33073	7
33063	7
33308	7
33463	7
33158	7
33428	6
33458	6
33406	5
33034	5
33442	5
33261	5
33418	5
33315	5
33305	5
33432	4
33245	4
33467	4
33035	4

Zip Codes From East	
Students	Zip Code
279	33160
136	33141
48	33154
81	33009
62	33140
606	**8.3%**

BBC DISTRIBUTION OF STUDENTS BY ZIP CODES

ZIP codes	Students
33334	4
33060	4
33441	4
33069	4
33496	4
33170	4
33407	4
33596	3
33460	3
34112	3
33040	3
33511	3
33062	3
33914	3
32065	3
34758	3
33070	3
33486	3
32746	3
33594	3
33199	3
33647	3
33283	3
33971	3
32250	3
34120	3
33417	3
33444	3
33431	3
00966	2
34950	2
33269	2
32615	2
32907	2
32256	2
33713	2
11231	2
34601	2
32779	2
33484	2
33401	2
32608	2
33403	2
33615	2
33405	2
32765	2
32304	2
34231	2
34990	2
32223	2
34994	2
33478	2
32092	2
02302	2
34952	2
33498	2
34953	2
33558	2
34982	2
32217	2
33022	2
02121	2
32828	2
33812	2
33082	2
32218	2
33445	2
32738	2
33455	2
34476	2
32571	2
34711	2
32207	2
34761	2
32829	2
33306	2
33470	2
34957	2
32818	2
34986	2
33435	2
33436	2
33408	2
33316	2
40121	1
33813	1
10004	1
32805	1
19355	1
32114	1
11520	1
32812	1
30007	1
33092	1
34108	1
33097	1
34947	1
33102	1
00539	1
33114	1
33474	1
33116	1
33572	1
11746	1
33709	1
11757	1
33951	1
20002	1
34228	1
32814	1
34743	1
11780	1
34987	1
20011	1
45320	1
11793	1
33446	1
13000	1
09103	1
10127	1
07456	1
07601	1
33549	1
20012	1
29605	1
32209	1
33637	1
10260	1
33767	1
07748	1
33872	1
32703	1
33966	1
10306	1

BBC DISTRIBUTION OF STUDENTS BY ZIP CODES

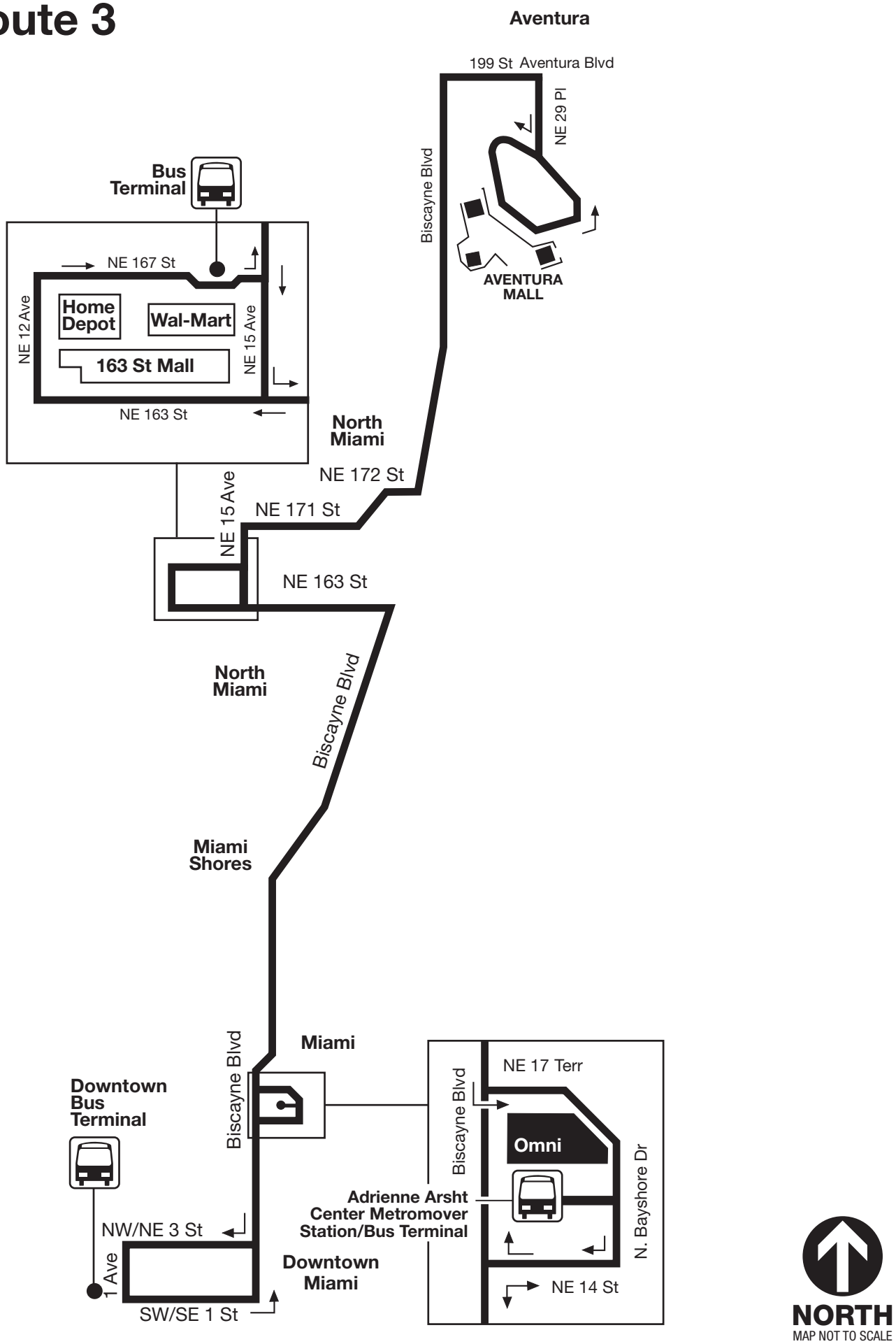
ZIP codes	Students
33042	1
02653	1
34234	1
13121	1
34653	1
10314	1
34772	1
20016	1
34956	1
13753	1
34997	1
20020	1
43449	1
10469	1
48204	1
20706	1
60548	1
20744	1
33017	1
14098	1
33462	1
08260	1
07417	1
10580	1
33480	1
10591	1
33487	1
32211	1
33523	1
00914	1
10044	1
00778	1
33579	1
00926	1
33611	1
33163	1
33624	1
01002	1
33705	1
14733	1
19075	1
20855	1
33810	1
08527	1
33844	1
05663	1
33884	1
32819	1
33954	1
07008	1
33983	1
10605	1
32609	1
08754	1
34210	1
08822	1
34232	1
08837	1
34452	1
96816	1
34609	1
96921	1
11572	1
07003	1
32771	1
32822	1
34786	1
01001	1
31088	1
20886	1
32606	1
10940	1
32796	1
94534	1
38139	1
95355	1
40403	1
95993	1
44406	1
32216	1
47501	1
20902	1
53209	1
32825	1
55811	1
11096	1
61180	1
92660	1
33448	1
92677	1
07410	1
33197	1
33461	1
32826	1
32601	1
33222	1
33469	1
33233	1
33472	1
33238	1
32714	1
32707	1
33481	1
33247	1
01810	1
33257	1
01845	1
32708	1
32607	1
32835	1
33543	1
33280	1
33556	1
32837	1
33567	1
32903	1
33578	1
32244	1
02125	1
29360	1
33603	1
32904	1
33613	1
32712	1
33619	1
32909	1
33629	1
33310	1
18966	1
21014	1
33708	1
21045	1
33712	1
21136	1

BBC DISTRIBUTION OF STUDENTS BY ZIP CODES

ZIP codes	Students
33761	1
21215	1
33770	1
32259	1
30134	1
70719	1
33837	1
75115	1
33860	1
78015	1
33881	1
79922	1
32605	1
89084	1
33952	1
90408	1
33957	1
32603	1
33037	1
14841	1
33991	1
27244	1
34109	1
32926	1
34113	1
11357	1
34141	1
27517	1
34222	1
27612	1
33050	1
17241	1
34233	1
28226	1
34238	1
32927	1
34471	1
29073	1
11550	1
32935	1
34639	1
32948	1
34683	1
33404	1
34736	1
32955	1
34746	1
32963	1
32773	1
32967	1
34782	1
18421	1
34787	1
32307	1
30238	1
33412	1
32003	1
33413	1
33066	1
32311	1
19380	1
32327	1
32784	1
33008	1
34996	1
32431	1
37042	1
33426	1
40033	1
32448	1
04026	1
33429	1
43440	1
07042	1
435-0	1
18518	1
45309	1
32514	1
46214	1
07052	1
47909	1
11432	1
48854	1
33437	1
53216	1
33440	1
55309	1
07094	1
60175	1
32547	1
61007	1
01803	1
32081	1
07208	1
75248	1
22015	1
78040	1
33318	1
81612	1
22835	1
90025	1
23434	1
91326	1
02344	1
23456	1
18018	1
11221	1
95757	1
11020	1
11427	1
06511	1
98006	1
06437	1
08844	1
00956	1
Grand Total	7344

APPENDIX D:
Transit Service Information

Route 3


Aventura
199 St Aventura Blvd
NE 29 Pl
Biscayne Blvd
AVENTURA MALL
Bus Terminal
NE 167 St
Home Depot
Wal-Mart
163 St Mall
NE 12 Ave
NE 15 Ave
NE 163 St
North Miami
NE 172 St
NE 171 St
NE 15 Ave
NE 163 St
North Miami
Biscayne Blvd
Miami Shores
Miami
Biscayne Blvd
Downtown Bus Terminal
NE 17 Terr
Biscayne Blvd
Omni
Adrienne Arsht Center Metromover Station/Bus Terminal
N. Bayshore Dr
NW/NE 3 St
1 Ave
Downtown Miami
NE 14 St
SW/SE 1 St
NORTH
MAP NOT TO SCALE
12/2009

Transit

3 Schedule

Back to previous page

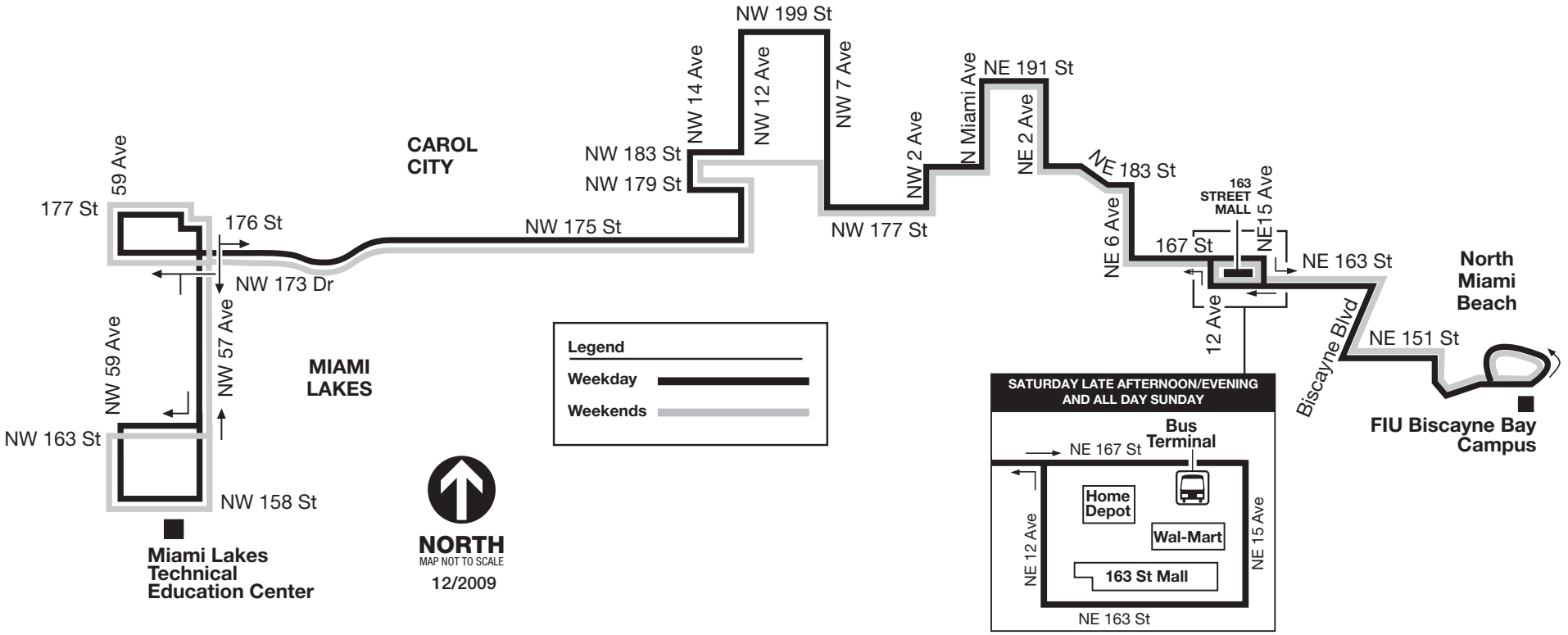
Service: WEEKDAY **Direction:** NORTHBOUND

Downtown Bus Terminal	A Arsht Mover/Bus Terminal	NE 36 St & Biscayne Blvd	NE 79 St & Biscayne Blvd	NE 123 St & Biscayne Blvd	NE 163 St & Biscayne Blvd	163 Street Mall	Aventura Mall
05:15AM	05:24AM	05:31AM	05:40AM	05:51AM	06:01AM	06:11AM	06:28AM
05:35AM	05:44AM	05:51AM	06:03AM	06:17AM	06:27AM	06:37AM	06:54AM
05:56AM	06:08AM	06:18AM	06:30AM	06:44AM	06:54AM	07:07AM	07:26AM
06:16AM	06:28AM	06:38AM	06:50AM	07:06AM	07:17AM	07:30AM	07:49AM
06:36AM	06:48AM	06:58AM	07:11AM	07:27AM	07:38AM	07:51AM	08:13AM
06:56AM	07:09AM	07:20AM	07:33AM	07:49AM	08:01AM	08:14AM	08:36AM
07:14AM	07:27AM	07:38AM	07:51AM	08:07AM	08:19AM	08:32AM	08:54AM
07:32AM	07:45AM	07:56AM	08:10AM	08:26AM	08:38AM	08:51AM	09:13AM
07:50AM	08:03AM	08:14AM	08:28AM	08:44AM	08:56AM	09:09AM	09:31AM
08:08AM	08:21AM	08:32AM	08:46AM	09:02AM	09:14AM	09:27AM	09:49AM
08:26AM	08:39AM	08:50AM	09:04AM	09:20AM	09:32AM	09:45AM	10:07AM
08:44AM	08:57AM	09:08AM	09:22AM	09:38AM	09:50AM	10:03AM	10:25AM
09:02AM	09:15AM	09:26AM	09:40AM	09:56AM	10:08AM	10:21AM	10:43AM
09:20AM	09:33AM	09:44AM	09:58AM	10:14AM	10:26AM	10:39AM	11:01AM
09:38AM	09:51AM	10:02AM	10:17AM	10:33AM	10:45AM	10:58AM	11:20AM
09:56AM	10:09AM	10:20AM	10:35AM	10:51AM	11:03AM	11:16AM	11:38AM
10:14AM	10:27AM	10:38AM	10:53AM	11:09AM	11:21AM	11:34AM	11:56AM
10:32AM	10:45AM	10:56AM	11:11AM	11:27AM	11:39AM	11:52AM	12:14PM
10:50AM	11:03AM	11:14AM	11:29AM	11:45AM	11:57AM	12:10PM	12:32PM
11:08AM	11:21AM	11:32AM	11:47AM	12:03PM	12:15PM	12:28PM	12:50PM
11:26AM	11:39AM	11:50AM	12:05PM	12:21PM	12:33PM	12:46PM	01:08PM
11:44AM	11:57AM	12:08PM	12:23PM	12:39PM	12:51PM	01:04PM	01:26PM
12:02PM	12:15PM	12:26PM	12:41PM	12:57PM	01:09PM	01:22PM	01:44PM
12:20PM	12:33PM	12:44PM	12:59PM	01:15PM	01:27PM	01:40PM	02:02PM
12:38PM	12:51PM	01:02PM	01:17PM	01:33PM	01:45PM	01:58PM	02:20PM
12:56PM	01:09PM	01:20PM	01:35PM	01:51PM	02:03PM	02:16PM	02:38PM
01:14PM	01:27PM	01:38PM	01:53PM	02:11PM	02:23PM	02:36PM	02:58PM
01:32PM	01:45PM	01:56PM	02:11PM	02:29PM	02:41PM	02:54PM	03:16PM
01:50PM	02:04PM	02:15PM	02:30PM	02:48PM	03:01PM	03:15PM	03:37PM
02:08PM	02:22PM	02:33PM	02:48PM	03:06PM	03:19PM	03:33PM	03:55PM
02:26PM	02:40PM	02:51PM	03:08PM	03:26PM	03:39PM	03:53PM	04:15PM
02:44PM	02:58PM	03:11PM	03:28PM	03:46PM	03:59PM	04:13PM	04:35PM
03:02PM	03:17PM	03:30PM	03:47PM	04:06PM	04:19PM	04:33PM	04:55PM
03:20PM	03:35PM	03:48PM	04:05PM	04:24PM	04:37PM	04:51PM	05:13PM
03:38PM	03:53PM	04:06PM	04:23PM	04:42PM	04:55PM	05:09PM	05:31PM
03:56PM	04:11PM	04:24PM	04:41PM	05:00PM	05:13PM	05:27PM	05:49PM

04:14PM	04:29PM	04:42PM	04:59PM	05:18PM	05:31PM	05:45PM	06:07PM
04:32PM	04:47PM	05:00PM	05:17PM	05:36PM	05:49PM	06:03PM	06:25PM
04:50PM	05:05PM	05:18PM	05:35PM	05:54PM	06:07PM	06:20PM	06:42PM
05:08PM	05:23PM	05:36PM	05:53PM	06:12PM	06:25PM	06:38PM	07:00PM
05:26PM	05:41PM	05:54PM	06:11PM	06:28PM	06:41PM	06:54PM	07:16PM
05:44PM	05:59PM	06:12PM	06:26PM	06:43PM	06:56PM	07:09PM	07:29PM
06:02PM	06:16PM	06:29PM	06:43PM	07:00PM	07:10PM	07:22PM	07:42PM
06:20PM	06:34PM	06:47PM	07:01PM	07:17PM	07:27PM	07:39PM	07:59PM
06:38PM	06:52PM	07:05PM	07:18PM	07:34PM	07:44PM	07:56PM	08:16PM
06:56PM	07:10PM	07:21PM	07:34PM	07:50PM	08:00PM	08:09PM	08:26PM
07:14PM	07:26PM	07:37PM	07:50PM	08:06PM	08:16PM	08:25PM	08:42PM
07:32PM	07:44PM	07:55PM	08:08PM	08:22PM	08:32PM	08:41PM	08:58PM
07:50PM	08:02PM	08:11PM	08:22PM	08:36PM	08:46PM	08:55PM	09:12PM
08:20PM	08:31PM	08:40PM	08:51PM	09:05PM	09:15PM	09:24PM	09:41PM
08:50PM	09:01PM	09:10PM	09:21PM	09:35PM	09:45PM	09:54PM	10:11PM
09:20PM	09:31PM	09:40PM	09:51PM	10:05PM	10:15PM	10:24PM	10:41PM
09:50PM	10:01PM	10:10PM	10:21PM	10:35PM	10:45PM	10:54PM	11:11PM
10:30PM	10:41PM	10:50PM	11:01PM	11:12PM	11:21PM	11:27PM	11:41PM
11:10PM	11:20PM	11:27PM	11:38PM	11:49PM	11:58PM	12:04AM	12:18AM
11:40PM	11:50PM	11:57PM	12:08AM	12:19AM	12:28AM	12:34AM	12:48AM
12:10AM	12:20AM	12:27AM	12:38AM	12:49AM	12:58AM	01:04AM	01:18AM
01:10AM	01:20AM	01:27AM	01:38AM	01:49AM	01:58AM	02:04AM	02:18AM
02:10AM	02:20AM	02:27AM	02:38AM	02:49AM	02:58AM	03:04AM	03:18AM
03:10AM	03:19AM	03:26AM	03:35AM	03:46AM	03:55AM	04:01AM	04:15AM
04:10AM	04:19AM	04:26AM	04:35AM	04:46AM	04:55AM	05:01AM	05:15AM

Back to previous page

Route 75


NW 199 St
NW 14 Ave
NW 12 Ave
NW 7 Ave
NW 2 Ave
N Miami Ave
NE 191 St
NE 2 Ave
NE 183 St
NE 6 Ave
163 STREET MALL
NE15 Ave
167 St
NE 163 St
North Miami Beach
NE 151 St
Biscayne Blvd
12 Ave
CAROL CITY
NW 183 St
NW 179 St
NW 177 St
NW 175 St
59 Ave
177 St
176 St
NW 173 Dr
NW 59 Ave
NW 57 Ave
MIAMI LAKES
NW 163 St
NW 158 St
Miami Lakes Technical Education Center
Legend
Weekday
Weekends
NORTH
MAP NOT TO SCALE
12/2009
SATURDAY LATE AFTERNOON/EVENING AND ALL DAY SUNDAY
Bus Terminal
NE 167 St
Home Depot
Wal-Mart
163 St Mall
NE 12 Ave
NE 15 Ave
NE 163 St
FIU Biscayne Bay Campus

Transit

75 Schedule

Back to previous page

Service: WEEKDAY **Direction:** EASTBOUND

NW 163 St & 57 Ave	NW 176 St & 57 Ave	NW 175 St & 27 Ave	NW 183 St & 12 Ave	NW 183 St & 7 Ave	NE 183 St & 2 Ct	163 Street Mall	FIU Bisc Bay Campus
05:27AM	05:36AM	05:48AM	05:55AM	06:03AM	06:15AM	06:25AM	06:37AM
05:53AM	06:02AM	06:15AM	06:25AM	06:33AM	06:45AM	06:55AM	07:08AM
06:20AM	06:29AM	06:42AM	06:52AM	07:00AM	07:14AM	07:25AM	07:38AM
06:47AM	06:56AM	07:10AM	07:22AM	07:30AM	07:44AM	07:55AM	08:09AM
07:16AM	07:26AM	07:40AM	07:52AM	08:00AM	08:14AM	08:25AM	08:39AM
07:52AM	08:02AM	08:16AM	08:27AM	08:35AM	08:49AM	09:00AM	09:14AM
08:22AM	08:32AM	08:46AM	08:57AM	09:05AM	09:20AM	09:30AM	09:44AM
08:55AM	09:05AM	09:18AM	09:27AM	09:35AM	09:50AM	10:00AM	10:14AM
09:26AM	09:36AM	09:49AM	09:58AM	10:06AM	10:20AM	10:30AM	10:44AM
09:57AM	10:07AM	10:20AM	10:29AM	10:36AM	10:50AM	11:00AM	11:15AM
10:27AM	10:37AM	10:50AM	10:59AM	11:06AM	11:20AM	11:30AM	11:45AM
10:56AM	11:06AM	11:20AM	11:29AM	11:36AM	11:50AM	12:00PM	12:15PM
11:26AM	11:36AM	11:50AM	11:59AM	12:06PM	12:20PM	12:30PM	12:45PM
11:54AM	12:04PM	12:18PM	12:27PM	12:34PM	12:48PM	01:00PM	01:15PM
12:24PM	12:34PM	12:48PM	12:57PM	01:04PM	01:18PM	01:30PM	01:45PM
12:54PM	01:04PM	01:18PM	01:27PM	01:34PM	01:48PM	02:00PM	02:15PM
01:21PM	01:31PM	01:45PM	01:54PM	02:02PM	02:18PM	02:30PM	02:45PM
01:48PM	01:58PM	02:12PM	02:23PM	02:31PM	02:47PM	03:00PM	03:15PM
:	:	:	02:45PM	02:53PM	03:09PM	03:21PM	:
02:18PM	02:28PM	02:42PM	02:53PM	03:01PM	03:17PM	03:30PM	03:45PM
02:48PM	02:58PM	03:12PM	03:23PM	03:31PM	03:47PM	04:00PM	04:14PM
03:16PM	03:28PM	03:42PM	03:53PM	04:01PM	04:17PM	04:30PM	04:44PM
03:46PM	03:58PM	04:12PM	04:23PM	04:31PM	04:47PM	05:00PM	05:14PM
04:16PM	04:29PM	04:43PM	04:54PM	05:02PM	05:18PM	05:30PM	05:44PM
04:46PM	05:00PM	05:14PM	05:24PM	05:32PM	05:48PM	06:00PM	06:13PM
05:20PM	05:34PM	05:48PM	05:58PM	06:06PM	06:19PM	06:30PM	06:43PM
05:51PM	06:05PM	06:18PM	06:28PM	06:36PM	06:49PM	07:00PM	07:12PM
07:00PM	07:10PM	07:22PM	07:31PM	07:37PM	07:50PM	08:00PM	08:12PM
08:00PM	08:10PM	08:22PM	08:31PM	08:37PM	08:50PM	09:00PM	09:11PM
09:05PM	09:14PM	09:25PM	09:33PM	09:39PM	09:50PM	10:00PM	10:11PM

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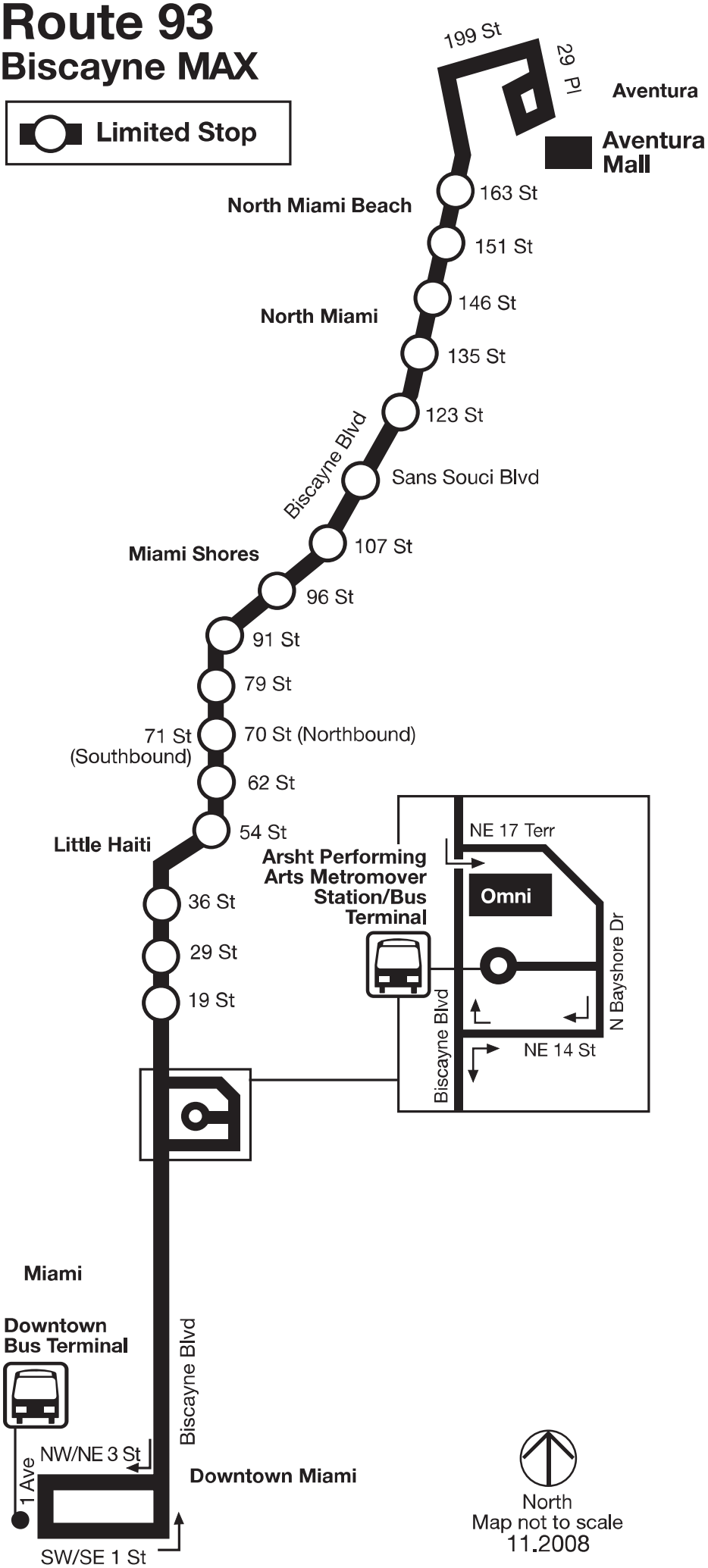
Route 93
Biscayne MAX



Transit

93 Biscayne MAX Schedule

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Service: WEEKDAY **Direction:** NORTHBOUND

Downtown Bus Terminal	A Arsht Mover/Bus Terminal	NE 36 St & Biscayne Blvd	NE 79 St & Biscayne Blvd	NE 123 St & Biscayne Blvd	NE 163 St & Biscayne Blvd	Aventura Mall
05:45AM	05:54AM	06:01AM	06:08AM	06:19AM	06:28AM	06:38AM
06:03AM	06:13AM	06:20AM	06:27AM	06:38AM	06:47AM	06:57AM
06:21AM	06:31AM	06:38AM	06:45AM	06:56AM	07:05AM	07:15AM
06:39AM	06:49AM	06:56AM	07:05AM	07:17AM	07:26AM	07:36AM
06:57AM	07:09AM	07:17AM	07:26AM	07:38AM	07:47AM	07:57AM
07:15AM	07:27AM	07:35AM	07:44AM	07:56AM	08:05AM	08:15AM
07:33AM	07:45AM	07:53AM	08:02AM	08:14AM	08:23AM	08:33AM
07:51AM	08:03AM	08:12AM	08:21AM	08:33AM	08:42AM	08:52AM
08:09AM	08:21AM	08:30AM	08:39AM	08:51AM	09:00AM	09:10AM
08:27AM	08:39AM	08:48AM	08:57AM	09:09AM	09:18AM	09:28AM
08:45AM	08:57AM	09:06AM	09:15AM	09:26AM	09:35AM	09:45AM
09:03AM	09:15AM	09:24AM	09:33AM	09:44AM	09:53AM	10:03AM
09:21AM	09:33AM	09:42AM	09:51AM	10:02AM	10:11AM	10:21AM
09:39AM	09:51AM	10:00AM	10:09AM	10:20AM	10:29AM	10:39AM
09:57AM	10:09AM	10:18AM	10:27AM	10:38AM	10:47AM	10:57AM
10:15AM	10:27AM	10:36AM	10:45AM	10:56AM	11:05AM	11:15AM
10:33AM	10:45AM	10:54AM	11:03AM	11:14AM	11:23AM	11:33AM
11:03AM	11:15AM	11:24AM	11:33AM	11:44AM	11:53AM	12:03PM
11:33AM	11:45AM	11:54AM	12:03PM	12:15PM	12:24PM	12:34PM
12:03PM	12:15PM	12:24PM	12:33PM	12:45PM	12:54PM	01:04PM
12:33PM	12:45PM	12:54PM	01:03PM	01:15PM	01:24PM	01:34PM
01:03PM	01:15PM	01:25PM	01:34PM	01:46PM	01:55PM	02:05PM
01:33PM	01:45PM	01:55PM	02:04PM	02:16PM	02:25PM	02:35PM
02:03PM	02:15PM	02:25PM	02:34PM	02:46PM	02:55PM	03:07PM
02:23PM	02:35PM	02:45PM	02:54PM	03:08PM	03:18PM	03:30PM
02:43PM	02:55PM	03:06PM	03:16PM	03:30PM	03:40PM	03:52PM
03:02PM	03:14PM	03:25PM	03:35PM	03:49PM	03:59PM	04:11PM
03:20PM	03:32PM	03:43PM	03:53PM	04:08PM	04:19PM	04:31PM
03:38PM	03:50PM	04:01PM	04:11PM	04:26PM	04:37PM	04:49PM
03:58PM	04:12PM	04:23PM	04:33PM	04:48PM	04:59PM	05:11PM
04:17PM	04:31PM	04:42PM	04:52PM	05:07PM	05:18PM	05:30PM
04:36PM	04:50PM	05:01PM	05:11PM	05:26PM	05:37PM	05:49PM
04:54PM	05:08PM	05:19PM	05:29PM	05:44PM	05:55PM	06:07PM
05:12PM	05:26PM	05:37PM	05:47PM	06:02PM	06:13PM	06:24PM
05:30PM	05:44PM	05:55PM	06:05PM	06:19PM	06:30PM	06:41PM
05:48PM	06:02PM	06:13PM	06:22PM	06:36PM	06:47PM	06:58PM

06:06PM	06:18PM	06:29PM	06:38PM	06:52PM	07:03PM	07:13PM
06:24PM	06:36PM	06:47PM	06:56PM	07:10PM	07:19PM	07:29PM
06:42PM	06:54PM	07:05PM	07:13PM	07:26PM	07:35PM	07:45PM
07:00PM	07:11PM	07:20PM	07:28PM	07:41PM	07:50PM	08:00PM
07:20PM	07:31PM	07:40PM	07:48PM	08:01PM	08:09PM	08:18PM

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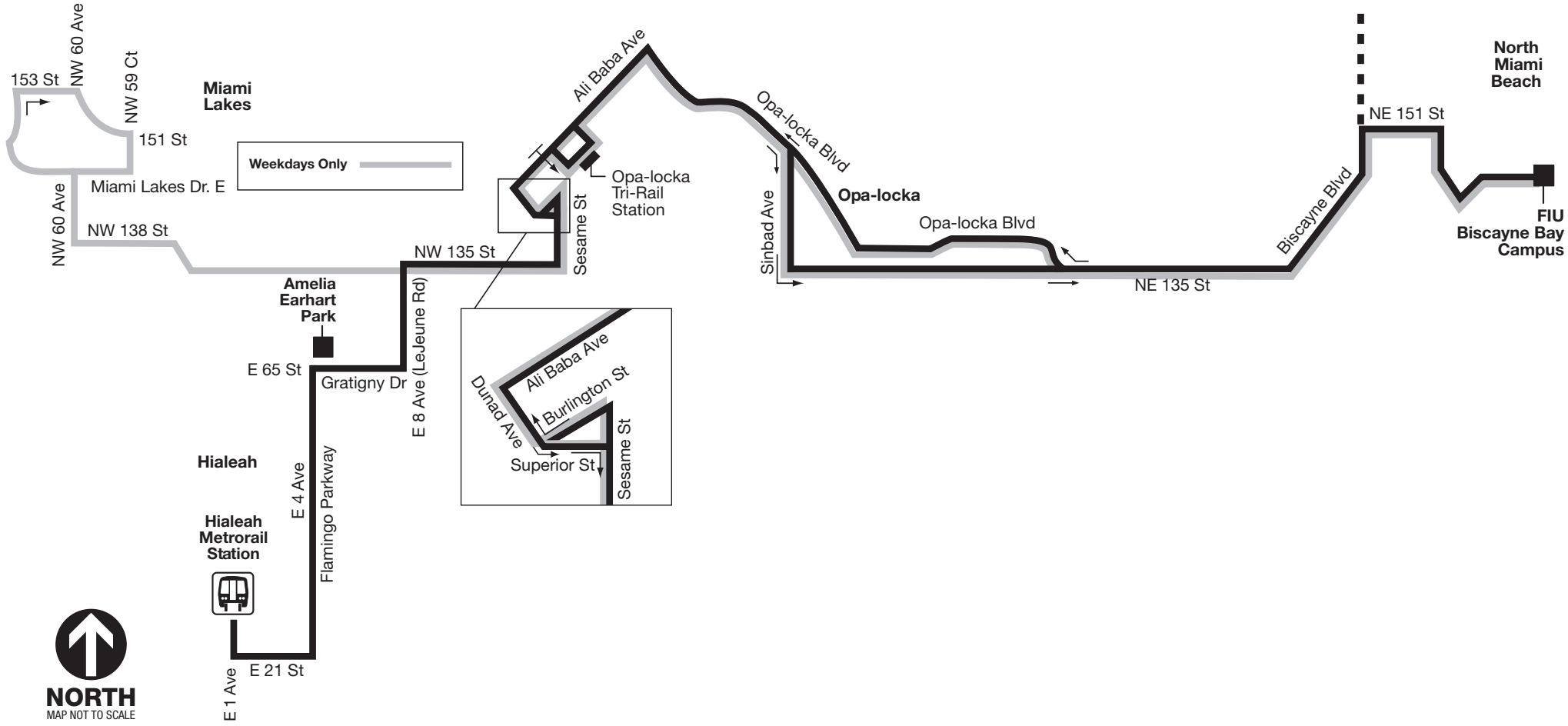
Route 135



NORTH

MAP NOT TO SCALE

06/2010

Transit

135 Schedule

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Service: WEEKDAY **Direction:** EASTBOUND

Miami Lks Dr & NW 60 Ave	Hialeah Station	E 49 St & 4 Ave	NW 135 St & 42 Ave	Opa Locka Tri-Rail Station	NW 135 St & 7 Ave	NE 135 St & W Dixie Highway	FIU Bisc Bay Campus
:	06:00AM	06:08AM	06:16AM	06:19AM	06:32AM	06:41AM	06:53AM
06:32AM	:	:	06:43AM	06:47AM	07:00AM	07:09AM	07:21AM
:	06:56AM	07:05AM	07:13AM	07:17AM	07:30AM	07:39AM	07:51AM
07:32AM	:	:	07:43AM	07:47AM	08:00AM	08:09AM	08:21AM
:	07:50AM	07:59AM	08:07AM	08:11AM	08:24AM	08:33AM	08:45AM
08:16AM	:	:	08:27AM	08:31AM	08:44AM	08:53AM	09:05AM
:	08:30AM	08:39AM	08:47AM	08:51AM	09:04AM	09:11AM	09:23AM
09:07AM	:	:	09:18AM	09:22AM	09:34AM	09:41AM	09:53AM
:	09:30AM	09:39AM	09:48AM	09:52AM	10:04AM	10:11AM	10:23AM
10:07AM	:	:	10:18AM	10:22AM	10:34AM	10:41AM	10:53AM
:	10:30AM	10:39AM	10:48AM	10:52AM	11:04AM	11:11AM	11:23AM
11:07AM	:	:	11:18AM	11:22AM	11:34AM	11:41AM	11:53AM
:	11:30AM	11:39AM	11:48AM	11:52AM	12:04PM	12:11PM	12:23PM
12:07PM	:	:	12:18PM	12:22PM	12:34PM	12:41PM	12:53PM
:	12:30PM	12:39PM	12:48PM	12:52PM	01:04PM	01:11PM	01:23PM
01:07PM	:	:	01:18PM	01:22PM	01:34PM	01:41PM	01:53PM
:	01:30PM	01:39PM	01:48PM	01:52PM	02:05PM	02:13PM	02:26PM
02:07PM	:	:	02:18PM	02:22PM	02:35PM	02:43PM	02:56PM
:	02:33PM	02:43PM	02:52PM	02:56PM	03:09PM	03:17PM	03:30PM
03:11PM	:	:	03:22PM	03:26PM	03:39PM	03:47PM	04:00PM
:	03:33PM	03:43PM	03:52PM	03:56PM	04:09PM	04:17PM	04:30PM
04:11PM	:	:	04:22PM	04:26PM	04:39PM	04:47PM	05:00PM
:	04:23PM	04:33PM	04:42PM	04:46PM	04:59PM	05:07PM	05:20PM
04:51PM	:	:	05:02PM	05:06PM	05:19PM	05:27PM	05:40PM
:	05:03PM	05:13PM	05:22PM	05:26PM	05:39PM	05:47PM	06:00PM
05:44PM	:	:	05:55PM	05:59PM	06:12PM	06:19PM	06:30PM
:	06:03PM	06:12PM	06:20PM	06:24PM	06:36PM	06:43PM	06:54PM
06:40PM	:	:	06:50PM	06:54PM	07:06PM	07:13PM	07:24PM
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07:40PM	:	:	07:50PM	07:54PM	08:06PM	08:13PM	08:24PM
:	08:09PM	08:18PM	08:26PM	08:30PM	08:42PM	08:49PM	09:00PM
08:56PM	:	:	09:06PM	09:09PM	09:20PM	09:27PM	09:35PM
:	09:27PM	09:35PM	09:43PM	09:46PM	09:57PM	10:04PM	10:12PM

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NOMI express

- 1 Griffing Adult Center/Park
- 2 Gratigny Elementary
- 8 Oleander Park
- 9 Sunkist Grove Community Center
- 10 Thomas Sasso Pool
- 12 Ben Franklin Elementry & Park
- 13 Claude Pepper Park

- 1 Griffing Adult Center/Park
- 2 President Supermarket
- 3 Publix
- 5 Library/North Miami Middle School
- 6 St. Paul's Church
- 9 First Church of North Miami
- 10 Enchanted Forest Park
- 13 Publix
- 14 Johnson & Wales University
- 16 William Jennings Bryan Elementary
- 18 City Hall/MOCA/Police
- 19 Biscayne Park Recreational Center
- 20 Biscayne Park City Hall

- 1 Griffing Adult Center/Park
- 7 North Miami Senior High
- 8 North Miami Elementary
- 12 North Miami Senior High
- 13 Library/North Miami Middle School
- 14 City Hall/MOCA Plaza/Police
- 16 Publix
- 19A President Supermarket

- 1 Keystone Park
- 5 Target/Post Office
- 6 Costco
- 6AC David K. Lawrence, Jr. K-8 Center
- 6B Florida International Univertsity
- 8 Natural Bridge Elementary
- 10 Enchanted Forest Park
- 13 Publix
- 14 Johnson & Wales University
- 15 Gwen Margolis Community Center
- 16 Walgreens
- 17 Besade Park/Tennis Center at Sans Souci

Parks
Shopping
Schools
Swimming

"Black outline indicates joint Miami-Dade Transit and NOMI Express bus stop"

NE 151 ST
BAY VISTA BLVD
NE 145 ST
NE 146 ST
NE 18 AVE
NE 143 ST
BISCAYNE BLVD
NE 135 ST
NE 139 ST
NE 16 AVE
NE 145 ST
NE 10 AVE
NE 140 ST
NE 8 AVE
W DIXIE HWY
NE 6 AVE
NW 135 ST
NW 13 AVE
NW 7 AVE
NW 131 ST
NW 11 AVE
NW 125 ST
NW 119 ST
135 ST
N MIAMI AVE
MEMORIAL HWY
NE 131 ST
NW 2 AVE
NE 6 AVE
NE 10 AVE
NE 12 AVE
NE 14 AVE
NE 128 ST
NE 16 AVE
NE 127 ST
NE 125 ST
NE 124 ST
NE 123 ST
NE 123 ST
SANS SOUCI BLVD
NE 2 AVE
GRIFFING BLVD
W DIXIE HWY
NE 8 AVE
NE 115 ST
NE 113 ST
BISCAYNE BLVD
119 ST
Interstate 95
BISCAYNE BAY
N

ALL ROUTES RUN MONDAY THROUGH FRIDAY
FROM 7:00 AM - 8:00 PM
EXCLUDING CITY OBSERVED HOLIDAYS

Bus Schedule

Time is indicated as minutes after the hour

1 12220 Griffing BLVD - **Griffing Adult Center** .....:00
2 119 ST & N Miami AVE - **Gratigny Elementary** .....:07
3 NW 2 AVE & 125 ST .....:11
4 125 ST & NW 4 AVE .....:13
5 NW 7 AVE & 125 ST .....:15
6 NW 7 AVE & 120 ST .....:17
7 119 ST & NW 10 AVE .....:19
8 NW 13 AVE & 121 ST - **Oleander Park** .....:22
9 NW 13 AVE & 125 ST - **Sunkist Grove Center** .....:24
10 NW 11 AVE & 125 ST - **Thomas Sasso Pool** .....:26
11 NW 11 AVE & 131 ST .....:28
12 NW 13 AVE & 131 ST - **Ben Franklin Elementary** ...:30
13 135 ST & NW 12 AVE - **Claude Pepper Park** .....:33
14 135 ST & NW 7 AVE .....:36
15 131 ST & NW 6 AVE .....:39
16 131 ST & NW 2 AVE .....:41
17 135 ST & N Miami AVE .....:45
18 135 ST & NE 4 AVE .....:48
19 NE 6 AVE & 133 ST .....:52
19A NE 6 AVE & 128 ST - **Publix** .....:55
20 NW 6 AVE & 124 ST .....:58

1 12220 Griffing BLVD - **Griffing Adult Center** .....:00
2 125 ST & NE 4 CT - **President Supermarket** .....:06
3 NE 6 AVE & 128 ST - **Publix** .....:09
4 NE 6 AVE & 135 ST .....:12
5 NE 8 AVE & 133 ST - **North Miami Library** .....:15
6 W Dixie HWY & NE 132 ST - **St. Paul's** .....:18
7 W Dixie HWY & NE 135 ST .....:20
8 8 W Dixie HWY & 139 ST .....:23
9 NE 135 ST & NE 12 AVE - **First Church of NM** .....:26
10 NE 135 ST & NE 16 AVE - **Enchanted Forest** .....:29
11 Biscayne BLVD & NE 135 ST .....:33
12 Biscayne BLVD & NE 131 ST .....:35
13 Biscayne BLVD & NE 128 ST - **Publix** .....:37
14 NE 128 ST & NE 17 AVE - **Johnson & Wales** .....:39
15 123 ST & NE 16 AVE - **Gwen Margolis Center** .....:42
16 125 ST & NE 13 AVE - **WJB Elementary** .....:45
17 125 ST & NE 10 AVE .....:47
18 NE 8 AVE & 125 ST - **CITY HALL** .....:50
19 11400 NE 9 CT - **Biscayne Park Recreation Center** .....:53
20 640 NE 114 ST - **Biscayne Park City Hall** .....:56

1 12220 Griffing BLVD - **Griffing Adult Center** .....:00
2 125 ST & NE 2 AVE .....:06
3 125 ST & NW 2 AVE .....:09
4 NW 2 AVE & NW 128 ST .....:11
5 135 ST & N Miami AVE .....:15
6 NE 135 ST & NE 4 AVE .....:18
7 NE 6 AVE & 137 ST .....:22
8 NE 6 AVE & NE 145 ST - **NM Elementary** .....:25
9 NE 10 AVE & 145 ST .....:28
10 NE 12 AVE & NE 140 ST .....:31
11 W Dixie HWY & 136 ST .....:33
12 NE 135 ST & NE 9 AVE - **NM Senior High** .....:35
13 NE 8 AVE & NE 133 ST - **NM Library** .....:37
14 NE 8 AVE & NE 125 ST - **CITY HALL** .....:42
15 NE 7 AVE & NE 127 ST .....:46
16 NE 6 AVE & 128 ST - **Publix** .....:48
17 131 ST & NE 5 AVE .....:50
18 131 ST & Griffing BLVD .....:52
19 125 ST & Griffing BLVD .....:55
19A 125 ST & NE 4 CT - **President Supermarket** .....:56
20 NE 6 AVE & NE 124 ST .....:58

1 Biscayne BLVD & NE 131 ST - **Keystone Park** .....:28
2 Biscayne BLVD & NE 135 ST - **SE Corner** .....:30
3 NE 135 ST & NE 25 AVE .....:32
3A NE 135 ST & 24 CT .....:34
4 Biscayne BLVD & NE 136 ST - **Starbucks** .....:35
5 Biscayne & 140 ST - **Target** .....:37
6 Biscayne BLVD & NE 145 ST - **Costco/Post Office** ....:42
6A 1500 Bay Vista BLVD S. Bound - **DK Lawrence K-8** ....:46
6B Florida International University - **Library** .....:49
6C 1500 Bay Vista BLVD N. Bound - **DK Lawrence K-8** ....:51
7 146 ST & NE 18 AVE .....:53
8 NE 16 AVE & 143 ST .....:55
9 NE 16 AVE & 139 ST .....:57
10 135 ST & NE 16 ST - **Enchanted Forest** .....:59
11 Biscayne BLVD & NE 135 ST .....:00
12 Biscayne BLVD & 131 ST .....:02
13 Biscayne BLVD & 128 ST - **Publix** .....:04
14 NE 128 ST & 17 AVE - **Johnson & Wales** .....:10
15 NE 123 ST & 16 AVE - **Gwen Margolis Center** .....:13
16 NE 123 ST & NE 18 AVE - **Walgreens** .....:16
17 Sans Souci Blvd & 18 AVE - **Tennis Center** .....:18
18 Sans Souci BLVD & NE 21 ST .....:20
19 123 ST & NE 18 AVE .....:23
20 Biscayne BLVD & 128 ST .....:26

Florida International University
Department of Parking & Transportation
Golden Panther Express
2009-2010 Schedule

Fall/Spring Schedule

Depart MMC	Arrive BBC	Depart BBC	Arrive MMC
6:45 AM	7:45 AM	6:45 AM	7:45 AM
8:00 AM	9:00 AM	8:00 AM	9:00 AM
8:15 AM	9:15 AM	8:15 AM	9:15 AM
9:50 AM	10:45 AM	9:50 AM	10:45 AM
11:20 AM	12:15 PM	11:20 AM	12:15 PM
12:50 PM	1:50 PM	12:50 PM	1:50 PM
2:20 PM	3:15 PM	2:20 PM	3:15 PM
3:45 PM	4:45 PM	3:45 PM	4:45 PM
4:55 PM	6:00 PM	4:55 PM	6:00 PM
6:30 PM	7:30 PM	6:30 PM	7:30 PM
7:55 pm*	8:45 PM	7:55 pm*	8:45 PM
9:30 pm*	10:15 PM	9:30 pm*	10:15 PM
10:45 pm*	11:30 PM	10:45 pm*	11:30 PM

*Service not available Friday Evenings

Golden Panther Express
2009-2010

Summer Schedule

Depart MMC	Arrive BBC	Depart BBC	Arrive MMC
6:45 AM	7:45 AM	6:45 AM	7:45 AM
8:15 AM	9:15 AM	8:15 AM	9:15 AM
9:50 AM	10:35 AM	9:50 AM	10:35 AM
11:20 AM	12:05 PM	11:20 AM	12:05 PM
12:50 PM	1:50 PM	12:50 PM	1:50 PM
2:40 PM	3:35 PM	2:40 PM	3:35 PM
3:45 PM	4:15 PM	3:45 PM	4:15 PM
5:15 PM	6:15 PM	5:15 PM	6:15 PM
6:30 PM	7:15 PM	6:30 PM	7:15 PM
7:55 PM*	8:40 PM*	7:55 PM*	8:40 PM*
9:30 PM*	10:15 PM*	9:30 PM*	10:15 PM*
10:45 PM	11:30 PM*	10:45 PM*	11:30 PM*

APPENDIX E:
Biscayne Landing

TRAFFIC FORECAST AND ANALYSIS

Biscayne Landing
North Miami, Florida

042092000
November 2006
Revised August 2007

Certificate of Authorization Number 00000696
4431 Embarcadero Drive
West Palm Beach, Florida 33407
561/845-0665 TEL
561/863-8175 FAX

Kimley-Horn
and Associates, Inc.

INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this traffic forecast and analysis for the Biscayne Landing project. Biscayne Landing is a planned residential development located in the southeast corner of N.E. 151st Street and Biscayne Boulevard (US 1) within the City of North Miami. See Figure 1. The plan envisions 5,999 residential condominium/townhome units, a hotel, and commercial and office uses in a town center over a number of phases.

Access to the site will be provided by connections to N.E. 151st Street at a location approximately 550 feet east of the Biscayne Boulevard intersection and to Biscayne Boulevard via N.E. 143rd Street. In conjunction with the Initial Phase, the proposed onsite roadway (Biscayne Landing Boulevard) will be constructed to N.E. 151st Street. The entrance connection at N.E. 143rd Street to Biscayne Boulevard is planned for construction at a later phase at the existing signalized intersection.

The focus of this analysis will be three signalized intersections including the two project entrances:

- NE 151st Street and Biscayne Landing Boulevard
- NE 143rd Street and Biscayne Boulevard
- Biscayne Boulevard and NE 151st Street

Analyses are presented of forecast traffic conditions at the end of the Initial Phase and at buildout of the Biscayne Landing project.

DEVELOPMENT PLAN

Buildout of the Biscayne Landing project will consist of:

- 5,999 residential units
- 250-room hotel that includes a conference center of 45,000 square feet
- 213,172 square feet of office
- 176,125 square feet of retail/commercial use in a town center

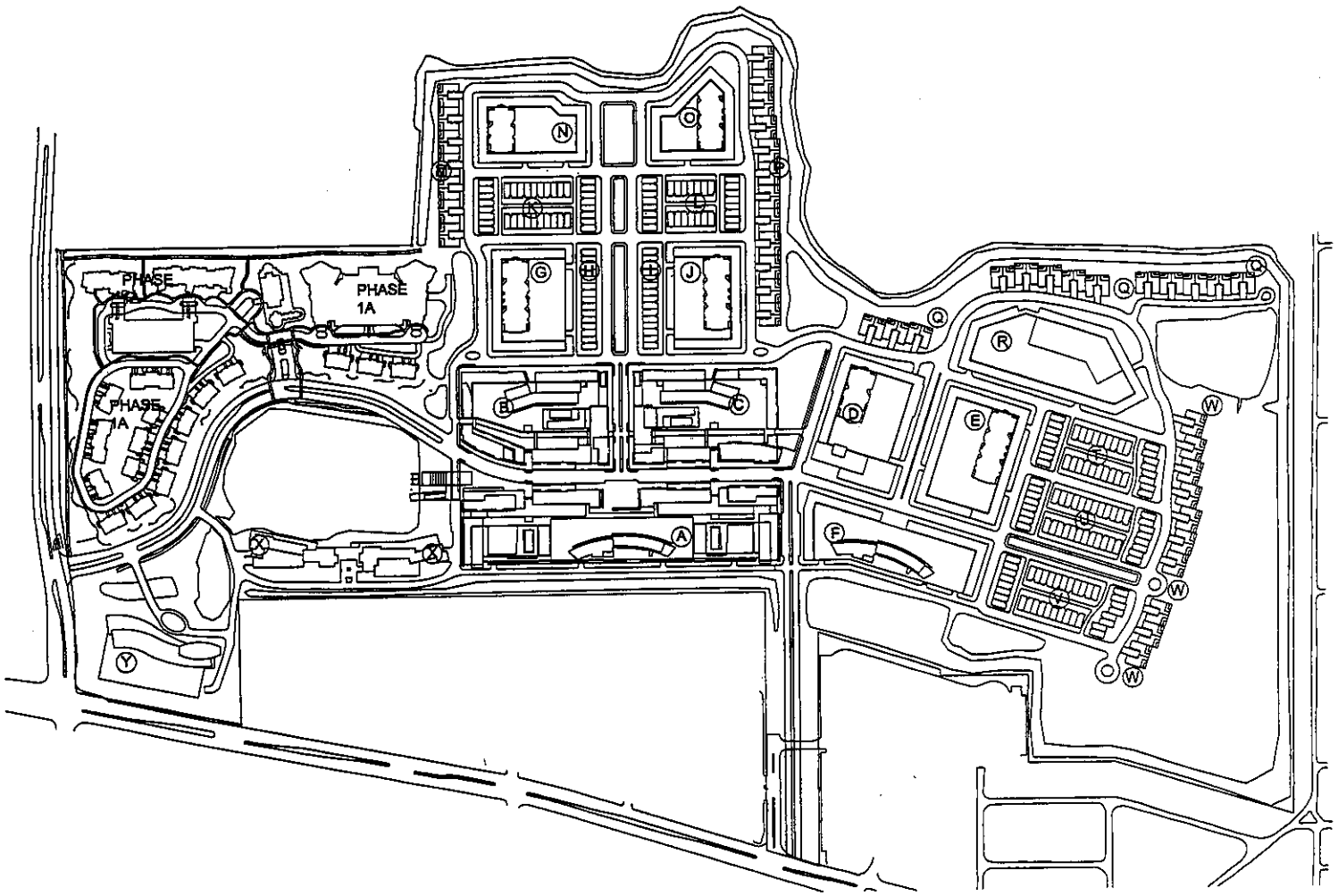
The construction of the development will be phased. Ehrenkrantz, Eckstut & Kuhn Architects have created the Proposed Conceptual Master Plan in Figure 2 and Community Planning Development Information Table in Table 1 indicating the total number of units per block designation.

The Initial Phase, which includes Phase IA and Blocks GHIJ, is currently under construction and includes:

- Phase IA includes:
  - 847 High-rise residential condominium units
  - 80 Townhomes
- Blocks GHIJ include:
  - 700 High-rise residential condominium units
  - 30 Townhomes

For purposes of this analysis, we summarized the project trip generation development in Residential and Non Residential categories. The total number of residential units at buildout will be 5,627 high-rise residential condominium units and 372 townhome units.

FIGURE 2



EHRENKRANTZ ECKSTUT & KUHN ARCHITECTS
SWERDLOW/BOCA DEVELOPERS, LLC

N 0' 100' 200' 400'

July 26, 2006

BISCAYNE LANDING PROPOSED CONCEPTUAL MASTER PLAN (EXHIBIT C)
MASTER PLAN- BLOCK KEY

Project Region / Block Designation	NON-Residential Program Components				RESIDENTIAL Program Components										TOTALS						Region / Block Designation
	Retail (Includes Grocery)		Office / Non-Retail Commercial (Includes Health Club @ A & Hotel Conference Ctr. @ A)		High-Rise / Mid-Rise Dwelling Units (Hotel Rooms @ Blk. A listed but NOT totaled *)				Townhouses				Villas				NON-Residential Subtotals			RESIDENTIAL Subtotals			
	Area (sf)	Parking Spaces	Area (sf)	Parking Spaces	No. of Units	Average Unit Size	Total Residential Area (sf)	Parking Spaces	No. of Units	Average Unit Size	Total Residential Area (sf)	Parking Spaces	No. of Units	Average Unit Size	Total Residential Area (sf)	Parking Spaces	TOTAL Net Area (sf)	Min. # of Parking Spaces (Ratio = 4 ps / 1000 sf)	Actual TOTAL Parking Spaces (Includes street parking)	TOTAL No. of Units	Min. # of Parking Spaces (Ratio = 1.8 ps / 1 Unit)	Actual TOTAL Parking Spaces (Includes street parking)	
Phase 1A	0	0	0	0	843	1725	1454175	1522	80	2300	184000	144	0		0	0	0	0	0	923	1661	1668	Ph-1A
Block A	100000	590	180000	770	770	1190	916300	1630	0		0	0	0		0	0	280000	1120	1360	770	1386	1630	A
* *Block A Hotel*	*0*	*0*	*45000*	*180*	*250*	*600*	*150000*	*250*	*0*		*0*	*0*	0		*0*	*0*	*45000*	*180*	*180*	*250*	*250*	*250*	*A - Hotel (only)* *
Block B	39210	60	16586	40	475	1180	560500	1010	0		0	0	0		0	0	55796	223	100	475	855	1010	B
Block C	36915	60	16586	43	490	1180	578200	1180	0		0	0	0		0	0	53501	214	103	490	882	1180	C
Block D	0	0	0	0	260	1260	327600	530	0		0	0	0		0	0	0	0	0	260	468	530	D
Block E	0	0	0	0	440	1260	554400	880	0		0	0	0		0	0	0	0	0	440	792	880	E
Block F	0	0	0	0	185	1180	218300	400	0		0	0	0		0	0	0	0	0	185	333	400	F
Block G	0	0	0	0	330	1260	415800	770	0		0	0	0		0	0	0	0	0	330	594	770	G
Block H	0	0	0	0	0		0	0	15	2400	36000	50	0		0	0	0	0	0	15	27	50	H
Block I	0	0	0	0	0		0	0	15	2400	36000	50	0		0	0	0	0	0	15	27	50	I
Block J	0	0	0	0	370	1260	466200	810	0		0	0	0		0	0	0	0	0	370	666	810	J
Block K	0	0	0	0	0		0	0	38	2400	86400	110	0		0	0	0	0	0	38	65	110	K
Block L	0	0	0	0	0		0	0	30	2400	72000	100	0		0	0	0	0	0	30	54	100	L
Block M	0	0	0	0	0		0	0	0		0	0	14	2900	40600	28	0	0	0	14	25	28	M
Block N	0	0	0	0	240	1400	336000	480	0		0	0	0		0	0	0	0	0	240	432	480	N
Block O	0	0	0	0	210	1600	336000	410	0		0	0	0		0	0	0	0	0	210	378	410	O
Block P	0	0	0	0	0		0	0	0		0	0	24	2900	69600	48	0	0	0	24	43	48	P
Block Q	0	0	0	0	0		0	0	0		0	0	26	2900	75400	52	0	0	0	26	47	52	Q
Block R	0	0	0	0	475	1900	902500	820	0		0	0	0		0	0	0	0	0	475	855	820	R
** Block S	0	0	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0	0	S * *
Block T	0	0	0	0	0		0	0	35	2400	84000	115	0		0	0	0	0	0	35	63	115	T
Block U	0	0	0	0	0		0	0	40	2400	96000	125	0		0	0	0	0	0	40	72	125	U
Block V	0	0	0	0	0		0	0	37	2400	88800	120	0		0	0	0	0	0	37	67	120	V
Block W	0	0	0	0	0		0	0	0		0	0	20	2900	58000	60	0	0	0	20	36	80	W
Block X	0	0	0	0	350	1260	441000	746	0		0	0	0		0	0	0	0	0	350	630	746	X
Block Y	0	0	0	0	189	1190	224910	415	0		0	0	0		0	0	0	0	0	189	340	415	Y
GRAND TOTALS	176125	710	258172	1033	5627	1374	7731885	11803	288	2372	683200	814	84	2900	243600	188	434297	1557	1743	5999	10795	12805	
(EXCLUDING Hotel rooms)	* Note: "Grand Totals" listed above *EXCLUDE* Hotel rooms at Block A from Residential Unit figures but *INCLUDE* all Hotel Commercial Space in Non-Residential figures. (Hotel Rooms are assumed to require 1 parking space per Hotel Room.)																						

Minimum # of Parking Spaces for Residential Parking ratio with Visitors (1.8 + 0.3) = 2.1 ps per unit (excluding hotel rooms ratio of 1 ps per room) = 12598

Total Project Acres = 193.00	Total Residential Units (EXCLUDING Hotel Rooms) = 5999	Residential Units Per Acre (w/o hotel rooms) =	31.08
Developement Acres = 152.35	Total Residential Units (EXCLUDING Hotel Rooms) = 5999	Residential Units Per Acre (w/o hotel rooms) =	39.38

* * Note: Block S is NOT USED

CAPACITY ANALYSIS

Capacity analyses were performed at buildout of the project to ensure that adequate intersection capacity will be provided for the entire Biscayne Landing project. Analyses were also performed for the Initial Phase conditions to establish the timing of necessary improvements.

Initial Phase Analysis

A stop control intersection analysis was performed for N.E. 151st Street and Biscayne Landing Boulevard for AM and PM peak hour volumes for the Initial Phase. The analysis results indicate that the northbound approach will operate at a Level of Service (LOS) F. However, in the next section is found a traffic signal warrants analysis demonstrating that a signal can be warranted during the Initial Phase. If signalized, the intersection will operate at LOS B and A in the AM and PM peak hour, respectively.

A signalized intersection capacity analysis was performed at the intersection of Biscayne Boulevard and NE 151st Street for the volumes projected during the Initial Phase. The intersection is expected to operate at LOS D in the AM peak and LOS E in the PM peak during the Initial Phase.

Capacity analyses for the intersections in the Initial Phase are found in Appendix D.

Buildout Analysis

The Synchro signalization software program was utilized to analyze traffic flow between the existing signalized intersections and the proposed signalized intersection of N.E. 151st Street and Biscayne Landing Boulevard at buildout. The existing cycle

length of 150 seconds for the intersection of Biscayne Boulevard and N.E. 151st Street was maintained for this analysis with some signal timing modifications to accommodate the increased traffic volumes.

The results of the Synchro analyses with the lane geometry proposed as a part of the Biscayne Landing project are presented in Appendix E and summarized below:

AM Peak Hour	Level of Service
▪ N.E. 151st Street and Biscayne Landing Boulevard	LOS D
▪ N.E. 143rd Street and Biscayne Boulevard	LOS D
▪ Biscayne Boulevard and N.E. 151st Street:	LOS F

PM Peak Hour	Level of Service
▪ N.E. 151st Street: and Biscayne Landing Boulevard	LOS C
▪ N.E. 143rd Street and Biscayne Boulevard	LOS D
▪ Biscayne Boulevard and N.E. 151st Street	LOS F

Recommended Improvements

As discussed in a following section, the Biscayne Landing project is in a TCEA and is not required to meet concurrency provisions. Nonetheless, based on the analyses and in order to optimize level of service, the following turn lane improvements to accommodate buildout of the entire project are recommended:

- Add southbound left turn lane on Biscayne Boulevard at N.E. 151st Street
- Add westbound left turn lane N.E. 151st Street at Biscayne Boulevard
- Extend eastbound left turn lane on N.E. 151st Street at Biscayne Boulevard

- Install a traffic signal at the intersection of N.E. 151st Street and Biscayne Landing Boulevard

Solar Mountain

The Miami Herald
Posted on Fri, May. 21, 2010

North Miami residents skeptical over proposed theme park

BY NADEGE CHARLES
The Miami Herald

North Miami residents who turned out for a community meeting with Solar Mountain Management, the company that wants to transform the Biscayne Landing site into a solar-powered winter wonderland theme park, were critical of the group's proposal.

Representatives met with residents on Tuesday to detail their plans, which include a 55-foot ski mountain, water rafting, ice skating and indoor tennis.

Marc Douthit, a Miami lawyer who is president of Solar Mountain Management Group and the mayor's former law partner, said the project will be a driving revenue source that will create 3,200 permanent jobs for the city.

The proposal calls for the restructuring of $28-million-off-site improvements such as a new library, tied to Biscayne Landing.

Solar Mountain proposes to pay the city a flat $7.5 million. The first $4 million payment would come at the time of the execution of the amended lease, with a final $3.5 million payment coming no later than Sept. 1, 2011.

So far, the city has not made a decision on the matter. Solar Mountain representatives will meet with the city council at a special meeting on May 26.

Residents at the meeting strongly opposed any restructuring of the lease until Solar Mountain submits traffic studies and more detailed reports on how the project will be financed.

``Biscayne Landing has become an albatross to us,'' said Karen DeLeon who questioned whether this group, which has no development experience, can pull off a massive project. Residents such as Carol Keys said the amount the group is offering for the off-site development is too small.

``You're offering $7.5 million to a very broke city '' she said.

City officials have said they are willing to renegotiate the costs of the off-site improvements, but some indicated it was questionable whether Solar Mountain could secure the necessary funding for the project.

Douthit said the group plans to finance the $300 million venture through private investors.

Councilman Michael Blynn, who attended Tuesday's meeting, remained skeptical.

``I'm very wary of it. I want to make sure they have the money,'' he said. ``I want to see the money.''

The Solar Mountain Public Workshop Meeting will take place at 5:30 p.m. Wednesday at City Hall, 776 NE 125th St.

776 N.E. 125th Street north miami

The Miami Herald
Posted on Wed, Jul. 21, 2010

Plan for North Miami indoor ski resort takes a tumble

BY NADEGE CHARLES
The Miami Herald

Three months after Solar Mountain announced it would transform North Miami's Biscayne Landing site into a vast winter-themed amusement park, the project has been dropped altogether.

The group backed out, said Norman Canter, the project's founder, after several issues were not resolved with the trustee.

``The trust had not lived up to what we asked them to do,'' Canter said.

Solar Mountain was selected in April as the leading bidder to acquire the note from Wells Fargo on the 193-acre North Miami site off Northeast 151st Street and Biscayne Boulevard.

Canter said the group decided not to close June 30 on its $30 million bid, citing ongoing problems with Trimont Real Estate Advisors, which is serving as an advisor to Wells Fargo and acting as trustee for the property's main mortgage holder.

Representatives from Trimont could not be reached for comment.

Canter said Michael Swerdlow, the original developer of the 6,000-unit Biscayne Landing project, may be interested in purchasing the debt on the site, now that Solar Mountain is out.

``I have not bid. I have not talked to anybody. At this moment, I have no interest,'' Swerdlow said.

Since winning the bid, at several public meetings and townhall forums North Miami residents and some council member questioned if Solar Mountain had financial backing and criticized the group's close connections to Mayor Andre Pierre.

Marc Douthit, a principal in the project, is a former law partner of Pierre's. Another principal, Willis Howard, is Pierre's former campaign manager.

City officials who agreed three weeks ago to enter into negotiations with Solar Mountain say the group's sudden departure is a surprise. The group wanted the city to reduce the money it would owe in off-site obligations by more than $15 million.

`They sounded so sure and so confident that things were lined up, I'm caught off guard,'' said Councilman Scott Galvin whose district include the Biscayne Landing property.

``This now joins the ranks of dinosaur projects for this property.''

2011 Developments

RFP #43-10-11 (A)

REQUEST FOR PROPOSALS FOR THE REDEVELOPMENT OF THE BISCAYNE LANDING SITE FOR THE CITY OF NORTH MIAMI, FLORIDA

183.85 Acre Site Available

Stage 1 of a 2 Step Process

RESPONSES ARE DUE NO LATER THAN

Wednesday, July 6, 2011 at 3:00 PM (Eastern Time)

northmiamifl.gov/biscaynelanding

PUBLIC NOTICE: REQUEST FOR REDEVELOPMENT QUALIFICATIONS

The City of North Miami, Florida (City) invites qualified developers to submit proposals for the PURCHASE or LEASE of approximately 183.85 acres of uplands atop of a former municipal landfill and redevelop it into a premiere project that will provide significant benefit to the residents and complement the existing businesses in the City of North Miami.

Proposals must be submitted in accordance with a two-step process. Stage I entails submitting qualifications to either purchase and/or lease the property and if successful, Respondents will be invited to participate in the Stage II process to provide a detailed proposal.

Copies of the RFP documents may be obtained online at www.cityofnorthmiami.gov, www.demandstar.com or from the City of North Miami Purchasing Department located at 776 NE 125th Street 3rd floor, North Miami, FL 33161.

This document contains detailed and specific information regarding the property being offered for redevelopment, the City's goals with respect to the development of this site, and the two-stage process for developer selection.

PRE-PROPOSAL MEETING

A pre-proposal information meeting is scheduled on **Wednesday, June 15, 2011 at 10:00 AM** at the site location: ***Biscayne Landing Sales Center, 15045 Biscayne Blvd. North Miami, FL 33187.*** Interested parties will be given the opportunity to ask pertinent questions of City representatives concerning the project and submission requirements. Immediately after the information meeting, an optional tour of the property will be available.

CONE OF SILENCE

Be advised that this RFP is issued subject to the City of North Miami Code Section 2-312 prohibiting certain communications with the City as specified in the General Conditions of the RFP. The Cone of Silence refers to limits on communications held between Proposers and Proposer's representatives and City elected officials, management and staff during the period in which a formal solicitation is open.

The cut-off date for all questions is **Tuesday, June 28, 2011** at 4:00 PM. All questions must be sent via email to biscaynelandingrfp@northmiamifl.gov.

An original, twelve (12) copies and one (1) CD of the proposals are to be submitted in a sealed envelope bearing the name of the respondent, and the address as well as the title of the RFP no later than 3:00 P.M. (Eastern Time) **Wednesday, July 6th**

2011. Address your proposal to City of North Miami, Office of the City Clerk, 776 N E 125th Street, North Miami, Florida 33161.

The City reserves the right to accept any proposals deemed to be in the best interest of the City, to waive any irregularities in any proposals, or to reject any and/or all proposals and to re-advertise for new proposals. Any proposal deemed by the City to not meet the basic criteria of the two-stage process shall be rejected prior to the evaluation process. In evaluating each proposal, the City and its representatives shall consider, but not be limited to, the proposer's experience and qualifications, capabilities of the development team, the proposer's financial qualifications and strength, and financial return to the City, the market and economic viability of the proposed project concept and the appropriateness of the proposed uses and design relative to the immediate area and the City of North Miami generally.

We look forward to your active participation in this solicitation.

Sincerely,

Ruby C. Johnson

Ruby C. Johnson, CPPO
Procurement Director

SECTION 1.0
STAGE I: PROJECT BACKGROUND AND SITE INFORMATION

1.1 EXPLANATION OF PROCESS AND INTENT

The City of North Miami is pleased to present a distinctive and unique development opportunity to qualified developers. Biscayne Landing is a City-owned 183.85 acre site strategically located east of Biscayne Boulevard between NE 137th to NE 151st Streets. The site offers a grand opportunity to lease or purchase the largest undeveloped parcel of urban land in South Florida.

Because the City is interested in moving forward as expeditiously (and appropriately) as possible, the City has decided to implement this two-stage solicitation process. The benefits of a two-stage process are many including the ability to solicit qualified interest parties quickly, to encourage broad developer participation with minimal up-front time and entry cost, and to receive the widest range of concepts consistent with desired goals.

This RFP document includes a statement of redevelopment guidelines, an explanation of the proposed process and timelines, and detailed site information.

A Cone of Silence has been put into effect preventing potential proposers from speaking with members of the City Council, City Staff, CRA Staff, and Consultants for the CRA and Consultants for the City to include Appraisers, Surveyors, outside Legal Council or any RFP-related Evaluation Committee member. Potential Proposers may contact the Purchasing Director regarding this solicitation by emailing biscaynelandingrfp@northmiamifl.gov.

All questions must be emailed to biscaynelandingrfp@northmiamifl.gov. Responses will be posted on the City's website. The deadline for all questions is **Tuesday, June 28, 2011 at 4:00 PM.**

A strongly recommended, but not mandatory, pre-proposal conference and site tour and has been scheduled for **Wednesday, June 15, 2011**, to allow potential teams to present questions to staff. This meeting will be at the Biscayne Landing site located at 15045 Biscayne Boulevard, North Miami, FL 33187. Questions may also be sent in writing to biscaynelandingrfp@northmiamifl.gov . Where warranted, amendments to the RFP will be developed and posted on the City's website and DemandStar by Onvia.

An original, twelve (12) copies and a CD of the qualifications must be sealed and delivered on or before **Wednesday, July 6th , 2011** at 3:00 PM to**:**

Office of the City Clerk
City of North Miami, Room 221
North Miami, FL 33161
RFP 43-10-11 (A) Biscayne Landing Redevelopment Project
Stage I – Developers Qualifications

A short list of the most qualified teams will be asked to submit full redevelopment proposals in Stage II.

The City of North Miami reserves the right to accept any proposals deemed to be in the best interest of the City, to waive any irregularities in any proposals, or to reject any and/or all proposals and to re-advertise for new proposals. Any proposal deemed by the City to not meet the basic criteria of the Request for Proposals shall be rejected prior to the evaluation process. In evaluating each proposal, the City and its representatives shall consider, but not be limited to, the proposer's experience and qualifications, capabilities of the development team, the proposer's financial qualifications and strength, and financial return to the City, the market and economic viability of the proposed project concept and the appropriateness of the proposed uses and design relative to the immediate area and the City of North Miami.

1.2 BACKGROUND INFORMATION

The City of North Miami was incorporated in 1926 and is a political subdivision of the State of Florida. The City operates under a council-manager form of government and provides general government, public safety, public works, sanitation, library, recreation and cultural event services to over 58,000 residents. In addition, the City operates the Water and Sewer Utility, Storm water Utility and Solid Waste Services as enterprise activities. The Council is responsible for enacting ordinances, resolutions and regulations governing the City, as well as appointing the members of various advisory boards, the City Manager and City Attorney. The City Manager is responsible for the daily operations of the City and also for implementing policies adopted by the City Council.

The City of North Miami is located in northeast Miami-Dade County and is the County's 6th largest municipality.

1.3 REDEVELOPMENT GOALS FOR THE PROPERTY

Between the Atlantic Ocean and Biscayne Boulevard, bordered by Biscayne Bay, the City seeks to create a flagship development on one of the largest undeveloped parcels of publicly owned land in South Florida. The proposed development offers an exciting opportunity for the City to enter into a public-private partnership with a private developer to create a spectacular mixed use project in all of South Florida.

The City is looking for an innovative, vibrant project designed to the highest quality, which embraces green principles, and reflects the vibrant multicultural character of North Miami. The successful redevelopment will be expected to comply with all City regulations, including the provision of active parks and open space (no less than 20%) throughout the entire site. All new construction should be designed and built in accordance with the minimum standard of the US Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or any other nationally recognized, high performance green building rating system. Since the site is located within the City's Regional Activity Center (RAC) the proposed development should incorporate transit oriented development standards and help reinforce the City's vision to reduce auto dependence and

encourage alternative modes of transportation such as biking, car pooling and transit use.

Although the site is zoned for mixed use development, no specific uses are mandated. However, the City encourages proposals that combine an economically viable mix of uses that will define North Miami as a unique location and serve as a catalyst for redevelopment and job creation within the City. The proposal must offer a location that is inviting and attractive for local residents, visitors and business interests with a "Year Round" appeal! The City encourages master plan concepts that incorporate hotel facilities with adequate conference space to support educational, civic or business events as well as compliment the growing artistic and film community in and around the South Florida area. Additionally, the City currently has no hospital or major medical facility within its limits. As such, we encourage proposals that contemplate a mixed use project with a top notch space for outpatient care or bio-medical/technological research offices.

Section 4-402.B.1 of the City's Land Development Regulation permits the following uses:

- Active and passive parks and open space
- Community facilities
- Hotels
- Mixed use – any combination of 2 or more uses
- Nightclubs
- Offices
- Public uses
- Recreation indoor
- Residential
- Restaurants
- Retail sales and services

1.4 GENERAL MAPS

See Section 7.0 for Maps and Appendixes

1.5 RELEVANT SITE INFORMATION

The City of North Miami is centrally located in sunny South Florida, nestled midpoint between the urban centers of Miami and buffered on the east side by the cool tropical winds of the Biscayne Bay. North Miami offers:

- Convenient and easy access to major highways i.e. less than 3.5 miles to the I-95, US-441, and the Florida Turnpike;
- Superb access to two international airports—less than 25 minutes away from Fort Lauderdale-Hollywood International Airport and 15 minutes from Miami International Airport;
- Easy access to two major cruise ports – less than 30 minutes away from Port Everglades and 25 minutes from the Port of Miami;

- Close proximity to Downtown Miami / Miami Beach and South Beach and cultural/artistic offerings including orchestra, museums, opera and theater in Miami/Fort Lauderdale/West Palm Beach;
- Four professional sports teams: Florida Marlins, Miami Dolphins, Miami Heat, and Florida Panthers, close to Land Shark Stadium, American Airlines Arena;
- Nearby high stakes gambling on cruise ships and local gaming opportunities including Gulfstream Park, Dania Jai-Alai, and the Seminole Hard Rock Hotel and Casino.

The 183.85 acre redevelopment site ***(Appendix A, A.1 & A.2 - Site Maps)*** is located within the City's Regional Activity Center (RAC) and the North Miami Community Redevelopment Agency (CRA) District and is bounded by 151st Street (north), a mixture of retail and commercial (south), partial frontage on Biscayne Boulevard (west) and Florida International University Biscayne Bay Campus, David Lawrence K-8 Center, Alonzo Mourning Senior High School, the Oleta River Recreational Area and the Biscayne Bay (east). The Oaks Development which comprises of two condominium towers consisting of three hundred and seventy (373) units and a free standing parking garage structure is contiguous to the site and is immediately northeast. The site includes a free standing Administration Building that can be accessed through the 143rd Street entrance and a free standing sales center that is accessed from Biscayne Boulevard and 151st Street.

The redevelopment site offers:

- Frontage on Biscayne Boulevard with site access on Biscayne and 143rd Street and Biscayne and 151st Street;
- A strategic location on U.S.1/Biscayne Boulevard with scenic views of the Biscayne Bay;
- To the west of the subject site, also within walking distance is a neighboring retail plaza, known as Biscayne Commons with anchor stores such as Publix, TGI Fridays, Petco, Costco and a North Miami Branch of the US Postal Service;

- Adjacent properties to the North of the subject site are Florida International University (Biscayne Bay Campus) which currently houses the Medical School's Division of Research and Information. FIU has the only public medical school in South Florida and the fifth allopathic program in the entire State. The Biscayne Bay Campus also houses the School of Hospitality Management, Journalism and the School of Environment, Arts and Society (SEAS);
- Additional properties to the north are David Lawrence K-8 Center and Alonzo & Tracy Mourning Senior High School as well as the Oleta Start Park;
- Less than 2 miles away is the City's internationally acclaimed Museum of Contemporary Art (MoCA);
- North Miami is host to two major four year Universities: Johnson & Wales University (JWU), and Florida International University (FIU). There are is also Barry University Medical Science Office located within the City as well.

The site is included in the Miami-Dade County State-Designated Enterprise Zone and is therefore eligible for certain state and local financial incentives. The sites' enterprise designation is currently effective until December 31, 2015.

1.6 ZONING AND LAND USE

The property is zoned Planned Development District (PD) and has an underlying land use of Mixed Use. The PD zoning district is the City's most flexible zoning designation including but not limited to uses such as retail sales and services and mixed use. A full copy of the City's Planned Development District Zoning Requirement is included as ***Appendix B*** to this document.

The purpose of the PD zone is to provide a means of achieving greater flexibility in the utilization of land in a manner not possible through conventional mechanisms; to promote greater innovation and creativity in the development of land; to encourage more imagination and innovative project design; to ensure that the proposed uses are appropriate and compatible with adjacent land uses in accordance with the goals of the City's Comprehensive Plan; and , to promote a more desirable community environment by site and use specific guidelines imposed by the City Council through the Conditional Use Permit approval process.

The Charter of the City of North Miami limits the height of proposed structures specific to this site, to 25 stories, with a maximum permissible density of 40 dwelling units per acre (permitted uses discussed above). Additional density may be granted through conditional use approval for mixed use up to a maximum of an additional 15 dwelling units per acre provided certain mandatory and optional criteria are met consistent with the Land Development Regulations. The site is located within the boundaries of the City's Regional Activity Center ***(Appendix C)*** which is approved for the following development:

- 1,550,000 Office Uses
- 1,500,000 Industrial Uses
- 550,000 Commercial Uses

- 7,000 Residential Units
- 400 Hotel Rooms
- 1,043 Acres Oleta State Park
- 1,776 K-8 Students David Lawrence K-8 Center
- 1,200 9-12 Students Alonzo & Tracy Mourning Senior High School
- 8,199 College Students Florida international University – Biscayne Bay Campus

Transportation Considerations

The City is a designated TCEA (Traffic Concurrency Exemption Area). As such the site is not subject to traffic concurrency. Instead developers must proposed strategies that promote alternative modes of transportation such as: bike paths, bike parking, shuttle service, Transportation Demand Management Plan etc.

1.7 MASTER DEVELOPER OBLIGATIONS

Parks and Recreation Component

The selected Developer will also bear the obligation of financing and managing the development of a minimum of 37 acres of active and passive open space/recreation areas within the site. A minimum of 15 acres must be devoted to active recreation programming and facilities. The non-active or passive open space areas may not be used for storm water management. This park development will be timed in concert with the development of other site improvements. The City will program and maintain all constructed active recreation areas. Additional acreage devoted to open space, off site recreational improvements or financial contribution to the City for the management of on-site active recreation facilities by the developer will positively affect the evaluation of the proposal. The City has the discretion to reduce the minimum open space requirement depending on the overall benefits of the selected proposal.

1.8 LEGAL DESCRIPTION

See Appendix D

1.9 LEINS

The City of North Miami owns the unencumbered parcel in fee simple. The previous ground lease and development agreement have been terminated. There are no other valid liens or mortgages on the property. The City of North Miami is capable of conveying clean title.

1.10 ENVIRONMENTAL CONDITIONS

The Biscayne Landing site, also known as the former Munisport Landfill, is a Class I landfill. Land filling activities occurred from the 1940s through the 1980s. The presence of the solid waste has led to elevated levels of ammonia in the underlying groundwater and in the abutting wetlands east of the site.

In preparation of its Master Plan of the site, the Developer must take into account known environmental conditions pertaining to the site. The landfill closure has two (2) primary phases:

- Ground Water Remediation
- Overall Site Closure

The City and its Consultants are working with Department of Environmental Resources Management (DERM) and Florida Department of Environmental Protections (FDEP) on an approved groundwater remediation plan. Resolution is pending. Proposers are encouraged to review the enclosed Comprehensive Landfill Closure Plan (CLCP) for full details of the ground water remediation and overall site closure ***(Appendix E).***

Miami Dade Grant Funding

Miami-Dade County and the City of North Miami entered into a Grant Agreement to close the landfill and accomplish groundwater remediation at the site. Miami-Dade County originally provided the City $31,027,000 under the grant. A consultant selected by the City is under contract to design, build, and operate the groundwater remediation system for a period of five years. DERM is the approval agency for the groundwater remediation system and the project is currently in the design phase. As of March 31, 2011, there remains $24,414,622.05 in the grant for closure of the landfill. The enclosed Table R3-1 ***(Appendix F)*** shows the remaining grant balance for landfill closure and the specific line items to be funded.

The grant funds for landfill closure will be made available to the Developer. In order to draw funds from the grant, the Developer must demonstrate that construction activities meet the objectives of the landfill closure. For example, as shown on Table, draws can be made for providing an acceptable landfill cap and cover (Item 3a and 3b), and payments are based on the acreage capped and covered. If the Developer constructs a building or parking lot, which functions as the cap and cover, the Developer can submit a draw in the amount of the cap and cover for the acreage covered by the building or parking lot. Similarly, the other line items shown in Table R3-1 would be applied to the actual construction. The Comprehensive Landfill Closure Plan, Amendment 4 and the Closure Grant Funding ***(Appendix E and E.1)*** provide the bases of payment for each line item.

The landfill is required to be closed in accordance with the landfill closure permit (permit #0219514-009-SF). It is important to note that a site specific Alternate Procedure was obtained from the FDEP in July 2004. The Alternate Procedure allows for a permeable cover system in conjunction with site development.

Major components of the landfill closure that are reviewed and approved by the FDEP under the landfill closure permit include: grading, landfill cover and gas management, as well as financial assurance. Storm water management is also a major part of the closure of the landfill; however, because the closure will be completed through development of the Site, the South Florida Water Management

District (SFWMD) is taking the lead in overall storm water management approval at the State level.

The SFWMD has issued two Environmental Resource Permits (ERP #13-02206-P and #13-02402-P) for the Site. The first, which was issued in January 2004, is for the conceptual approval of the storm water master plan for the Site. Subsequent permit modifications have been obtained for specific construction activities. The other, ERP #13-02402-P, is for conceptual approval of wetland mitigation activities.

DERM's Water Control Section also approves and permits construction of storm water management systems at the site.

Buildings and structures to be constructed on-site will require gas management features. Utility lines also require a gas management system, as they could provide a path for the gas to enter into buildings. Ongoing gas monitoring is typically required.

As part of the process for permitting construction activities at the Site, the FDEP Landfill Closure Permit is modified from time to time to incorporate changes (new development and others).

Ongoing semi-annual water quality monitoring (groundwater and surface water), as well as quarterly gas monitoring, are required as part of the landfill closure permit and DERM requirements.

Although wetlands do not exist on the landfill footprint, there is a large wetland habitat abutting the site to the east. There is currently ongoing wetland monitoring in a portion of the wetland area. Regulatory agencies are also involved in review of development plans to ensure proper precautions are taken when constructing in the vicinity of the wetlands. It is likely that a conservation easement along the eastern property line will be required (typically 25 feet).

It is the responsibility of the each Proposer to complete their due diligence of the site.

1.11 DISPOSITION TERMS

The City will consider all proposals. Disposition revenues and revenue from real estate taxes directly generated by the project will, along with the character of the proposed development and the developer's capacities to implement the project, be a major criteria for selection.

The City intends to dispose of the property in "as is condition", with the developer responsible for any environmental remediation, demolition of existing structures and other site preparation costs.

END OF SECTION 1

SECTION 2.0
SUBMISSION REQUIREMENTS

2.1 RFP SCHEDULE

The anticipated scheduling of the RFP process is as follows:

RFP Release Date	Thursday, June 2, 2011
Pre-submission conference and site tour	Wednesday, June 15, 2011
Stage I proposals due	Wednesday, July 6, 2011
Interviews of Developers / Community Meeting	July 13 & 14, 2011 (Tentative)
City Council Consideration	TBD
Notification of short list for Stage II proposals	TBD
Stage II proposals due	September 20, 2011 (Tentative)
Interviews of shortlisted developers	TBD

This is a tentative schedule and subject to change.

2.2 PRE-PROPOSAL CONFERENCE

Proposers or their representatives are encouraged to attend a pre-proposal conference **Wednesday, June 15, 2011 at 10:00 AM**. The purpose of this conference is to allow City staff the opportunity to provide clarification and respond to questions from potential proposers relative to any facet of this RFP and the process.

To provide the City sufficient time to adequately prepare responses to proposer inquiries at the pre-submission conference, technical questions are to be submitted in writing via email to biscaynelandingrfp@northmiamifl.gov no later than 5:00 PM on ***Monday, June 13, 2011.*** Written responses to all questions will be discussed at the pre-submission conference and posted on the website shortly thereafter. Written addendum, if required, will be issued as soon as possible.

Due to the importance of the proposers having a clear understanding of the specifications/scope of work and requirements for this solicitation, attendance at this conference is strongly encouraged.

2.3 STAGE I REQUIREMENTS

All Stage I proposals submitted for consideration shall consist of all the forms provided in Section 4 which will address the following information along with other requirements of this Request for Proposals document:

1. **Qualifications: (25 points)**

   Experience and Track Record of the Developer

a. Identity of developer, including the developer's organizational structure and names and addresses of principals and partners. Composition and qualifications of other members of the development team, to the extent available at this stage.

b. The development team's professional qualifications and experience in development, financing and management of comparable projects. Please specify roles played by various key members of the team.

   Relevant project experience should be summarized in terms of:
   - Timeframe
   - Location
   - Use, Character
   - Size (building area)
   - Dollar amount
   - Percentage Ownership
   - Current Ownership / management status
   - Role played by the Proposer
   - Description of any relevant aspects of the project experience that might shed light on the proposer's ability to deal effectively and creatively with the types of issues anticipated to be encountered in this project.

c. List of owners and, for public-private projects, public sector participants, with contact names and telephone numbers of completed projects comparable to this magnitude and type for reference.

d. List of Architects &Planning firms that have been used in previous projects;

e. Experience in the development of projects in Miami-Dade County and south Florida;

f. Provide the Developer's experience with environmentally constrained sites;

g. Proposed approach to Local Business Participation and Outreach Effort

The City of North Miami is strongly committed to ensuring the maximum participation of qualified local business as defined in the City of North Miami Local Business Program on City projects as contractors and subcontractors for the procurement of goods and services.

Proposers are hereby notified that qualified local business should have the maximum opportunity to compete for and perform such contracts and subcontracts and provide material supplies for such contracts and subcontracts in accordance with the City's Local Business Program.

2. Demonstration of Financial Strengths (40 points)

Financial Capability and Level of Financial Commitment

a. Complete and substantiate evidence of the developer's financial capacity

to undertake the proposed project as demonstrated by the ability to finance other large-scale development projects using equity, loans, etc.

3. Project Concept: (35 points)

Extent to which Proposed Program would meet City Planning Objectives based on:

a. Preliminary Program Concept
- Mix, character and sizing of uses by number and size of buildings
- Key types of tenants or users
- Anticipated phasing
- General market contingencies that might affect programming of initial and future phases
- General discussion regarding Green construction practices anticipated

b. Brief discussion regarding the role the concept will play in operating as an attractive business interest with "Year Round" appeal spawning additional redevelopment and interest to the residents and the surrounding community.

Note: The City emphasizes that design concepts based on detailed architectural and engineering work will not be accepted at this stage. This refined work and related cost estimating would occur in Stage II. At this initial stage, the City expects prospective developers to focus on the full team's credentials in developing representative projects, describing the completed projects, the physical and market environment influencing the project concepts, and the actual contribution made by individual team members. Special attention should also be given to demonstrate the team's ability to secure construction and permanent financing for major real estate projects.

2.4 STAGE I SELECTION PROCESS

Evaluation of the Stage I Proposals will be performed by a committee assembled by the City Manager. The committee will evaluate the firms according to their proposals. The initial scores will be tallied and a short list will be developed consisting of the firms receiving the highest point ratings. The committee may conduct discussions with Proposers on the short list for the purpose of clarification to assure full understanding of, and responsiveness to, the solicitation requirements. These firms may be invited to an oral interview before the committee and members of the community. A short list of finalists will be assembled and presented to the City Manager who will prepare a report with recommendations to the City Council, in accordance with the applicable City of North Miami Code of Ordinances, who will make the final determination as to which Proposers will proceed to Stage ll of the RFP process. **No late entries will be considered.**

2.5 EVALUATION CRITERIA (STAGE I)

Stage l Proposals will be evaluated using the criteria listed below to ascertain those Proposals most qualified to proceed to Stage ll. The Items to be considered during the evaluation and their associated point values are as follows:

1. Experience and track record of the developer (and to lesser extent, that of other key members of the development team) focusing on quality of similar past development projects, ongoing technical and staff capacities, experience in public-private development projects, general reputation, and existing or intended Local Business Participation through team involvement or consultants. (25 points)

2. Financial capability and level of financial commitment as it would impact the likelihood of its implementation. (40 points)

3. Extent to which the proposed program would meet City planning objectives for the project including the ability to: act as a catalytic anchor to spawn additional appropriate redevelopment in the area; to incorporate a physical and/or programmatic public element that would allow it to serve as a defining destination showpiece for the City generally, and to serve as an exemplary model of green construction. (35 points)

It is anticipated that capability to successfully implement the project shall take precedence in qualifying proposals for selection for the second stage. To the extent that shortlisted proposers are well qualified and financially capable, the ability of the proposed project to meet the City's planning objectives and provide financial return to the City will take relatively greater precedence in the Stage II evaluation, with fulfillment of the City's planning objectives being given the greatest weight.

2.6 PROPOSED STAGE ll PROCESS

Stage II submittals will require conceptual site plans and design elevations, architectural guidelines, market analyses, traffic studies, financial proposals, utility and school impacts and other detailed considerations. Specific Guidelines will be finalized and made available once the shortlisted Stage l Proposals has been identified.

The Stage ll RFP is expected to require:

1. preliminary design concept (preliminary site plan, massing, height, building elevations and physical character);
2. preliminary feasibility and marketing analyses and financing plan;
3. preliminary environmental impact and traffic analysis;
4. preliminary utility and school impact analysis;
5. preliminary economic impact study;
6. preliminary proposed terms for the purchase or lease of the site;
7. preliminary project development schedule and values; and
8. team composition as it relates to City's Local Preference Outreach Effort

All Proposers electing to compete in Stage ll will be subject to a background check in conformance with the City of North Miami Code of Ordinances which requires the City of North Miami Police Department to conduct a background check of all persons or firms that are being recommended for award of a lease with the City of North Miami.

The Evaluation Committee will reconvene to hear Stage ll developer presentations and to receive staff and consultant findings. The Committee will then forward a recommendation (and/or ranking) based on the weighted criteria to the City Manager who will forward a report to the City Council for consideration. After considering the City Manager's report, committee recommendations and consultant findings, the City Commission will then select one or more preferred development teams for negotiations.

2.7 BONDING AND FINANCIAL GUARANTEE

Stage ll proposals will be (tentatively) due in the City Clerk's Office by **Tuesday, September 20, 2011** and must be accompanied by a cashier's check for $50,000 which is refundable to all of the unsuccessful Proposers.

In addition, for Respondents who propose to purchase the property, a good faith deposit of $1,500,000 will be required and is refundable if the City does not accept the offer.

For the successful Respondent who proposes to lease the property, a minimum payment of $17. 5 million dollars will be required along with a non refundable initial lease payment of a minimum of $1,500,000. In addition to an initial lease payment of $1,500,000, annual ground lease payments to the City will be required commencing on a date agreed upon by the City.

In either case, the successful Respondent will be responsible for the payment of any outstanding property taxes.

The Proposer who is ultimately successful in reaching a signed agreement with the City will be responsible for reimbursing the City for its documented expenses up to $1,000,000 for third party attorneys and consultants including the City's carrying costs for the property since the termination of the prior development lease agreement.

Prior to the issuance of a building permit, the person or firm proposing the development shall deposit with the Department of Community Planning and Development a cash bond, surety bond, or time deposit bond in an amount equal to one hundred and ten percent (110%) of the estimated cost of any and all improvements which may be required within dedicated rights of way and/or public facility easements to insure the placement thereof.

Ultimately, as construction of building are constructed, all said building construction must be bonded by the Developer of General Contractor.

2.8 OTHER CONSIDERATIONS

1. Developers interested in performing this service must exhibit considerable relevant experience with this type of work, and should emphasize both experience and capability of particular personnel who will actually perform the work.

2. It is the responsibility of each Respondent to redact all financial information (i.e., social security numbers and bank account numbers) from your RFP prior to

submittal, which is exempt from the Florida Statutes Chapter 119, (Public Records Law).

3. The selected Respondent will be responsible for reviewing existing Miami-Dade County, City of North Miami Codes, Resolutions and Ordinances and State of Florida Building Codes and for incorporating data into complete construction documents including final construction plans (working drawings), technical specifications, construction estimates, and related proposal documents necessary for the bidding and construction of the projects.

4. The Respondent shall agree to indemnify and hold harmless and pay on behalf of the City, for any liability and/or legal costs arising out of any claims and litigation related to the services provided, including any actions that may arise from allegations regarding determination of appropriateness or inappropriateness of care or any acts, errors or omissions related to the service provided.

5. The City reserves the right to approve substitutions for assigned personnel proposed for this engagement at its sole discretion.

6. All contact for information regarding the Proposal must be addressed to Ruby C. Johnson, Purchasing Director. Over the course of this RFP process, related contact with City or CRA Staff by a Respondent or their agent, other than as part of the evaluation process or for clarification purposes, will be grounds for **automatic disqualification** of that Proposer.

7. Each Proposer shall examine all Proposal Documents and judge for themselves all matters relating to the adequacy and accuracy of the documents. If the Proposer is of the opinion that any part(s) of the Proposal Document is incorrect or obscure, or that additional information is needed, he should request such information or clarification in writing to biscaynelandingrfp@northmiamifl.gov by **Tuesday June 28, 2011 at 4:00 PM** so that appropriate addenda may be issued, if necessary, and posted on the City's website for the benefit of all prospective Proposers.

8. No oral change or interpretation of the provisions contained in this Request for Proposal is valid whether issued at a pre-proposal conference or otherwise. Written addenda will be issued and posted on the City's website when changes, clarifications, or amendments to Proposal Documents are deemed necessary. The issuance of a written addendum is the only official method whereby interpretation, clarification or additional information can be given.

9. All materials submitted in response to the RFP become the property of the City of North Miami and will be returned only at the option of the City. The City has the right to use any or all ideas presented in any response to the RFP whether amended or not and selection or rejection of the Proposal does not affect this right, provided however, that any Proposal that has been submitted to the City Clerk's Office may be withdrawn prior to Proposal opening time stated herein, upon proper identification and signature releasing Proposal Documents back to Proposer.

10. After initial review of the Proposals, the City may invite any Proposer for an interview to discuss the Proposal and meet its representatives, particularly key personnel who would be assigned to the project. It is understood that the City shall incur no costs as a result of this interview, nor bear any obligation in further consideration of the Proposal.

11. Copies of Proposals submitted may not be viewed until fifteen (15) days after RFP opening date.

12. The City reserves the right to determine, at its sole discretion, whether any aspect of a Proposal satisfies the criteria established in this two-stage Request for Proposals. The City further reserves the right to negotiate with any person or firm submitting Proposals and reserves the right to reject any or all Proposals with or without cause. The City also reserves the right to waive minor technical defects in a Proposal. In the event that this Request for Proposals is withdrawn by the City for any reason, the City shall have no liability to any applicant for any costs or expenses incurred in connection with this Request for Proposals or otherwise. All such expenses incurred in the preparation of a Proposal shall be borne by the Proposer.

13. All proposals submitted shall be binding for one hundred eighty (180) calendar days following the opening date.

14. The City may, at its sole and absolute discretion, reject any or all proposals, re-advertise this RFP, postpone or cancel this RFP process at any time, or waive any irregularities in this RFP or in the proposals received as a result of this RFP. The determination of the criteria and process whereby proposals are evaluated, the decision as to who shall receive a contract award, or whether an award shall ever be made as a result of this RFP, shall be the sole and absolute discretion of the City. In no event will any successful challenger of these determinations or decisions be automatically entitled to the award of this RFP.

15. The submittal of a proposal will be considered by the City as constituting an offer by the Respondent to provide the services described in this RFP.

16. Any Respondent, who desires to change his/her proposal, shall do so in writing. Any request for changes shall be received prior to the date and hour of the proposal opening. The Respondent's name and the RFP # shall appear on the envelope.

17. A proposal may be withdrawn prior to the date and hour of the proposal opening. Any proposal not so withdrawn shall, upon opening, constitute an irrevocable offer, for the period of ninety (90) days after the date of the proposal opening, to provide the proposed services.

18. No unsolicited modifications to proposals will be permitted after the date and hour of the proposal opening.

END OF SECTION 2

The Miami Herald WEDNESDAY, AUGUST 10, 2011 | EDITOR: JANE WOOLDRIDGE jwooldridge@MiamiHerald.com | 305-376-3629 H1

NORTH MIAMI | DEVELOPMENT

Rivals fight over Biscayne Landing

■ Efforts to secure a new developer for the site at Biscayne Boulevard and Northeast 151st Street are moving forward again with two competing proposals.

BY ELAINE WALKER
ewalker@MiamiHerald.com

Developers Michael Swerdlow and Ian Bruce Eichner both have similar ideas for what they would do with the former Biscayne Landing site.

Plans submitted to the city of North Miami last month and only just unveiled to the public, reveal both have designs on turning the nearly 184-acre site into a mixed-use project with up to 1 million square feet of retail space, at least one hotel and an adult congregate living facility.

Residential apartments or condos will be in the mix, but how much is still up in the air. Swerdlow sees an opportunity for about 3,000 units in as many as 50 buildings — about half of what was originally approved for the site.

"It might take 10 years," Swerdlow said. "But I know there is room to build them."

Eichner's vision calls for a mix of student dormitories (Florida International University's Biscayne Bay campus is just to the east), luxury rentals and long-term corporate apartments but doesn't include specific numbers or time frame.

When it comes to commercial development, Swerdlow is proposing a TV and film production studio and a research and development facility. Eichner has plans for an outpatient medical office pavilion and office space for service providers related to higher education.

Where the proposals end up is too early to tell. But despite the property's troubled history, both Swerdlow and Eichner are ready to take on the challenge of the former Superfund toxic-waste landfill site, which has seen a laundry list of failed development proposals.

"Complex problems are something we handle very well," said Michael Merola, general counsel for The Continuum Company, Eichner's New York–based development firm that specializes in developing high-rise condos, some of which are part of mixed-use projects containing hotel, retail and office space. The company is known locally as the developer of the Continuum on South Beach.

For Swerdlow it's a case of things coming full circle. He conceived the plan for Biscayne Landing — east of Biscayne Boulevard between 137th and 151st streets —and signed a lease with the city

• TURN TO BISCAYNE, 6B

ECONOMY

NORTH MIAMI | DEVELOPMENT

Both applicants propose mixed-use plan

• BISCAYNE, FROM 8B

in 2002, then brought in Boca Developers as his partner in 2003 and cashed out three years later. His résumé of South Florida projects include Oakridge, a major retail center in Hollywood; Las Olas Riverfront, a mixed-use project in Fort Lauderdale; and Dolphin Mall in west Miami-Dade.

"The attractions to the site are still the same," Swerdlow said. "It's 190 acres of land east of U.S. 1 right in the middle of everything."

In an effort to gain the support of North Miami city officials, both sides have brought in people with ties to the community. Swerdlow's team includes Haitian brothers Emanuel and Jean Cherubin, the owners of TeleAmerica, a broadcasting network that airs in South Florida and the Caribbean; and Frank Schnidman, former head of the North Miami Community Redevelopment Agency.

Eichner is working with Dr. Smith Joseph, a leader in the Haitian-American medical community, and Florida International University Prof. Sylvan Jolibois, an urban planning consultant who has done multiple projects for the city and the CRA.

City Council member Scott Galvin remains optimistic that the city can still attain its dream for redeveloping the site, as long as it chooses a developer with the right financial capability.

"We have to have a Plan B this time," Galvin said. "We had all of our eggs in one basket that was condo-oriented; when the condo collapsed, we didn't have anywhere to turn to. We can't afford to fail again."

Both developers were deemed qualified by the city's real estate consultant to move forward. Although they were not required to be specific about their development plans, each team had to provide evidence of available financing.

The developers must submit more detailed plans by Sept. 20. "Anything that's proposed has to be backed up with an independent market study to show that there is support for this kind of use," said Jack Winston of Goodkin Consulting, which is serving as the city's real estate consultant.

Local real estate analysts agree that the demand is there for retailers, who can't find space in the Aventura market and will settle for something close. But there are some skeptics about whether 1 million square feet may be more than the market can handle.

"It seems like there's an extra 300,000 square feet there, knowing who the potential players are," said Beth Azor of Azor Advisory Services, a retail broker. "The more square footage you build, the lower the rents. Less is more when it comes to rents."

Bets are leaning toward Swerdlow's ability to pull the deal together.

"Michael has been very successful at public-private partnerships; he never comes out with the short end of the stick," said Jack McCabe of McCabe Research and Consulting. "He probably has a head start."

Miami Herald staff writer Nadege Green contributed to this report.

Developer Michael Swerdlow's proposal

Residential: About 3,000 units in as many as 50 buildings of low-, mid- and high-rise construction.

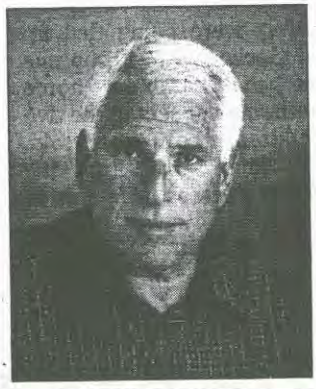
Retail: Up to 1 million square feet featuring a mix of big box retailers, department stores, fitness center, apparel, sporting goods, groceries and entertainment

Assisted Living Facility: Up to 300 nursing beds and 500 assisted beds

Commercial: 200,000 square foot television and film production studio, 20,000 square foot corporate office and up to 200,000 square feet of research and development offices tied to local universities.

Hotel: Two hotels with about 150 rooms each, one a business hotel and one a full-service hotel

Community: 7,000 square foot community center and 25-acre park



EMILY MICHOT/MIAMI HERALD STAFF

SWERDLOW

Developer Ian Bruce Eichner's proposal

Residential: Mix of student housing, luxury rentals (with conversion to condo based on market demand), long-term corporate lease and assisted living facility

Retail: 750,000-1 million square feet of retail, including big box retailers, luxury outlets, restaurants, boutique shops and community-based franchises

Hotel: One or more three- or four-star hotels with at least 150 rooms

Office: Outpatient medical pavilion, office space for business affiliated with higher education, movie or film production facilities; biomedical research offices

Community: Park and bike paths

Entertainment: Facility featuring a Cirque du Soleil or Blue Man-style show; possible casino.

C.W. GRIFFIN/MIAMI HERALD STAFF

EICHNER

ECONOMY

Fed's gloomy outlook doesn't stop market rally

• FED, FROM 8B

damping effect of higher food and energy prices on

period.

Few analysts, however, expected a pledge to keep rates so low for so long. The

Standard & Poor's took away the gold-plated AAA rating, and it suggested that investors still see U.S. bonds as the

Fed said, keeping its options close to the vest.

Among the tools the Fed is thought to be considering is lowering the interest rate

APPENDIX F:
Environmental Regulations

18-2.018 Policies, Standards, and Criteria for Evaluating, Approving or Denying Requests to Use Uplands.

Applications to use Trustees-owned uplands and decisions to approve or reject such applications will be based on all of the following:

(1) Public Interest Evaluation. The decision to authorize the use of Trustees-owned uplands requires a determination that such use is not contrary to the public interest. The public interest determination requires an evaluation of the probable impacts of the proposed activity on the uplands. All direct and indirect impacts related to the proposed activity as well as the cumulative effects of those impacts shall be taken into consideration. Relevant factors to be considered include: conservation, general environmental and natural resource concerns, wetlands values, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, recreation, aesthetics, economics, public health and safety, relative extent of the public need for the proposed use or activity, reasonable alternative locations and methods to accomplish the objective of the proposed use or activity, potential detrimental effects on the public uses to which the area is otherwise suited, the effect on cultural, scenic and recreational values, and the needs and welfare of the people.

(2) General Policies.

(a) Uplands may be leased or subleased, managed by use agreement, encumbered by easements or licenses, disposed of to either the public or private sector, or may be retained and managed by the division.

(b) All uplands shall be administered, managed, or disposed of in a manner that will provide the greatest combination of benefits to the general public.

(c) Any use of uplands must comply with specific statutory or legislative mandates or other legal restrictions governing the property.

(d) Any approval granted for any activity on uplands shall contain such terms, conditions, and restrictions as deemed necessary to provide for responsible management that will protect and enhance uplands.

(e) The Board will not grant any form of authorization for a period greater than is necessary to provide for reasonable use of the land for the existing or planned life cycle or amortization of the improvements.

(f) Any authorization to use uplands shall be subject to cancellation if the applicant converts the facility to a use that was not authorized or if the land ceases to be used for the purpose which was approved. In addition, the Trustees may require removal of the structure and restoration of parcel to its natural state, and administrative fines and damages as stipulated by rule.

(g) Unless otherwise provided herein, no activity may commence until the authorizing document is executed by the Department.

(h) All activities on uplands shall implement applicable best management practices that have been selected, developed, or approved by the Trustees or other land managing agencies.

(i) Equitable compensation shall be required when the use of uplands will generate income or revenue for a private user or will limit or preempt use by the general public. The Trustees shall award authorization for such uses on the basis of competitive bidding rather than negotiation unless otherwise provided herein or determined by the Trustees to be in the public interest pursuant to the results of an evaluation of the impacts, both direct and indirect, which may occur as a result of the proposed use. Relevant factors to be considered in the evaluation shall include those specified in subsection 18-2.018(1), F.A.C. The Trustees shall make its final determination at a regularly scheduled meeting of the Governor and Cabinet. The Trustees reserve the right to reject any and all bids.

(j) The successful bidder shall pay all costs of legal advertisement, title work, taxes or assessments for any activity requiring such items.

(k) Appraisal services shall be obtained through the Division in accordance with the procedures and requirements provided in Chapter 18-1, F.A.C., except as follows:

1. For single family or platted lots, any state-certified appraiser can be solicited and used for appraisal services.

2. The appraisal service fee shall be paid by the applicant. No appraisal work will proceed until the Division receives the appraisal fee. When appraisal services are required prior to an applicant being identified, funding will be provided by the requesting agency or the Division and shall be reimbursed to that agency or the Division by the purchaser, lessee or sublessee. If the applicant withdraws its application after appraisal services have begun and any appraisal expenses have been incurred, the appraisal fee will be non-refundable. If no services have begun and no expenses have been incurred, the appraisal fee is refundable upon written request of the applicant. For sales for which the applicant paid for the appraisal services and submitted a qualified competitive bid but the bid was awarded to another bidder, the winning bidder shall reimburse the applicant who paid for the appraisal services.

(l) Single use properties may be managed for compatible secondary uses as long as those uses do not interfere with or detract from the designated primary purpose.

(m) Individual resources on multiple use properties may be managed at less than full potential in order to provide the most beneficial combination of uses.

(n) It shall be the Trustees policy to provide for public access upon uplands to the greatest extent practicable unless the Trustees determine that public access is not in the public interest or conflicts with the parcel's management criteria or plan.

(o) Requests by local governmental agencies for any activity on uplands shall be by formal action by the appropriate governing board.

(p) All authorizations must contain a provision allowing for access for inspection by department staff.

(3) Standards and Criteria. The following standards and criteria must be met for approval of the following described authorizations to use state-owned uplands.

(a) Leases and Subleases.

1. Unless determined by the Trustees to be in the public interest, the term of any lease or sublease shall not exceed a maximum term of fifty years. Specific terms are as follows:

a. Sublease terms shall not exceed 50 years or a period conterminous with the principal lease if the remaining lease term is less than 50 years.

b. The standard lease term for agricultural or grazing leases shall be six years.

c. Oil, gas, and other mineral interest leases shall be limited to a primary term of ten years.

2. Leases and subleases shall be noticed pursuant to Chapter 18-2, F.A.C., and applicable law.

3. Lessees and sublessees shall be responsible for acquiring all permits and paying any and all ad valorem taxes, drainage, special assessments or other taxes.

4. Lessees and sublessees shall be required to provide level one environmental reports and information regarding uses of land which may involve hazardous or toxic waste.

5. Lessees and sublessees shall be responsible for preparing either a management plan or an operational report as follows:

a. All state agency lessees and sublessees, through the sublessor, shall prepare and submit to the division parcel-specific management plans in accordance with Rule 18-2.021. No physical alteration of the leased premises shall occur unless such activity has been authorized via an approved management plan.

b. All other lessees except agriculture, grazing and oil and gas lessees shall prepare a site-specific operational report which shall be prepared and submitted to the division by lessee within a year of lease execution or other dates as designated in the lease. The operational report shall include the following:

I. The common name of the property, if any;

II. A map showing the approximate location and boundaries of the property, the location of any structures or improvements to the property, and a statement as to whether the property is adjacent to an aquatic preserve or a designated area of critical state concern or an area under study for such designation;

III. The legal description and acreage of the property;

IV. The land acquisition program, if any, under which the property was acquired;

V. The designated single or multiple use management for the property, including use by other managing entities;

VI. The approximate location and description of known renewable and non-renewable resources of the property including archaeological and historical resources; fish and wildlife resources, both game and non-game; mineral resources (such as oil, gas, phosphate, etc.); and natural resources (such as virgin timber stands, scenic vistas, rivers, streams, etc.);

VII. A description of past and existing uses, including unauthorized uses of the property;

VIII. A description of alternative or multiple uses of the property considered by the lessee and a statement detailing why such uses were not adopted;

IX. An assessment of the impact of planned uses on the renewable and non-renewable resources of the property and a description of the specific actions that will be taken to protect, enhance and conserve those resources and to compensate/mitigate the damage that is caused by such use;

X. A description of management needs and problems on the property;

XI. A description of the management responsibilities of each entity and how such responsibilities will be coordinated;

XII. A statement concerning the extent of public involvement and local government participation, if any, in the development of the plan; and

XIII. A statement of gross income generated, net income and expenses.

c. For agricultural and grazing leases, a certified agricultural operational report, documenting the status of operations on the leases area, shall be submitted to the division annually, one month prior to the end of the lease year. Such report shall include, at a minimum, the following:

I. The kind and location of the crop or livestock grown;

II. The stewardship practices utilized;

III. The capital improvements completed;

IV. A schedule for installing future improvements;

V. Types and amounts or pesticides, herbicides, and fertilizers used; and

VI. A detailed description of how the implementation of best management practices were carried out during the lease year including, but not limited to, muck soil measurement and plans for best management practices for the following year.

d. Oil, gas, or mineral lessees shall provide a notarized annual report to the Trustees in accordance with Section 253.511, F.S., documenting the status of operations on the leased area. Failure to submit this report within 90 days following the anniversary of the respective lease shall be grounds for termination in accordance with the terms and conditions of the lease.

6. Additional specific criteria for subleases are as follows:

a. Subleases shall be in compliance with the lease and management plan or operational report for the master lease.

b. Subleases of conservation lands which are 160 acres or greater in size shall be reviewed by the council.

7. Additional specific criteria for agricultural and grazing leases are as follows:

a. New agricultural lessees shall totally compensate the vacating lessees for ratoon, stubble or other residual crops.

b. Site-specific minimum stewardship measures shall be required.

c. The lessee will not cause or allow damage to the leased premises or remove soil, sod, muck, or other materials from the leases premises.

8. Additional specific criteria for oil and gas leases are as follows:

a. After the cessation of any oil, gas, or mineral lease, the site shall be restored by the lessee to the original condition to the greatest extent practicable.

b. An oil and gas lease within the corporate limits of any municipality; or, in the tidal waters abutting or immediately adjacent to the corporate limits of a municipality; or, within 3 miles of the corporate limits of a municipality may be approved only if a resolution of approval has been received from the municipality. In addition, a public hearing, in the vicinity of the lease, must be held if the lease is within 3 miles of an incorporated city, town or, beach.

c. An oil and gas lease on an improved beach, as defined in Section 253.61, F.S., located outside of an incorporated town or municipality; or, abutting or immediately adjacent to an improved beach within the tidal waters of the state; or, within 3 miles of an improved beach into such tidal waters of the state, may be approved only if a resolution of approval has been received from the county within which the beach is situated.

d. Applicants for mineral leases, other than oil and gas, shall obtain written consent from the owners of the surface overlying the mineral interest.

e. Commencement of the required mitigation or other action necessary to satisfy net positive benefit will be required only if and when the lessee conducts any physical activity on the surface of the leased property or if the grant of rights under the oil and gas lease precludes or affects the use of the surface of the leased property for any use other than oil and gas exploration.

f. Drilling, exploration, or production of oil and gas is prohibited within the boundaries of the South Florida Water Management District’s water conservation areas on lands where title is vested in the Trustees.

g. Oil, gas or mineral leases shall clearly specify the particular mineral to be drilled or mined and the manner in which it may be extracted.

h. Prior to extracting any oil, gas, or minerals, lessees may be required to provide financial security against damages caused by its activities on uplands. Examples of acceptable forms of security include a surety or property bond, an irrevocable letter of credit, or payment into the Department of Environmental Protection’s Petroleum Exploration and Production Bond Trust Fund. Examples of factors to be considered by the Trustees in determining whether to require such security include: the potential for air, water, or ground pollution; destruction of wildlife or marine productivity; and damage which impairs the health and general welfare of the citizens of the state. Such security as provided in Section 253.571, F.S., shall be forfeited to the Trustees to pay for any damages caused by such mining or drilling activities. The department shall notify the lessee and give lessee time to take corrective action before applying the security to correct the violation. Should the lessee not respond in the time provided, or if an emergency situation

exists, the department shall take immediate remedial or corrective action without further notice.

i. Lessees shall complete the drilling of at least one test well on the leased area within the first 2 1/2 years of the lease term and complete drilling of at least one additional well every 2 1/2 years thereafter until the total number of wells drilled equals one half the number of sections encompassed in the lease. The lessee shall provide a written designation describing the two sections of land to which such well shall apply. For purposes of this provision a well drilled on lands validly pooled with state leasehold acreages shall be considered to have been drilled on the respective Trustees' lease.

j. If no test well for an oil or gas lease is completed within the first 2 1/2 years of the lease term or each succeeding 2 1/2 year period, the lease shall become void at the end of the applicable 2 1/2 year period as to all of the land covered by the lease, except for that upon which wells have been drilled in accordance with the provisions of Section 253.55, F.S.

k. Wells required in the several periods of said lease shall be drilled in accordance with the provisions of Chapter 253, F.S., in an efficient, diligent and workmanlike manner, and in accordance with the best practice, to a depth of 6000 feet before the abandonment thereof, unless oil or gas has been found in paying quantities at a lesser depth.

l. Drilling operations shall be conducted in accordance with the provisions of Section 253.55, F.S.

m. The 2 1/2 year drilling periods described in j. and k. above shall be extended upon documentation by the applicant prior to expiration that additional time is necessary to obtain all permits. Such additional time may not exceed one year.

(b) Disposal of Trustees-owned Uplands.

1. Examples of conditions under which the Trustees may convey an upland parcel include:

a. The parcel was vested in the state pursuant to Chapter 18296, Laws of Florida, 1937 (Murphy Act), and is 10 acres or less in size and has a market value of $250,000 or less; or

b. The parcel has been designated surplus pursuant to Chapter 253.034, F.S.; or

c. The Trustees determine that conveyance of the parcel by sale, gift or exchange provides a greater benefit to the public than its retention in state ownership.

2. Parcels to be conveyed pursuant to this subsection shall be noticed in accordance with Chapter 18-2, F.A.C., and applicable law.

3. Conveyance of property pursuant to this section shall be in accordance with the following requirements:

a. Property and improvements shall be sold "as is", with no warranties nor representations whatsoever.

b. The cost of title insurance, documentary stamp tax, recording fees, any property taxes due, abstract, title certificate, survey, legal advertisement and purchaser's legal fees shall be the responsibility of the purchaser.

c. Property shall be conveyed by quitclaim deed without warranties and shall reserve or contain a reservation prescribed in Section 270.11, F.S., unless waived by the Trustees pursuant to Section 270.11(2)(a), F.S., or exempt from the requirement for reservation pursuant to subsection 253.03(3) or Section 253.62, F.S.

d. Closings shall be in accordance with a sales contract executed by the Trustees.

4. A state agency or the Division may apply for an exchange of state-owned uplands for a parcel of privately-owned uplands by certifying:

a. That it needs a parcel of private land for a particular use; and

b. That it manages uplands vested in the Trustees which it wishes to use for a state agency exchange. If no uplands managed by the state agency can be identified as excess to its management needs, then uplands which have been selected through the land disposal process may be used instead.

5. Other governmental agencies may apply for an exchange by:

a. Certifying that they need a parcel of Trustees-owned uplands for a specific project; and

b. Certifying that they own or can acquire exchange property suitable to the Trustees.

6. Exchanges may be applied for by private landowners only if they own or can acquire land on an approved state acquisition list and the parcel sought by the private landowner has been selected for conveyance through the land disposal process.

(c) Use Agreements.

1. Use agreements may be executed when it is determined that the use or management of uplands does not require a lease, sublease, easement, or other similar form of approval.

2. Use agreements shall be limited to a term of five years.

3. Geophysical testing agreements shall be limited to a term of one year.

4. Geophysical testing on uplands shall require a use agreement from the Trustees and a permit for geophysical testing acquired

from the Bureau of Geology, Department of Environmental Protection pursuant to Chapter 62C-26, F.A.C.

5. A separate approval for geophysical testing shall not be required when geophysical operations are conducted by the current leaseholder upon land subject to a valid oil, gas or mineral lease granted by the Trustees.

6. The protection of uplands from unnecessary environmental damage shall be achieved by requiring all parties who conduct geophysical testing to strictly follow the Bureau of Geology's guidelines, procedures, and operational requirements for geophysical testing as specified in Chapters 62C-25 and 62C-26, F.A.C.

7. After completion of any geophysical testing upon uplands, the parcel shall be returned to the original condition prior to the conducting of geophysical testing.

8. Geophysical testing for oil and gas within the boundaries of the South Florida Water Management District's water conservation areas on lands where title is vested in the Trustees is prohibited.

9. The applicant for a geophysical use agreement shall submit a field operations report to the Department of Environmental Protection, Bureau of Geology, within thirty days after the completion of any survey activities conducted under a geophysical testing use agreement. The report shall contain the following:

a. A narrative description of the work performed, including the type of data obtained and the types of logs produced from the operations;

b. Maps, plats or charts indicating the area in which any exploration was conducted, specifically identifying the lines of geophysical traverses and/or locations where geophysical exploration was conducted, accompanied by a reference sufficient to identify the data produced from each activity;

c. The dates and times during which the actual exploration was performed;

d. The nature and location of any environmental hazards created by the activity;

e. A description of any damage to or loss of state property which resulted from the reported activities; and

10. Upon written request, the applicant shall provide to the Bureau of Geology, at no cost, one copy of the information described in paragraphs a. through c. below, if available. Where possible, the information may be furnished in the form of paper copies as opposed to mylar, film or tape. Duplicates shall be furnished upon request at cost of reproduction. The Bureau of Geology shall also have the right to inspect and/or copy at cost, factual and physical exploration results, logs, records and any other processed records excluding interpreted data, including but not limited to the following:

a. Blackline or blueline paper copies of final stacked sections and migrated sections. Paper copies of section chosen for State use shall be made at one-half scale, (2 1/2 inches per second);

b. Post-plot maps at a scale of 1:48,000 (1 inch equals 4,000 feet) whenever possible or a readable and legible scale for the dimensions of the survey; and

c. Gravity data reduced or compiled in profile form and magnetometer data corrected for International Geomagnetic Reference Field in profile form whenever available. Data shall include how reductions and corrections were made.

(d) Easements.

1. If a requested easement is located on lands under lease, sublease, management or other use, the applicant shall obtain permission from the authorized managing entity for the easement prior to application to the Trustees.

2. Applications for easements shall be noticed pursuant to Chapter 18-2, F.A.C., and applicable law.

3. If the requested easement is for the benefit of the authorized managing entity and the lease, sublease, etc. provides for the granting of an easement related to the functional use of the property, the authorized managing entity for the property may process and grant the easement. In such case, a copy of any easement granted shall be provided to the Division by the managing entity.

(e) Release of Reservation, Deed and Dedication Restrictions and Reverters

1. The right of entry for the purpose of exploration and for phosphate, minerals, metals and petroleum or any interest as reserved pursuant to Section 270.11, F.S., in any contract or deed for sale of land executed by the Trustees is hereby released, provided that the property is, or ever has been, a contiguous tract of less than 20 acres in the aggregate and under the same ownership. This provision does not release the Trustees' oil, gas, or other mineral interest.

2. The right of entry for the purpose of exploration for phosphate, minerals, metals and petroleum or any interest as reserved pursuant to Section 270.11, F.S., in any contract or deed for sale of land executed by the Trustees for parcels 20 acres or greater shall be released, in whole or in part, to the record surface owners, provided the owners certify that the parcel will be a permanent building site and the land use will not involve phosphate, mineral, metal or petroleum extraction. This provision does not release the Trustees' oil, gas, or other mineral interest.

3. Canal and drainage reservations as reserved by the Trustees shall be released to the record owner(s), provided recommendation from the water management district with jurisdiction has been obtained, and the Trustees determine there is no further need for the reservation.

4. Road right-of-way reservations as reserved by the Trustees shall be released to the record owner(s), provided recommendation from the transportation authority with jurisdiction has been obtained, and the Trustees determine there is no further need for the reservation.

5. Deed or dedication restrictions or reverters shall be released to the record owner(s) if the Trustees determine that there is no longer any present or future public purpose for retaining them and that the affected parcel contains no fragile environmental, historical, archaeological or recreational resources which would require protection through continued enforcement of the restrictions or reverters.

(f) Letters of authorization.

1. Letters of authorization are issued upon receipt by the Division of a written request for an incidental, one-time use, and a determination by the Division that the requested activity will result in no permanent alteration of Trustees-owned uplands, and will not adversely affect the management of the land.

2. Letters of authorization shall contain a condition that the grantee accept all liability associated with the proposed use and shall be countersigned by the grantee.

Specific Authority 253.03(7)(a) FS. Law Implemented 253.001, 253.02, 253.03, 253.034, 253.04, 253.111, 253.115, 253.42-.44, 253.47, 253.51-.61, 253.62, 253.77, 253.82, 259.035, 270.07, 270.08, 270.11 FS. History–New 6-4-96, Amended 4-17-02, 5-15-08, 5-29-08.

Section 4(f)

Program Overview

Section 4(f) Policy paper

Section 4(f) Programmatic Evaluations

Section 4(f) Guidance and Legislation

More Information
Website Feedback

Overview

The Department of Transportation Act (DOT Act) of 1966 included a special provision - Section 4(f) - which stipulated that the Federal Highway Administration (FHWA) and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

- There is no feasible and prudent alternative to the use of land.
- The action includes all possible planning to minimize harm to the property resulting from use.

Section 4(f) of the Department of Transportation (DOT) Act of 1966 was set forth in Title 49 United States Code (U.S.C.), Section 1653(f). A similar provision was added to Title 23 U.S.C. Section 138, which applies only to the Federal-Aid Highway Program.

Since 1966, Section 4(f) has undergone several changes. The first of these changes was a 1968 amendment to Section 4(f)'s wording-an effort by lawmakers to reconcile the language of 49 U.S.C. Section 1653(f) and 23 U.S.C. Section 138. The wording in the two provisions was somewhat different; therefore, the Federal-Aid Highway Act of 1968 amended the wording in both sections to be consistent. The second change was a result of the 1983 recodification of the DOT Act, in which Section 4(f) became 49 U.S.C. Section 303.

In August 2005, Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), made the first substantive revision to Section 4(f) since the 1966 US Department of Transportation Act. Section 6009, which amended existing Section 4(f) legislation at both Title 49 U.S.C Section 303 and Title 23 U.S.C. Section 138, simplified the process and approval of projects that have only de minimis impacts on lands impacted by Section 4(f). Under the new provisions, once the US DOT determines that a transportation use of Section 4(f) property results in a de minimis impact, analysis of avoidance alternatives are not required and the Section 4(f) evaluation process is complete. Section 6009 also required the US DOT to issue regulations that clarify the factors to be considered and the standards to be applied when determining if an alternative for avoiding the use of a section 4(f) property is feasible and prudent. On March 12, 2008 FHWA issued a Final Rule on Section 4(f), which clarifies the 4(f) approval process and simplifies its regulatory requirements. In addition, the Final Rule moves the Section 4(f) regulation to 23 CFR 774.

For questions or feedback on this subject matter content, please contact MaryAnn Naber. For general questions or web problems, please send feedback to the web administrator.

APPENDIX G:
Traffic Data and
Existing Conditions Analysis

Roadway Segment Counts

RJ Behar & Company
6861 S.W. 196 Avenue, Suite 302
Pembroke Pines, Fl 33330

NE 135th St
East of Biscayne Blvd
Date Start: 06-Oct-10

Start Time	06-Oct-10 Wed	EASTBOUND Morning	EASTBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	WESTBOUND Morning	WESTBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		11	28			4	40				
12:15		7	48			1	54				
12:30		14	53			7	38				
12:45		14	26	46	155	1	52	13	184	59	339
01:00		13	60			4	54				
01:15		6	37			1	55				
01:30		12	48			6	40				
01:45		8	50	39	195	2	42	13	191	52	386
02:00		10	41			1	49				
02:15		3	47			2	53				
02:30		0	54			4	50				
02:45		4	56	17	198	1	57	8	209	25	407
03:00		1	56			0	40				
03:15		0	56			1	36				
03:30		2	46			3	31				
03:45		1	53	4	211	0	30	4	137	8	348
04:00		2	56			1	34				
04:15		1	66			3	45				
04:30		2	56			8	40				
04:45		2	56	7	234	2	43	14	162	21	396
05:00		1	66			3	59				
05:15		1	80			8	44				
05:30		2	87			8	47				
05:45		3	64	7	297	11	43	30	193	37	490
06:00		6	77			18	48				
06:15		6	72			20	40				
06:30		8	68			39	28				
06:45		12	77	32	294	29	42	106	158	138	452
07:00		14	62			44	35				
07:15		14	68			62	44				
07:30		19	58			44	36				
07:45		20	78	67	266	64	32	214	147	281	413
08:00		20	52			63	32				
08:15		28	62			80	23				
08:30		30	40			57	28				
08:45		31	54	109	208	56	18	256	101	365	309
09:00		23	47			43	20				
09:15		25	52			48	24				
09:30		30	53			56	11				
09:45		22	46	100	198	41	19	188	74	288	272
10:00		34	42			31	18				
10:15		20	40			42	17				
10:30		24	32			32	12				
10:45		22	28	100	142	32	17	137	64	237	206
11:00		37	29			44	7				
11:15		32	26			40	13				
11:30		33	14			40	6				
11:45		46	20	148	89	39	7	163	33	311	122
Total		676	2487			1146	1653			1822	4140
Percent		21.4%	78.6%			40.9%	59.1%			30.6%	69.4%
Grand Total		676	2487			1146	1653			1822	4140
Percent		21.4%	78.6%			40.9%	59.1%			30.6%	69.4%
ADT		ADT 5,962		AADT 5,962							

RJ Behar & Company
6861 S.W. 196 Avenue, Suite 302
Pembroke Pines, Fl 33330

Biscayne Blvd between
NE 135th St and NE 151st St
Date Start: 06-Oct-10

Start Time	06-Oct-10 Wed	NORTHBOUND Morning	NORTHBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	SOUTHBOUND Morning	SOUTHBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		68	425			90	440				
12:15		74	451			79	418				
12:30		54	465			64	411				
12:45		40	482	236	1823	56	426	289	1695	525	3518
01:00		36	472			52	430				
01:15		28	480			69	434				
01:30		37	466			30	439				
01:45		20	459	121	1877	34	451	185	1754	306	3631
02:00		30	516			23	484				
02:15		16	536			20	490				
02:30		19	506			25	499				
02:45		10	496	75	2054	12	520	80	1993	155	4047
03:00		18	422			23	472				
03:15		11	458			18	478				
03:30		12	466			11	444				
03:45		19	501	60	1847	15	454	67	1848	127	3695
04:00		25	544			20	496				
04:15		20	548			22	506				
04:30		32	530			22	495				
04:45		30	590	107	2212	20	459	84	1956	191	4168
05:00		30	542			30	485				
05:15		24	552			34	518				
05:30		46	548			33	520				
05:45		50	528	150	2170	53	510	150	2033	300	4203
06:00		56	566			62	520				
06:15		72	602			85	486				
06:30		122	512			122	474				
06:45		177	495	427	2175	198	417	467	1897	894	4072
07:00		221	440			206	410				
07:15		246	453			380	448				
07:30		226	424			410	378				
07:45		356	386	1049	1703	364	410	1360	1646	2409	3349
08:00		390	316			412	362				
08:15		413	292			550	355				
08:30		330	298			522	382				
08:45		440	256	1573	1162	480	312	1964	1411	3537	2573
09:00		368	220			422	316				
09:15		368	195			399	290				
09:30		362	210			390	246				
09:45		416	176	1514	801	352	249	1563	1101	3077	1902
10:00		398	158			324	260				
10:15		408	156			340	200				
10:30		370	126			322	198				
10:45		416	128	1592	568	382	158	1368	816	2960	1384
11:00		398	126			400	160				
11:15		384	106			408	162				
11:30		420	94			402	128				
11:45		433	80	1635	406	392	108	1602	558	3237	964
Total		8539	18798			9179	18708			17718	37506
Percent		31.2%	68.8%			32.9%	67.1%			32.1%	67.9%
Grand Total		8539	18798			9179	18708			17718	37506
Percent		31.2%	68.8%			32.9%	67.1%			32.1%	67.9%

ADT ADT 55,224 AADT 55,224

RJ Behar & Company
6861 S.W. 196 Avenue, Suite 302
Pembroke Pines, Fl 33330

NE 151st St
East of Biscayne Blvd
Date Start: 06-Oct-10

Start Time	06-Oct-10 Wed	EASTBOUND Morning	EASTBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	WESTBOUND Morning	WESTBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		12	117			18	240				
12:15		11	80			12	108				
12:30		14	92			17	86				
12:45		2	160	39	449	16	85	63	519	102	968
01:00		8	148			24	171				
01:15		2	136			5	118				
01:30		7	156			6	120				
01:45		3	228	20	668	3	149	38	558	58	1226
02:00		8	195			2	246				
02:15		1	204			4	246				
02:30		1	180			0	270				
02:45		2	158	12	737	1	162	7	924	19	1661
03:00		3	134			2	220				
03:15		2	110			2	132				
03:30		4	98			1	157				
03:45		2	123	11	465	1	184	6	693	17	1158
04:00		2	126			2	220				
04:15		4	118			2	108				
04:30		7	130			1	144				
04:45		4	194	17	568	2	182	7	654	24	1222
05:00		6	166			3	198				
05:15		1	114			3	156				
05:30		8	122			4	137				
05:45		10	142	25	544	2	130	12	621	37	1165
06:00		20	126			7	152				
06:15		37	150			16	147				
06:30		94	108			24	151				
06:45		153	96	304	480	90	114	137	564	441	1044
07:00		332	80			182	164				
07:15		220	78			250	113				
07:30		136	78			97	113				
07:45		243	64	931	300	88	148	617	538	1548	838
08:00		286	50			142	111				
08:15		260	48			203	90				
08:30		184	34			142	134				
08:45		188	36	918	168	64	109	551	444	1469	612
09:00		162	50			56	118				
09:15		129	40			34	136				
09:30		172	32			40	98				
09:45		218	30	681	152	72	86	202	438	883	590
10:00		136	25			78	50				
10:15		110	24			52	58				
10:30		174	27			61	48				
10:45		228	19	648	95	77	26	268	182	916	277
11:00		140	20			122	38				
11:15		92	18			70	21				
11:30		116	19			78	25				
11:45		128	18	476	75	94	20	364	104	840	179
Total		4082	4701			2272	6239			6354	10940
Percent		46.5%	53.5%			26.7%	73.3%			36.7%	63.3%
Grand Total		4082	4701			2272	6239			6354	10940
Percent		46.5%	53.5%			26.7%	73.3%			36.7%	63.3%
ADT		ADT 17,294		AADT 17,294							

Intersection Turning Movements

R.J. Behar & Company, Inc.

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File Name : Biscayne Blvd__NE135 St
Site Code : Int.1
Start Date : 10/12/2010
Page No : 1

Groups Printed- All Vehicles

	Biscayne Blvd Southbound				NE 135th St Westbound				Biscayne Blvd Northbound				NE 135th St Eastbound				
Start Time	Rght	Thru	Left	Other	Rght	Thru	Left	Other	Rght	Thru	Left	Other	Rght	Thru	Left	Other	Int. Total
08:00 AM	51	341	13	0	38	32	41	0	8	290	42	0	45	11	76	0	988
08:15 AM	74	437	8	0	32	31	38	0	12	298	34	0	45	13	66	0	1088
08:30 AM	61	452	15	0	27	30	39	0	12	320	47	0	39	5	89	0	1136
08:45 AM	74	421	12	0	16	27	42	0	19	323	53	0	52	13	75	0	1127
Total	260	1651	48	0	113	120	160	0	51	1231	176	0	181	42	306	0	4339
09:00 AM	55	326	7	0	21	24	38	0	20	331	55	0	51	29	97	0	1054
09:15 AM	58	323	19	0	14	27	31	0	12	323	39	0	63	13	97	0	1019
09:30 AM	57	325	15	0	23	23	30	0	12	299	51	0	56	13	96	0	1000
09:45 AM	53	302	6	0	20	22	26	0	6	317	48	0	37	12	77	0	926
Total	223	1276	47	0	78	96	125	0	50	1270	193	0	207	67	367	0	3999
*** BREAK ***																	
04:30 PM	79	405	19	0	24	31	39	0	24	407	67	0	47	19	111	0	1272
04:45 PM	73	372	14	0	22	25	24	0	31	470	71	0	56	23	103	0	1284
Total	152	777	33	0	46	56	63	0	55	877	138	0	103	42	214	0	2556
05:00 PM	85	393	25	0	21	25	27	0	21	508	72	0	44	13	114	0	1348
05:15 PM	80	422	27	0	25	33	20	0	31	446	78	0	48	28	83	0	1321
05:30 PM	99	435	29	0	31	25	30	0	30	477	61	0	67	32	102	0	1418
05:45 PM	80	395	33	0	26	22	25	0	29	454	54	0	60	37	114	0	1329
Total	344	1645	114	0	103	105	102	0	111	1885	265	0	219	110	413	0	5416
06:00 PM	76	407	29	0	16	15	24	0	20	408	55	0	63	18	90	0	1221
06:15 PM	92	367	23	0	26	19	31	0	20	428	39	0	59	39	96	0	1239
Grand Total	1147	6123	294	0	382	411	505	0	307	6099	866	0	832	318	1486	0	18770
Apprch %	15.2	80.9	3.9	0	29.4	31.7	38.9	0	4.2	83.9	11.9	0	31.6	12.1	56.4	0	
Total %	6.1	32.6	1.6	0	2	2.2	2.7	0	1.6	32.5	4.6	0	4.4	1.7	7.9	0	

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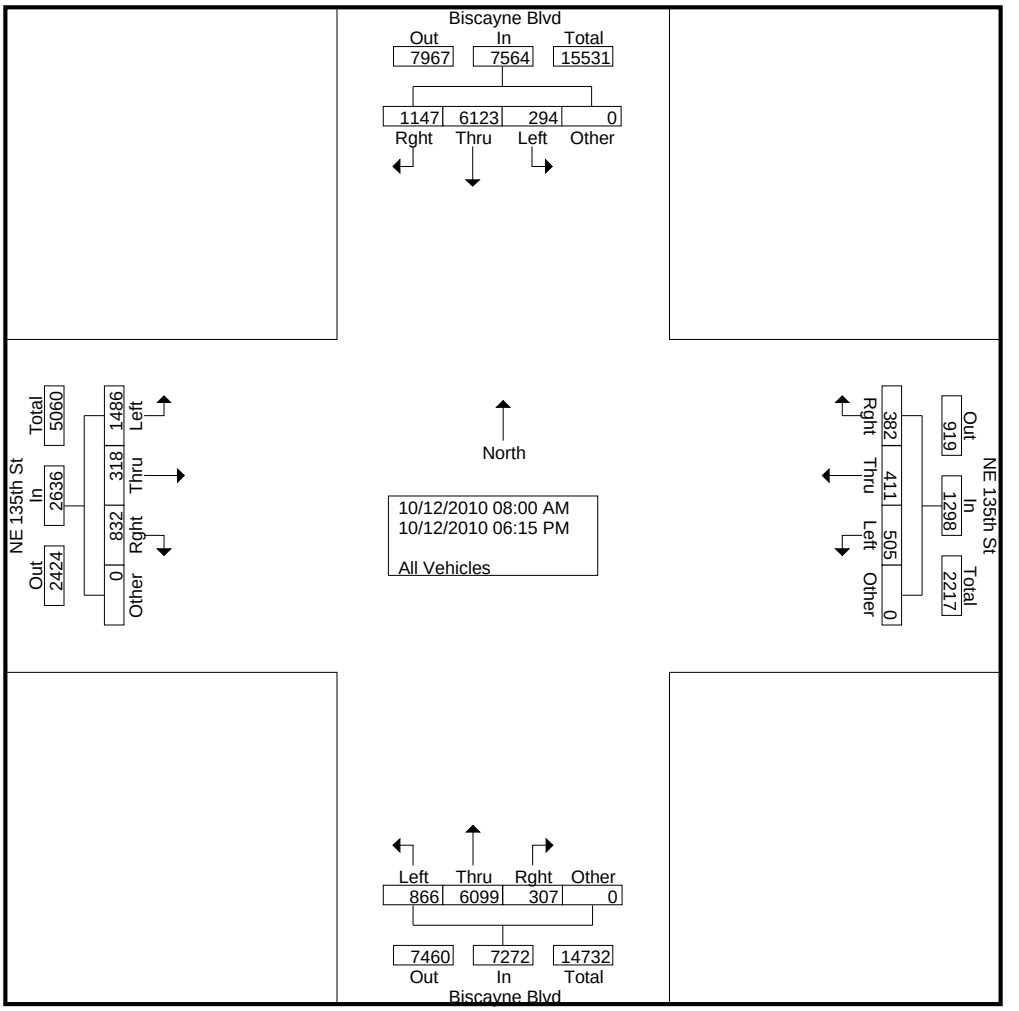
File Name : Biscayne Blvd__NE135 St
Site Code : Int.1
Start Date : 10/12/2010
Page No : 2



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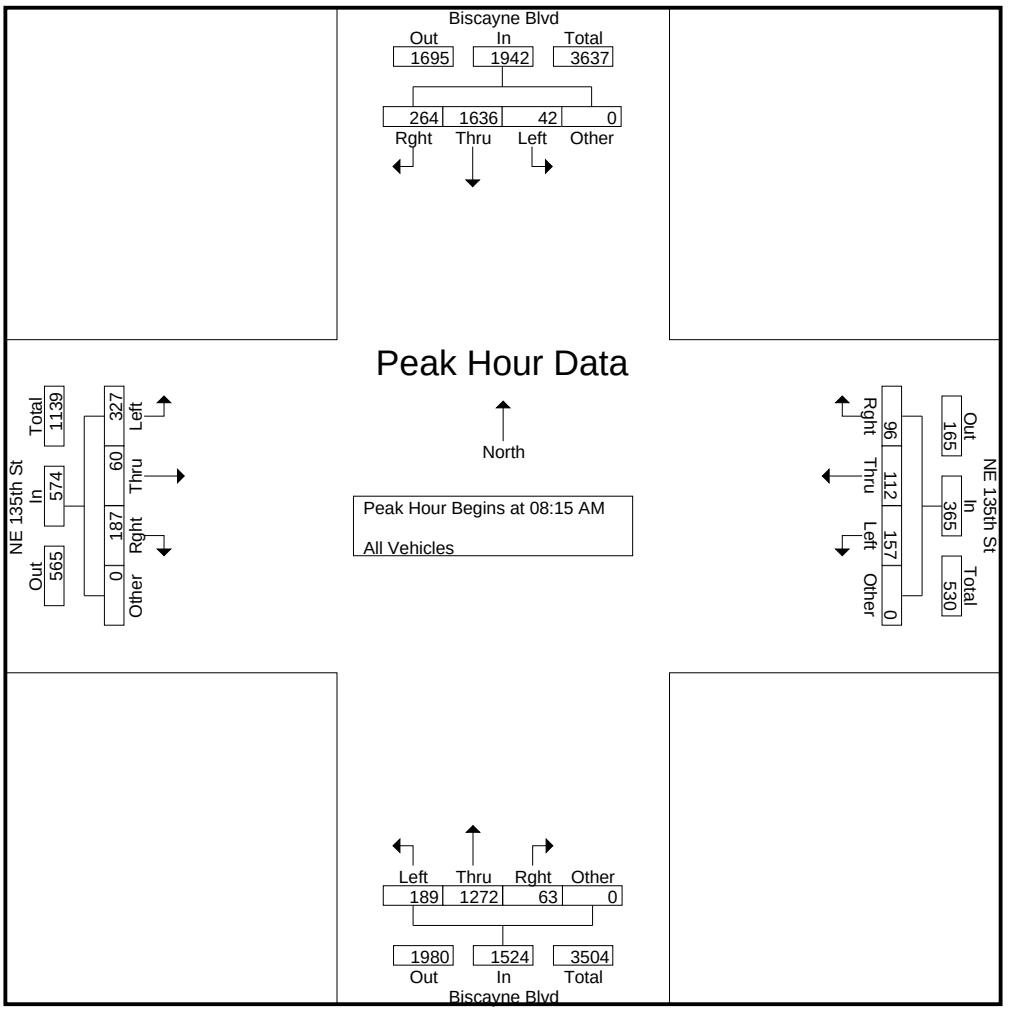
File Name : Biscayne Blvd__NE135 St
Site Code : Int.1
Start Date : 10/12/2010
Page No : 3

	Biscayne Blvd Southbound					NE 135th St Westbound					Biscayne Blvd Northbound					NE 135th St Eastbound					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	**74**	437	8	0	519	**32**	**31**	38	0	**101**	12	298	34	0	344	45	13	66	0	124	1088
08:30 AM	61	**452**	**15**	0	**528**	27	30	39	0	96	12	320	47	0	379	39	5	89	0	133	**1136**
08:45 AM	74	421	12	0	507	16	27	**42**	0	85	19	323	53	0	395	**52**	13	75	0	140	1127
09:00 AM	55	326	7	0	388	21	24	38	0	83	**20**	**331**	**55**	0	**406**	51	**29**	**97**	0	**177**	1054
Total Volume	264	1636	42	0	1942	96	112	157	0	365	63	1272	189	0	1524	187	60	327	0	574	4405
% App. Total	13.6	84.2	2.2	0		26.3	30.7	43	0		4.1	83.5	12.4	0		32.6	10.5	57	0		
PHF	.892	.905	.700	.000	.920	.750	.903	.935	.000	.903	.788	.961	.859	.000	.938	.899	.517	.843	.000	.811	.969



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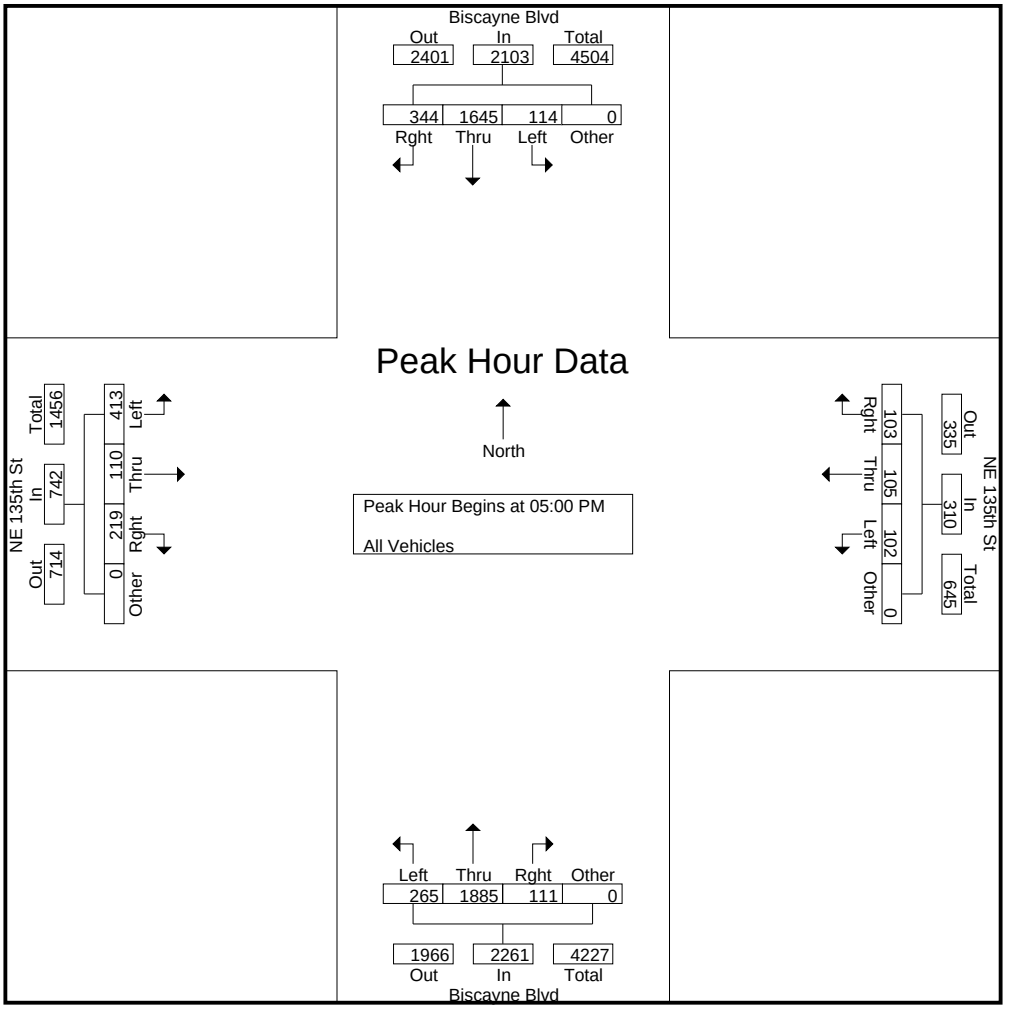
File Name : Biscayne Blvd__NE135 St
Site Code : Int.1
Start Date : 10/12/2010
Page No : 4

	Biscayne Blvd Southbound					NE 135th St Westbound					Biscayne Blvd Northbound					NE 135th St Eastbound					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	85	393	25	0	503	21	25	27	0	73	21	**508**	72	0	**601**	44	13	**114**	0	171	1348
05:15 PM	80	422	27	0	529	25	**33**	20	0	78	**31**	446	**78**	0	555	48	28	83	0	159	1321
05:30 PM	**99**	**435**	29	0	**563**	**31**	25	**30**	0	**86**	30	477	61	0	568	**67**	32	102	0	201	**1418**
05:45 PM	80	395	**33**	0	508	26	22	25	0	73	29	454	54	0	537	60	**37**	114	0	**211**	1329
Total Volume	344	1645	114	0	2103	103	105	102	0	310	111	1885	265	0	2261	219	110	413	0	742	5416
% App. Total	16.4	78.2	5.4	0		33.2	33.9	32.9	0		4.9	83.4	11.7	0		29.5	14.8	55.7	0		
PHF	.869	.945	.864	.000	.934	.831	.795	.850	.000	.901	.895	.928	.849	.000	.941	.817	.743	.906	.000	.879	.955



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File Name : Biscayne Blvd__NE151 St
Site Code : Int.3
Start Date : 10/14/2010
Page No : 1

Groups Printed- All Vehicles

	Biscayne Blvd Southbound				NE 151 St Westbound				Biscayne Blvd Northbound				NE 151 St Eastbound				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
06:45 AM	17	192	120	0	30	21	23	0	43	143	10	0	7	39	24	0	669
Total	17	192	120	0	30	21	23	0	43	143	10	0	7	39	24	0	669
07:00 AM	29	268	86	0	74	61	71	0	157	143	5	0	4	112	25	0	1035
07:15 AM	34	405	105	0	127	68	111	0	60	141	16	0	24	64	37	0	1192
07:30 AM	59	389	87	0	36	10	41	0	57	190	17	0	15	52	49	0	1002
07:45 AM	44	409	114	0	28	26	43	0	122	275	16	0	33	84	42	0	1236
Total	166	1471	392	0	265	165	266	0	396	749	54	0	76	312	153	0	4465
08:00 AM	49	406	133	0	37	37	69	0	142	250	26	0	28	89	33	0	1299
08:15 AM	47	517	118	0	72	77	101	0	114	262	20	0	36	73	33	0	1470
08:30 AM	70	440	64	0	48	49	75	0	42	328	22	0	28	46	25	0	1237
*** BREAK ***																	
Total	166	1363	315	0	157	163	245	0	298	840	68	0	92	208	91	0	4006
*** BREAK ***																	
01:15 PM	38	396	63	0	49	30	40	0	45	428	42	0	39	26	32	0	1228
01:30 PM	47	431	71	0	80	30	48	0	60	412	38	0	47	44	36	0	1344
01:45 PM	48	426	57	0	92	53	78	0	45	433	34	0	31	31	26	0	1354
Total	133	1253	191	0	221	113	166	0	150	1273	114	0	117	101	94	0	3926
02:00 PM	26	426	55	0	59	36	78	0	62	404	36	0	34	37	53	0	1306
02:15 PM	37	300	52	0	132	42	99	0	66	402	38	0	37	62	35	0	1302
02:30 PM	35	395	48	0	80	54	79	0	44	434	43	0	44	40	58	0	1354
02:45 PM	56	433	50	0	109	41	72	0	44	474	51	0	32	47	39	0	1448
Total	154	1554	205	0	380	173	328	0	216	1714	168	0	147	186	185	0	5410
03:00 PM	59	391	58	0	113	70	75	0	36	420	33	0	27	44	47	0	1373
Grand Total	695	6224	1281	0	1166	705	1103	0	1139	5139	447	0	466	890	594	0	19849
Apprch %	8.5	75.9	15.6	0	39.2	23.7	37.1	0	16.9	76.4	6.6	0	23.9	45.6	30.5	0	
Total %	3.5	31.4	6.5	0	5.9	3.6	5.6	0	5.7	25.9	2.3	0	2.3	4.5	3	0	

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File Name : Biscayne Blvd__NE151 St
Site Code : Int.3
Start Date : 10/14/2010
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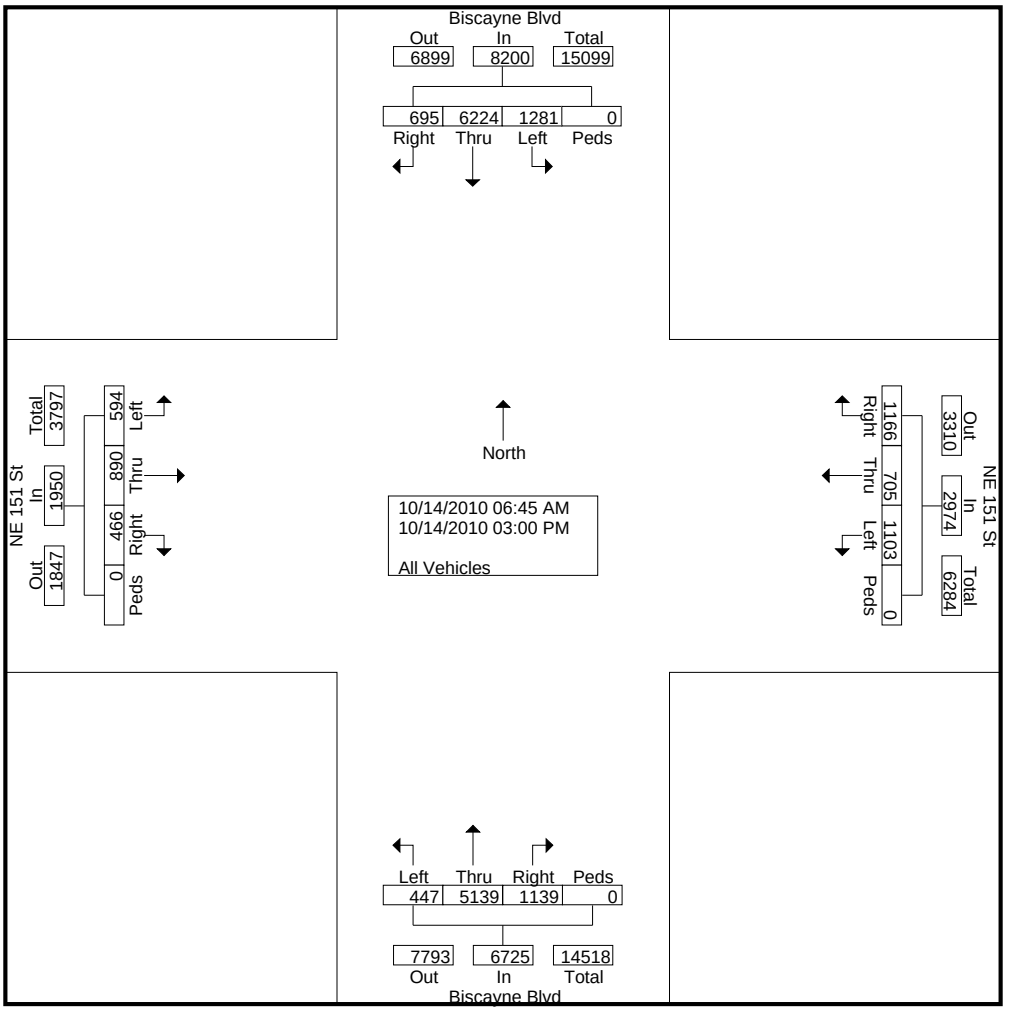

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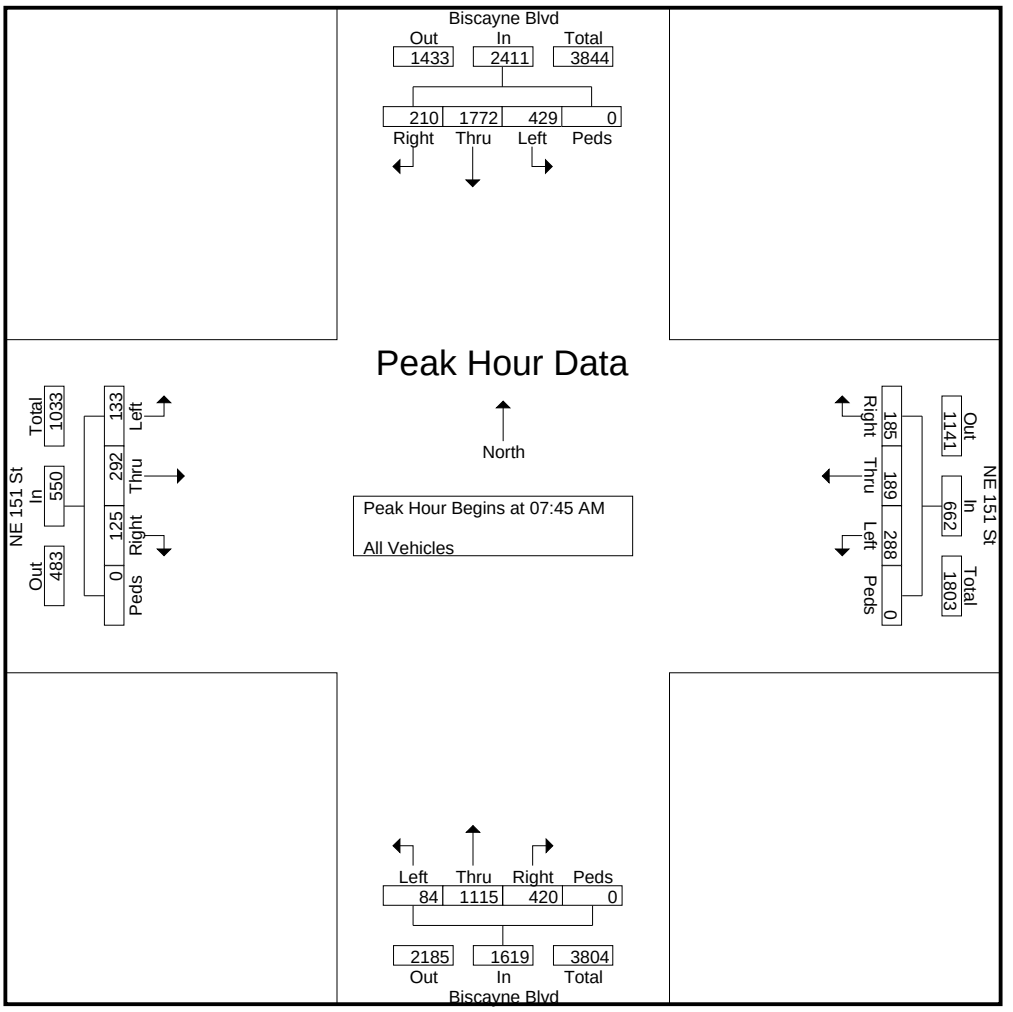
File Name : Biscayne Blvd__NE151 St
Site Code : Int.3
Start Date : 10/14/2010
Page No : 3

	Biscayne Blvd Southbound					NE 151 St Westbound					Biscayne Blvd Northbound					NE 151 St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	44	409	114	0	567	28	26	43	0	97	122	275	16	0	413	33	84	**42**	0	**159**	1236
08:00 AM	49	406	**133**	0	588	37	37	69	0	143	**142**	250	**26**	0	**418**	28	**89**	33	0	150	1299
08:15 AM	47	**517**	118	0	**682**	**72**	**77**	**101**	0	**250**	114	262	20	0	396	**36**	73	33	0	142	**1470**
08:30 AM	**70**	440	64	0	574	48	49	75	0	172	42	**328**	22	0	392	28	46	25	0	99	1237
Total Volume	210	1772	429	0	2411	185	189	288	0	662	420	1115	84	0	1619	125	292	133	0	550	5242
% App. Total	8.7	73.5	17.8	0		27.9	28.5	43.5	0		25.9	68.9	5.2	0		22.7	53.1	24.2	0		
PHF	.750	.857	.806	.000	.884	.642	.614	.713	.000	.662	.739	.850	.808	.000	.968	.868	.820	.792	.000	.865	.891



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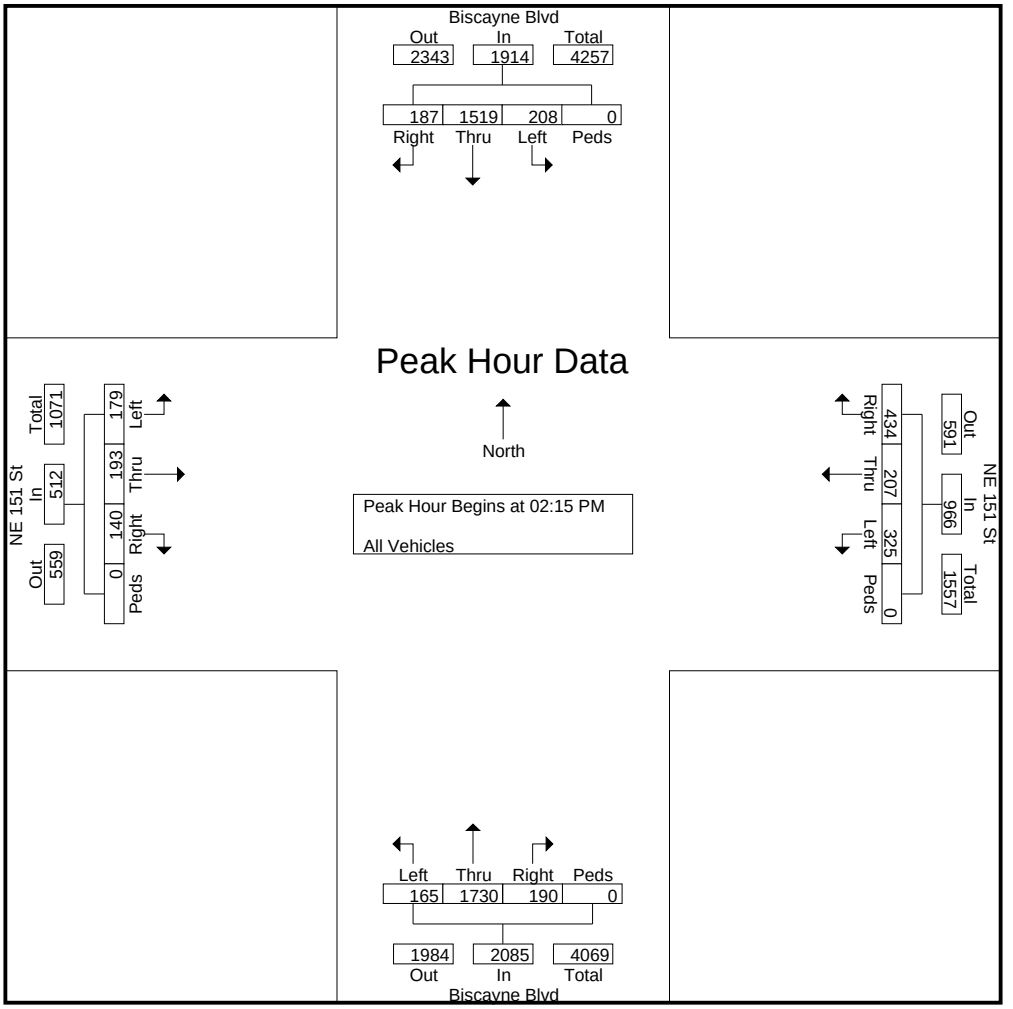
File Name : Biscayne Blvd__NE151 St
Site Code : Int.3
Start Date : 10/14/2010
Page No : 4

	Biscayne Blvd Southbound					NE 151 St Westbound					Biscayne Blvd Northbound					NE 151 St Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 01:15 PM to 03:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:15 PM																					
02:15 PM	37	300	52	0	389	**132**	42	**99**	0	**273**	**66**	402	38	0	506	37	**62**	35	0	134	1302
02:30 PM	35	395	48	0	478	80	54	79	0	213	44	434	43	0	521	**44**	40	**58**	0	**142**	1354
02:45 PM	56	**433**	50	0	**539**	109	41	72	0	222	44	**474**	**51**	0	**569**	32	47	39	0	118	**1448**
03:00 PM	**59**	391	**58**	0	508	113	**70**	75	0	258	36	420	33	0	489	27	44	47	0	118	1373
Total Volume	187	1519	208	0	1914	434	207	325	0	966	190	1730	165	0	2085	140	193	179	0	512	5477
% App. Total	9.8	79.4	10.9	0		44.9	21.4	33.6	0		9.1	83	7.9	0		27.3	37.7	35	0		
PHF	.792	.877	.897	.000	.888	.822	.739	.821	.000	.885	.720	.912	.809	.000	.916	.795	.778	.772	.000	.901	.946



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File Name : Biscayne Blvd__NE163 St
Site Code : Int.2
Start Date : 10/13/2010
Page No : 1

Groups Printed- All Vehicles

	Biscayne Blvd Southbound				NE 163rd St Westbound				Biscayne Blvd Northbound				NE 163rd St Eastbound				
Start Time	Rght	Thru	Left	Other	Rght	Thru	Left	Other	Rght	Thru	Left	Other	Rght	Thru	Left	Other	Int. Total
08:00 AM	83	276	75	0	143	202	124	0	66	174	58	0	106	194	66	0	1567
08:15 AM	90	323	69	0	128	329	149	0	53	195	80	0	114	238	71	0	1839
08:30 AM	94	317	98	0	133	291	143	0	59	222	70	0	121	256	70	0	1874
08:45 AM	78	312	110	0	138	267	136	0	66	256	77	0	121	264	88	0	1913
Total	345	1228	352	0	542	1089	552	0	244	847	285	0	462	952	295	0	7193
09:00 AM	79	263	81	0	95	220	111	0	60	207	77	0	126	248	88	0	1655
09:15 AM	75	250	101	0	117	202	84	0	54	184	93	0	97	223	75	0	1555
09:30 AM	81	242	93	0	96	211	91	0	64	205	107	0	122	178	65	0	1555
09:45 AM	78	276	115	0	126	219	111	0	60	213	94	0	148	215	72	0	1727
Total	313	1031	390	0	434	852	397	0	238	809	371	0	493	864	300	0	6492
*** 10/14/2010 ***																	
04:30 PM	76	249	124	0	178	304	132	0	144	359	155	0	168	198	114	0	2201
04:45 PM	109	307	104	0	177	296	137	0	115	364	142	0	134	250	110	0	2245
Total	185	556	228	0	355	600	269	0	259	723	297	0	302	448	224	0	4446
05:00 PM	104	301	122	0	165	284	106	0	133	422	157	0	109	244	134	0	2281
05:15 PM	97	337	136	0	157	288	113	0	147	402	153	0	146	271	113	0	2360
05:30 PM	92	295	124	0	139	248	89	0	161	406	129	0	124	227	111	0	2145
05:45 PM	99	278	113	0	140	265	113	0	138	387	153	0	119	249	130	0	2184
Total	392	1211	495	0	601	1085	421	0	579	1617	592	0	498	991	488	0	8970
06:00 PM	84	252	114	0	135	208	89	0	155	428	109	0	113	212	135	0	2034
06:15 PM	83	287	146	0	204	261	99	0	135	402	150	0	121	247	144	0	2279
Grand Total	1402	4565	1725	0	2271	4095	1827	0	1610	4826	1804	0	1989	3714	1586	0	31414
Apprch %	18.2	59.3	22.4	0	27.7	50	22.3	0	19.5	58.6	21.9	0	27.3	51	21.8	0	
Total %	4.5	14.5	5.5	0	7.2	13	5.8	0	5.1	15.4	5.7	0	6.3	11.8	5	0	

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File Name : Biscayne Blvd__NE163 St
Site Code : Int.2
Start Date : 10/13/2010
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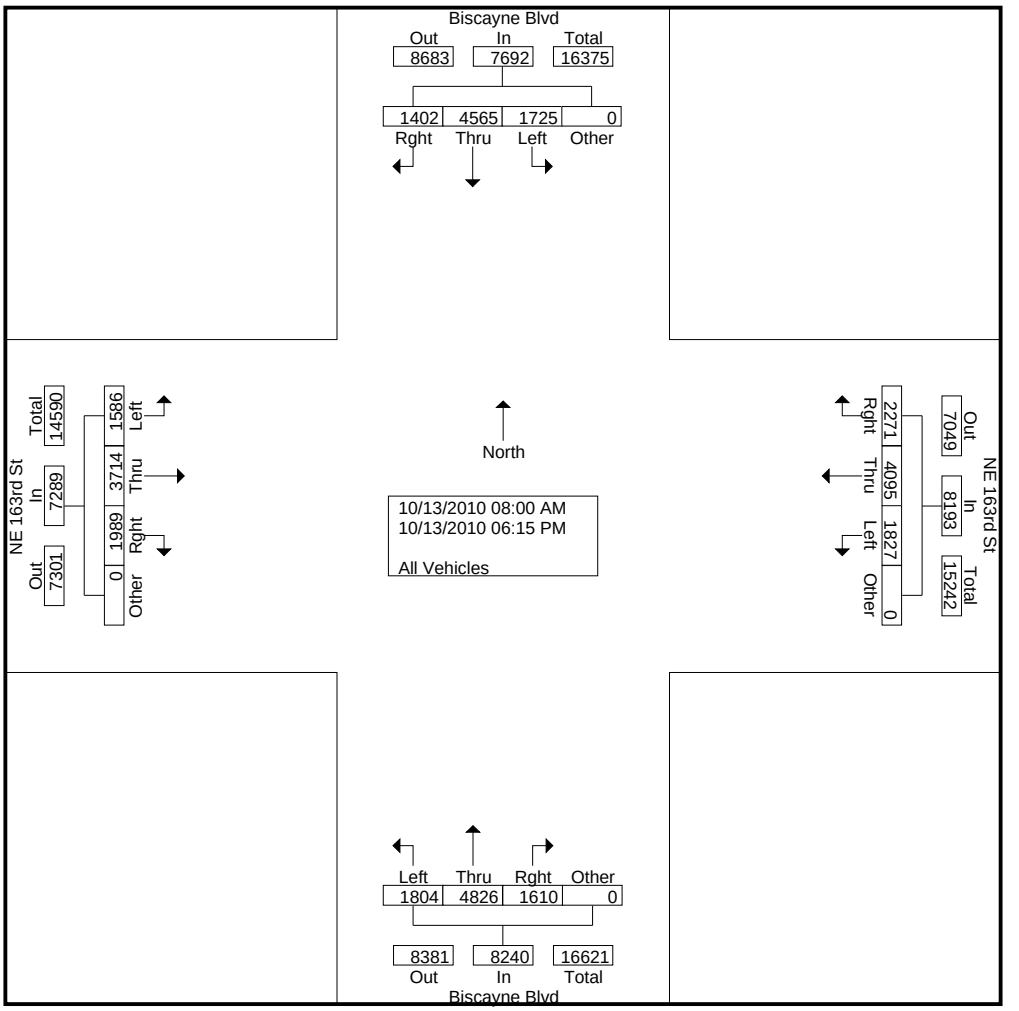

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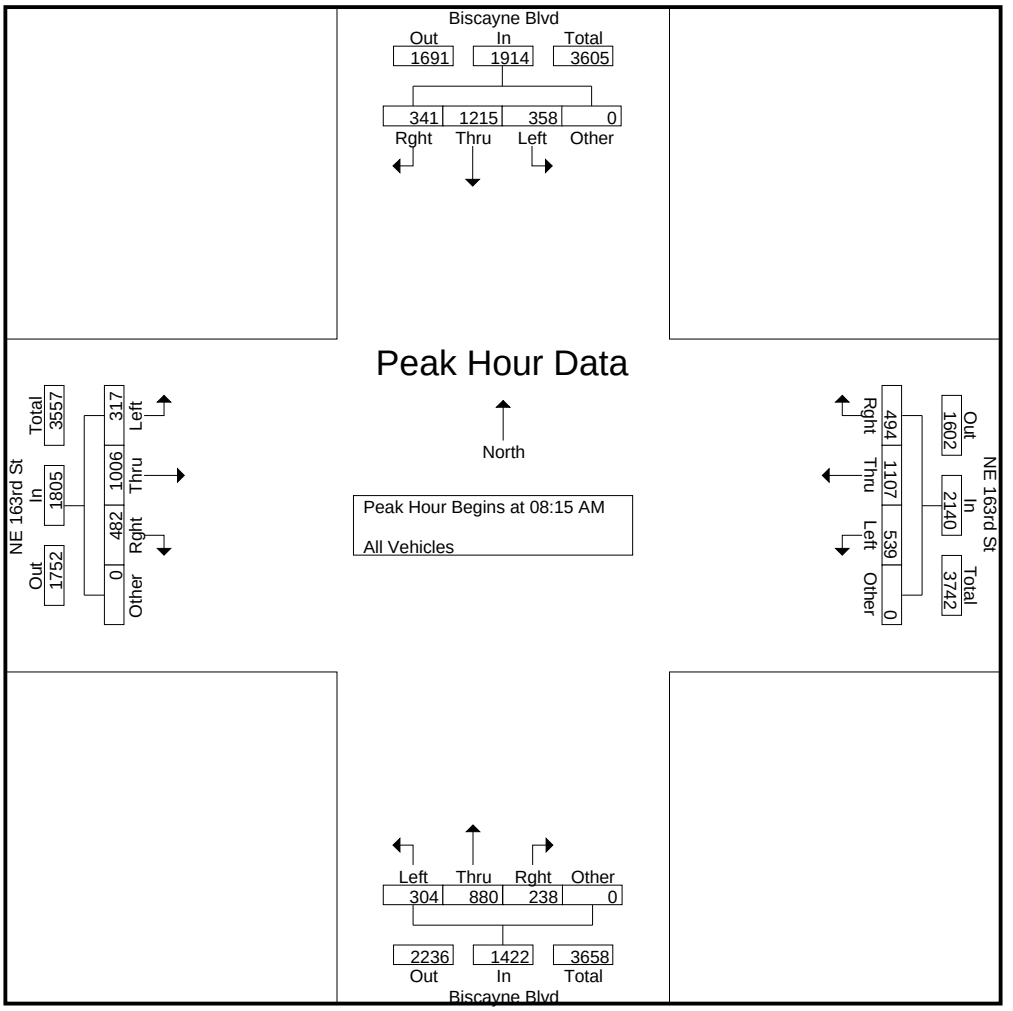
File Name : Biscayne Blvd__NE163 St
Site Code : Int.2
Start Date : 10/13/2010
Page No : 3

	Biscayne Blvd Southbound					NE 163rd St Westbound					Biscayne Blvd Northbound					NE 163rd St Eastbound					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	90	**323**	69	0	482	128	**329**	**149**	0	**606**	53	195	**80**	0	328	114	238	71	0	423	1839
08:30 AM	**94**	317	98	0	**509**	133	291	143	0	567	59	222	70	0	351	121	256	70	0	447	1874
08:45 AM	78	312	**110**	0	500	**138**	267	136	0	541	**66**	**256**	77	0	**399**	121	**264**	**88**	0	**473**	**1913**
09:00 AM	79	263	81	0	423	95	220	111	0	426	60	207	77	0	344	**126**	248	88	0	462	1655
Total Volume	341	1215	358	0	1914	494	1107	539	0	2140	238	880	304	0	1422	482	1006	317	0	1805	7281
% App. Total	17.8	63.5	18.7	0		23.1	51.7	25.2	0		16.7	61.9	21.4	0		26.7	55.7	17.6	0		
PHF	.907	.940	.814	.000	.940	.895	.841	.904	.000	.883	.902	.859	.950	.000	.891	.956	.953	.901	.000	.954	.952



R.J. Behar & Company, Inc.

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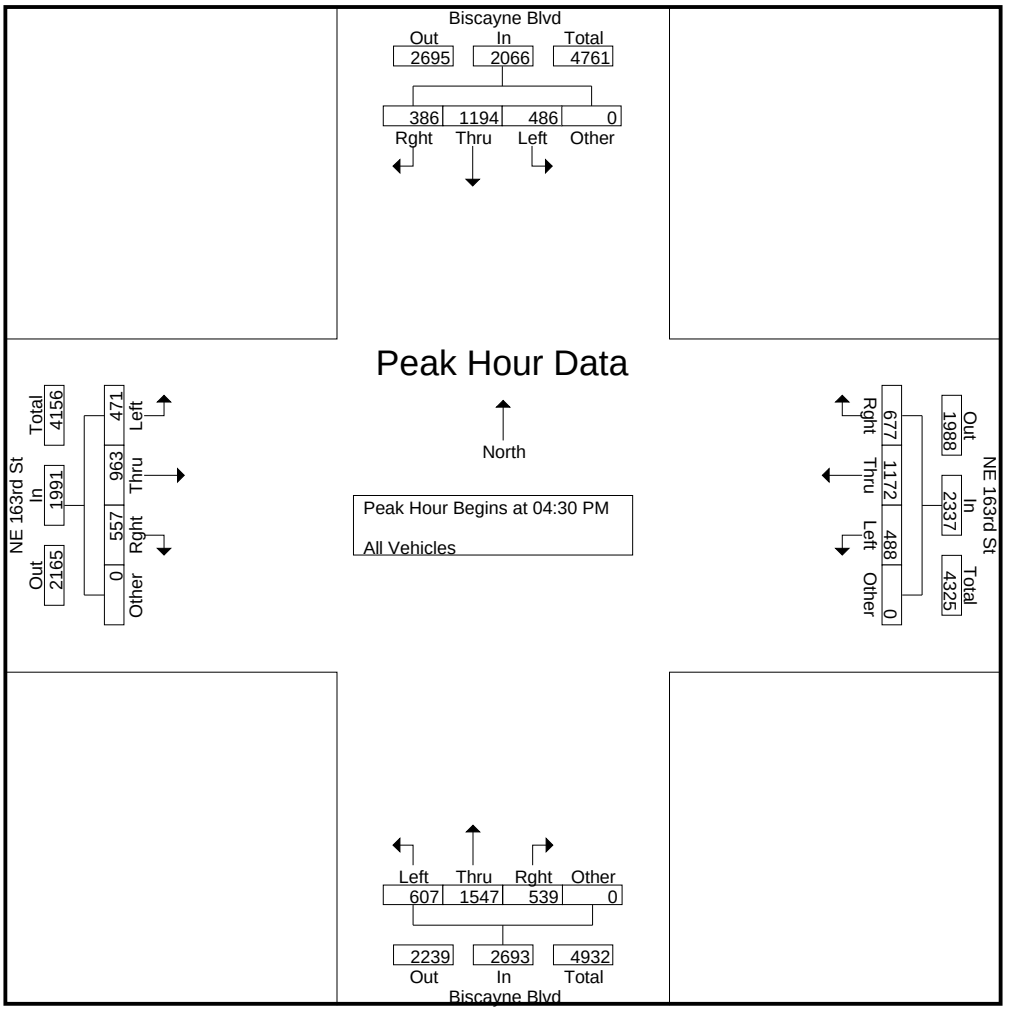
File Name : Biscayne Blvd__NE163 St
Site Code : Int.2
Start Date : 10/13/2010
Page No : 4

	Biscayne Blvd Southbound					NE 163rd St Westbound					Biscayne Blvd Northbound					NE 163rd St Eastbound					
Start Time	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Rght	Thru	Left	Other	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	76	249	124	0	449	**178**	**304**	132	0	**614**	144	359	155	0	658	**168**	198	114	0	480	2201
04:45 PM	**109**	307	104	0	520	177	296	**137**	0	610	115	364	142	0	621	134	250	110	0	494	2245
05:00 PM	104	301	122	0	527	165	284	106	0	555	133	**422**	**157**	0	**712**	109	244	**134**	0	487	2281
05:15 PM	97	**337**	**136**	0	**570**	157	288	113	0	558	**147**	402	153	0	702	146	**271**	113	0	**530**	**2360**
Total Volume	386	1194	486	0	2066	677	1172	488	0	2337	539	1547	607	0	2693	557	963	471	0	1991	9087
% App. Total	18.7	57.8	23.5	0		29	50.1	20.9	0		20	57.4	22.5	0		28	48.4	23.7	0		
PHF	.885	.886	.893	.000	.906	.951	.964	.891	.000	.952	.917	.916	.967	.000	.946	.829	.888	.879	.000	.939	.963



NOTE:
Morning turning movement count data for this intersection began 10-13-2010
while the afternoon portion of the data was collected on 10-14-2010.

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File Name : Interama Blvd__NE 163 St
Site Code : Int.4
Start Date : 10/27/2010
Page No : 1

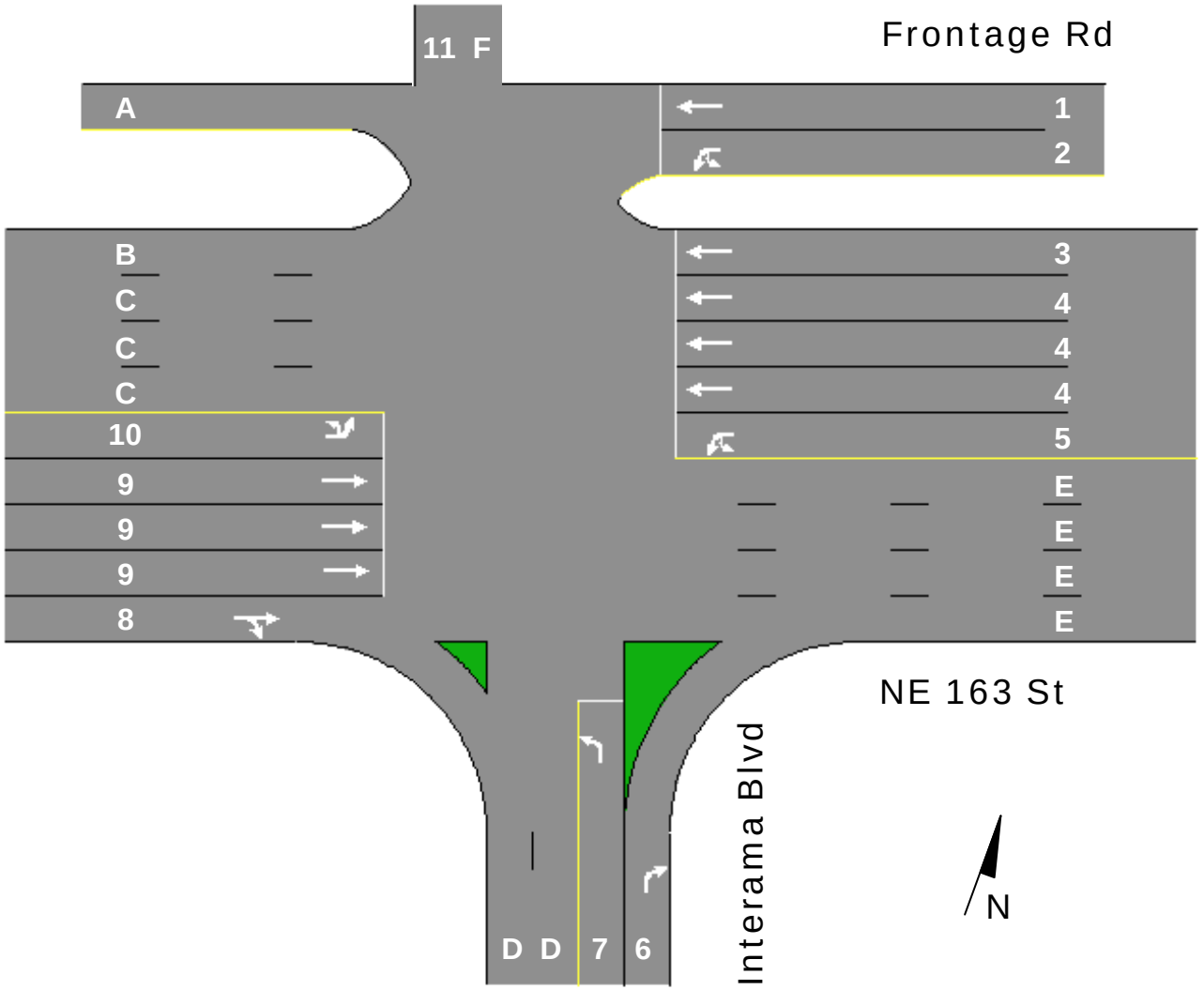
Groups Printed- All Vehicles

	Interama Blvd Southbound		Frontage Rd From Northeast					NE 163 St Westbound				Interama Blvd Northbound			NE 163 St Eastbound					
Start Time	11-B**	11-A*	1-F*	1-A*	2-B*	2-D*	2-E*	3-A*	4-C+3-B*	5-D*	5-E*	6-E*	7-A**	7-C*	8-D*	10-A*	9-E*	10-F*	10-C*	Int. Total
08:00 AM	0	0	0	2	9	0	0	1	469	1	3	1	0	1	5	0	368	3	0	863
08:15 AM	0	5	1	4	5	2	2	1	485	3	1	0	0	1	2	3	355	3	0	873
08:30 AM	0	0	0	1	7	1	1	1	475	0	0	0	0	0	1	0	441	2	0	930
08:45 AM	0	1	0	4	8	1	1	9	421	0	1	1	0	0	1	4	443	11	0	906
Total	0	6	1	11	29	4	4	12	1850	4	5	2	0	2	9	7	1607	19	0	3572
09:00 AM	0	2	0	1	7	0	0	19	336	0	0	1	0	1	0	0	326	11	0	704
09:15 AM	0	0	0	0	8	1	0	4	383	1	2	0	0	3	7	2	359	10	1	781
09:30 AM	0	0	0	3	1	0	0	6	378	1	0	2	0	0	3	4	348	2	1	749
09:45 AM	0	3	3	0	13	1	3	6	366	2	2	1	0	2	5	3	293	9	1	713
Total	0	5	3	4	29	2	3	35	1463	4	4	4	0	6	15	9	1326	32	3	2947
*** BREAK ***																				
04:30 PM	0	1	0	4	8	1	2	7	555	2	4	3	0	2	3	9	455	6	0	1062
04:45 PM	0	2	0	5	3	0	0	10	525	0	1	1	0	4	4	6	415	0	3	979
Total	0	3	0	9	11	1	2	17	1080	2	5	4	0	6	7	15	870	6	3	2041
05:00 PM	0	4	0	3	9	0	4	13	565	2	5	3	0	2	2	10	496	2	0	1120
05:15 PM	0	0	0	5	2	2	3	9	459	3	2	1	0	2	6	11	468	1	0	974
05:30 PM	0	2	0	8	7	1	5	8	462	0	3	0	0	2	2	16	448	0	3	967
05:45 PM	0	1	0	2	6	2	3	9	403	2	5	2	0	6	3	10	430	2	0	886
Total	0	7	0	18	24	5	15	39	1889	7	15	6	0	12	13	47	1842	5	3	3947
06:00 PM	0	5	0	8	2	4	8	12	430	3	4	2	0	7	1	13	466	3	0	968
06:15 PM	0	0	0	8	3	1	8	10	429	2	4	0	0	6	6	12	469	2	2	962
Grand Total	0	26	4	58	98	17	40	125	7141	22	37	18	0	39	51	103	6580	67	11	14437
Apprch %	0	100	1.8	26.7	45.2	7.8	18.4	1.7	97.5	0.3	0.5	31.6	0	68.4	0.7	1.5	96.6	1	0.2	
Total %	0	0.2	0	0.4	0.7	0.1	0.3	0.9	49.5	0.2	0.3	0.1	0	0.3	0.4	0.7	45.6	0.5	0.1	

* Refer to Intersection Diagram - Alpha-numeric code interprets movements that generate at the number and terminate at the letter

** Movements not permitted

Intersection Diagram



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File Name : Interama Blvd__NE 163 St
Site Code : Int.4
Start Date : 10/27/2010
Page No : 2

	Interama Blvd Southbound			Frontage Rd From Northeast						NE 163 St Westbound					Interama Blvd Northbound				NE 163 St Eastbound						
Start Time	11-B**	11-A*	App. Total	1-F*	1-A*	2-B*	2-D*	2-E*	App. Total	3-A*	4-C+3-B*	5-D*	5-E*	App. Total	6-E*	7-A**	7-C*	App. Total	8-D*	10-A*	9-E*	10-F*	10-C*	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 09:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 08:00 AM																									
08:00 AM	0	0	0	0	2	**9**	0	0	11	1	469	1	**3**	474	**1**	0	**1**	**2**	**5**	0	368	3	0	376	863
08:15 AM	0	**5**	**5**	**1**	**4**	5	**2**	**2**	**14**	1	**485**	**3**	1	**490**	0	0	1	1	2	3	355	3	0	363	873
08:30 AM	0	0	0	0	1	7	1	1	10	1	475	0	0	476	0	0	0	0	1	0	441	2	0	444	**930**
08:45 AM	0	1	1	0	4	8	1	1	14	**9**	421	0	1	431	1	0	0	1	1	**4**	**443**	**11**	0	**459**	906
Total Volume	0	6	6	1	11	29	4	4	49	12	1850	4	5	1871	2	0	2	4	9	7	1607	19	0	1642	3572
% App. Total	0	100		2	22.4	59.2	8.2	8.2		0.6	98.9	0.2	0.3		50	0	50		0.5	0.4	97.9	1.2	0		
PHF	.000	.300	.300	.250	.688	.806	.500	.500	.875	.333	.954	.333	.417	.955	.500	.000	.500	.500	.450	.438	.907	.432	.000	.894	.960

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File Name : Interama Blvd__NE 163 St
Site Code : Int.4
Start Date : 10/27/2010
Page No : 3

	Interama Blvd Southbound			Frontage Rd From Northeast						NE 163 St Westbound					Interama Blvd Northbound				NE 163 St Eastbound						
Start Time	11-B**	11-A*	App. Total	1-F*	1-A*	2-B*	2-D*	2-E*	App. Total	3-A*	4-C+3-B*	5-D*	5-E*	App. Total	6-E*	7-A**	7-C*	App. Total	8-D*	10-A*	9-E*	10-F*	10-C*	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	0	1	1	0	4	8	1	2	15	7	555	2	4	568	**3**	0	2	**5**	3	9	455	**6**	0	473	1062
04:45 PM	0	2	2	0	**5**	3	0	0	8	10	525	0	1	536	1	0	**4**	5	4	6	415	0	**3**	428	979
05:00 PM	0	**4**	**4**	0	3	**9**	0	**4**	**16**	**13**	**565**	2	**5**	**585**	3	0	2	5	2	10	**496**	2	0	**510**	**1120**
05:15 PM	0	0	0	0	5	2	**2**	3	12	9	459	**3**	2	473	1	0	2	3	**6**	**11**	468	1	0	486	974
Total Volume	0	7	7	0	17	22	3	9	51	39	2104	7	12	2162	8	0	10	18	15	36	1834	9	3	1897	4135
% App. Total	0	100		0	33.3	43.1	5.9	17.6		1.8	97.3	0.3	0.6		44.4	0	55.6		0.8	1.9	96.7	0.5	0.2		
PHF	.000	.438	.438	.000	.850	.611	.375	.563	.797	.750	.931	.583	.600	.924	.667	.000	.625	.900	.625	.818	.924	.375	.250	.930	.923

FDOT Peak Season Factor Report

2009 Peak Season Factor Category Report - Report Type: ALL

Category: 8700 MIAMI-DADE NORTH

MOCF: 0.96

Week	Dates	SF	PSCF
1	01/01/2009 - 01/03/2009	1.03	1.07
2	01/04/2009 - 01/10/2009	1.02	1.06
3	01/11/2009 - 01/17/2009	1.01	1.05
4	01/18/2009 - 01/24/2009	1.00	1.04
5	01/25/2009 - 01/31/2009	0.99	1.03
6	02/01/2009 - 02/07/2009	0.98	1.02
* 7	02/08/2009 - 02/14/2009	0.97	1.01
* 8	02/15/2009 - 02/21/2009	0.96	1.00
* 9	02/22/2009 - 02/28/2009	0.96	1.00
*10	03/01/2009 - 03/07/2009	0.96	1.00
*11	03/08/2009 - 03/14/2009	0.96	1.00
*12	03/15/2009 - 03/21/2009	0.96	1.00
*13	03/22/2009 - 03/28/2009	0.96	1.00
*14	03/29/2009 - 04/04/2009	0.96	1.00
*15	04/05/2009 - 04/11/2009	0.96	1.00
*16	04/12/2009 - 04/18/2009	0.97	1.01
*17	04/19/2009 - 04/25/2009	0.97	1.01
*18	04/26/2009 - 05/02/2009	0.97	1.01
*19	05/03/2009 - 05/09/2009	0.98	1.02
20	05/10/2009 - 05/16/2009	0.98	1.02
21	05/17/2009 - 05/23/2009	0.98	1.02
22	05/24/2009 - 05/30/2009	0.99	1.03
23	05/31/2009 - 06/06/2009	0.99	1.03
24	06/07/2009 - 06/13/2009	1.00	1.04
25	06/14/2009 - 06/20/2009	1.00	1.04
26	06/21/2009 - 06/27/2009	1.01	1.05
27	06/28/2009 - 07/04/2009	1.01	1.05
28	07/05/2009 - 07/11/2009	1.02	1.06
29	07/12/2009 - 07/18/2009	1.03	1.07
30	07/19/2009 - 07/25/2009	1.02	1.06
31	07/26/2009 - 08/01/2009	1.02	1.06
32	08/02/2009 - 08/08/2009	1.01	1.05
33	08/09/2009 - 08/15/2009	1.00	1.04
34	08/16/2009 - 08/22/2009	1.01	1.05
35	08/23/2009 - 08/29/2009	1.01	1.05
36	08/30/2009 - 09/05/2009	1.01	1.05
37	09/06/2009 - 09/12/2009	1.01	1.05
38	09/13/2009 - 09/19/2009	1.01	1.05
39	09/20/2009 - 09/26/2009	1.01	1.05
40	09/27/2009 - 10/03/2009	1.00	1.04
41	10/04/2009 - 10/10/2009	1.00	1.04
42	10/11/2009 - 10/17/2009	1.00	1.04
43	10/18/2009 - 10/24/2009	1.00	1.04
44	10/25/2009 - 10/31/2009	1.01	1.05
45	11/01/2009 - 11/07/2009	1.02	1.06
46	11/08/2009 - 11/14/2009	1.02	1.06
47	11/15/2009 - 11/21/2009	1.03	1.07
48	11/22/2009 - 11/28/2009	1.03	1.07
49	11/29/2009 - 12/05/2009	1.03	1.07
50	12/06/2009 - 12/12/2009	1.03	1.07
51	12/13/2009 - 12/19/2009	1.03	1.07
52	12/20/2009 - 12/26/2009	1.02	1.06
53	12/27/2009 - 12/31/2009	1.01	1.05

* Peak Season

Existing Signal Timings

Print Date: 12/4/2009

Miami-Dade County Traffic Signals

Print Time: 11:35 AM

TOD Schedule Report for 3144: US 1 (NB)&NE 135 St

Active Phase Bank: Phase Bank

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 6 - 10	25 - 18 - 18	3	0
2	SBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	40 - 25 - 40	0 - 0 - 0	4	1
3	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	3.5 - 3.5 - 3.5	10 - 7 - 10	45 - 24 - 24	3	0
4	WBT	4 - 4 - 4	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	24 - 24 - 24	26 - 26 - 26	4	1.4
5	SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 6 - 10	18 - 18 - 18	3	0
6	NBT	7 - 7 - 7	18 - 18 - 18	7 - 7 - 7	1 - 1 - 1	40 - 25 - 40	0 - 0 - 0	4	1
7	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	10 - 7 - 10	24 - 24 - 24	3	0
8	EBT	4 - 4 - 4	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	24 - 24 - 24	50 - 26 - 26	4	1.4

Last In Service Date:

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	4	150	21	65	31	17	11	75	14	34	0	110
	8	110	14	44	16	20	14	44	16	20	0	23
	19	150	19	65	24	26	11	73	14	36	0	139
	23	80	6	25	9	24	6	25	9	24	0	11
	25	130	15	52	25	22	10	57	10	37	0	46
	26	110	15	42	25	12	10	47	10	27	0	70
	27	140	20	52	35	17	10	62	15	37	0	50
	28	100	10	32	20	22	10	32	10	32	0	95

Local TOD Schedule

Time	Plan	DOW
0000	Free	M T W Th F
0000	23	Su S
0100	Free	Su S
0600	19	M T W Th F
0600	8	Su S
1000	8	M T W Th F
1545	4	M T W Th F
1900	8	M T W Th F
2300	23	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	M T W ThF
0600	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	Su S
0000	TOD OUTPUTS	-------1	M T W ThF
0100	TOD OUTPUTS	-------1	Su S
0600	TOD OUTPUTS	--------	SuM T W ThF S

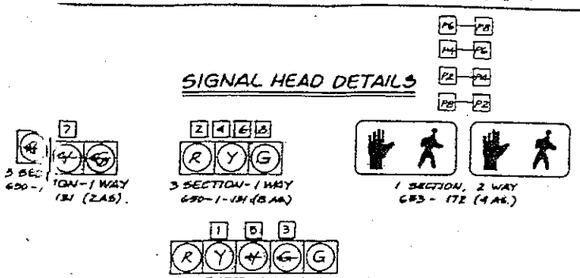
*** Settings**

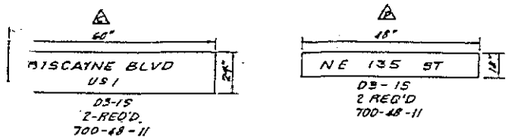
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

STATE PROJ. NO.
87030-3571

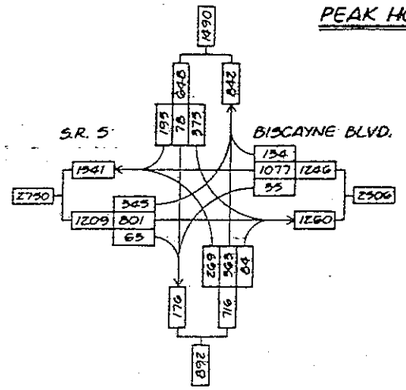
T3

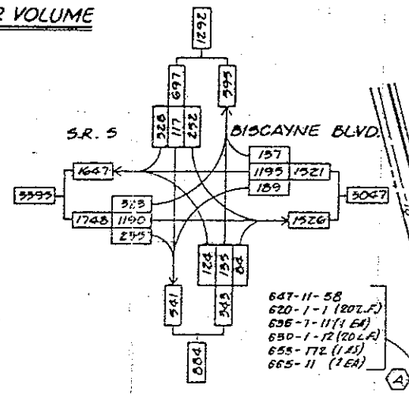
SIGNAL HEAD DETAILS

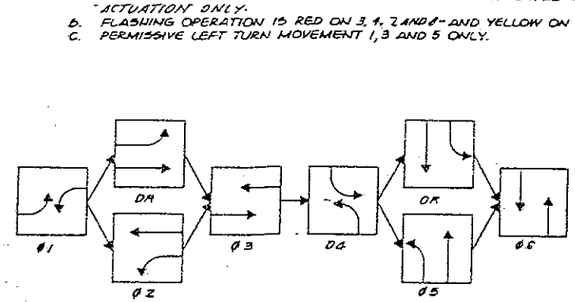




PEAK HOUR VOLUME

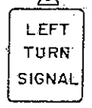




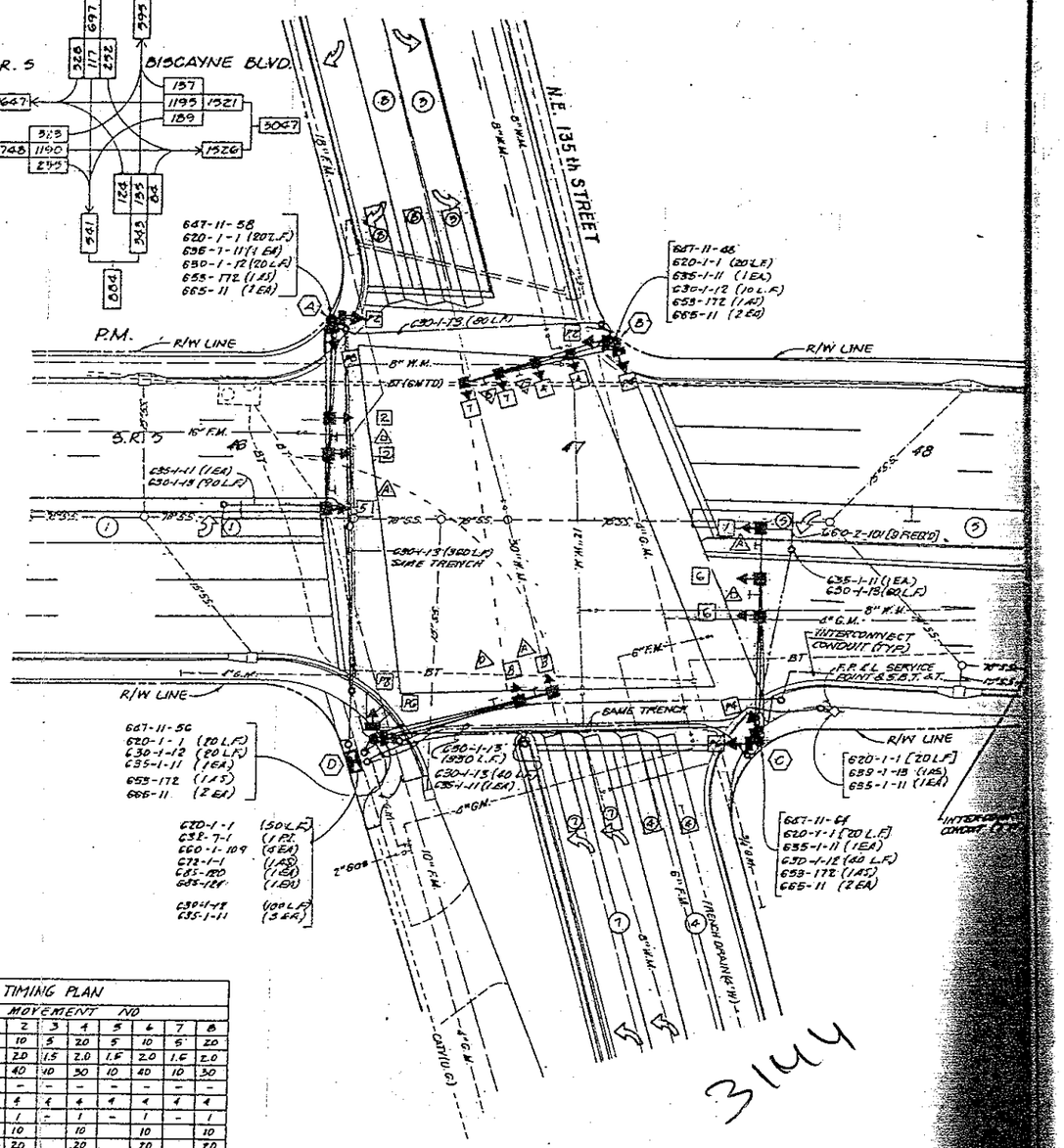


FTP-47
9"X12"
(4 EA)
(SEE NOTE 1)

R/10-12
24"X30"
700-48-11 (3 EA)



R/10-10
24"X30"
700-48-11 (1 EA)



CONTROLLER OPERATION

1. MAJOR STREET IS S.R. 5 AND MINOR STREET IS N.E. 135 ST. (S.R. 916).
2. STANDARD SIGNAL OPERATING PLAN NO. 10 AS PER INDEX NO. 17870 WITH THE FOLLOWING:
   A. PEDESTRIAN FEATURES ON PHASE 4 — 8 SHALL BE DISPLAYED UPON "ACTUATION" ONLY.
   B. FLASHING OPERATION IS RED ON 3, 4, 7 AND 8 - AND YELLOW ON 1, 2, 5, AND 6
   C. PERMISSIVE LEFT TURN MOVEMENT 1, 3 AND 5 ONLY.

NOTES:

1. [illegible] FTP-47 INCLUDED IN PAY ITEM NO. 685-11
2. [illegible] TRAFFIC AND SIGNAL EQUIPMENT SHALL REMAIN THE PROPERTY OF DADE COUNTY.
3. [illegible] TRAFFIC COUNTS WERE FURNISHED BY FLORIDA DEPARTMENT OF TRANSPORTATION, TAKEN ON NOVEMBER 4, 1985.
4. [illegible] REMOVAL OF EXISTING SIGNAL EQUIPMENT:

690-10	13 EA.
690-20	8 EA.
690-30	4 EA.
690-50	1 EA.
690-70	4 EA.
690-80	4 EA.

5. [illegible] M 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6'X30' FOR THRU LANES AND 5'X30' FOR TURNING LANES.
6. [illegible] L SYSTEM AUXILIARY EQUIPMENT SHALL BE CERTIFIED BY F.D.O.T. FOR USE WITH THE DADE COUNTY CENTRAL COMPUTER SYSTEM.
7. [illegible] AL SIGNAL TIMING SHALL BE FURNISHED BY D.C.P.W.
8. [illegible] TERCONNECT CONDUIT TO RUN BETWEEN CONTROLLERS W/ PULL BOXES 700 FT.
9. [illegible] EM 660-2-101 DEVIATES FROM F.D.O.T. STANDARDS AND SHALL BE 6'X30' FOR THRU LANES AND [illegible] 30' FOR TURNING LANES.
10. [illegible] STING SBT&T SERVICE POINT TO BE MAINTAINED. SERVICE TO BE EXTENDED AND CONNECTED [illegible] NEW CONTROLLER LOCATION. ALL NECESSARY WORK AND MATERIALS (SUCH AS CONDUITS, [illegible] NDUCTORS/CABLE AND PULL BOXES) TO BE INCLUDED IN ITEM NO. 670-113-000.
11. [illegible] L D-3 SIGNS TO USE SERIES C 6" HIGH LETTERS AND 8" HIGH NUMERALS.

CONTROLLER TIMING PLAN

TIMING INTERVAL	MOVEMENT NO							
	1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	5	10	5	20	5	10	5	20
EXTENSION (PASSAGE)	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0
MAXIMUM GREEN I	10	40	10	30	10	40	10	30
MAXIMUM GREEN II	-	-	-	-	-	-	-	-
YELLOW	4	4	4	4	4	4	4	4
ALL RED	-	1	-	1	-	1	-	1
PEDESTRIAN WALK		10		10		10		10
PEDESTRIAN CLEAR		20		20		20		20

3144

INTERSECTION I.D. "3144"

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	L.F.S.	7-1992	DRAWN BY	J.N.	7-1992
CHECKED BY	J.M.G.	7-1992	CHECKED BY	L.F.S.	7-1992
SUPERVISED BY	LUIS F. SANCHEZ				

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY
DATE

S.R. 5 & N.E. 135th ST.
SIGNALIZATION PL...

1. MAJOR ...
2. SIGNAL ...

NOTES:
1. SIGN ...
2. ALL TY...
3. ITEM ...
4. TRAF...
5. REMOV...
6. ITEM ...
7. FINAL...
8. ALL ...

MINIMUM	
EXTEN...	
MAXIM...	
MAXIM...	
YELLOW	
ALL RED	
PEDES...	
PEDESTRIAN	

Print Date: 12/4/2009

Miami-Dade County Traffic Signals

Print Time: 12:03 PM

TOD Schedule Report for 4159: US 1&NE 151 St

Active Phase Bank: Phase Bank

Phase		Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
		Phase Bank																			
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1	NBL	0	0	0	0	0	0	5	5	5	2	2	2	10	7	10	25	7	0	3	0
2	SBT	4	4	4	15	15	15	7	7	7	1	1	1	40	45	40	0	0	0	4.3	1.1
3	EBL	0	0	0	0	0	0	5	5	5	2	2	2	10	7	10	27	7	0	3	0
4	WBT	4	4	4	24	24	24	7	7	7	2.5	2.5	2.5	28	28	28	32	28	0	4	2
5	SBL	0	0	0	0	0	0	5	5	5	2	2	2	10	7	10	26	7	0	3	0
6	NBT	4	4	4	15	15	15	7	7	7	1	1	1	40	45	40	0	0	0	4.3	1.1
7	WBL	0	0	0	0	0	0	5	5	5	2	2	2	10	7	10	27	7	0	3	0
8	EBT	4	4	4	24	24	24	7	7	7	2.5	2.5	2.5	28	28	28	32	28	0	4	2

Last In Service Date:

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	3	110	12	63	7	11	12	63	7	11	0	61
	4	150	16	83	17	17	16	83	17	17	0	77
	5	110	12	42	16	23	12	42	16	23	0	34
	6	80	4	28	8	23	4	28	8	23	0	41
	7	80	4	28	8	23	4	28	8	23	0	6
	8	110	9	51	18	15	17	43	18	15	0	61
	10	110	4	58	8	23	4	58	8	23	0	38
	15	120	7	62	11	23	7	62	11	23	0	15
	16	130	15	47	19	32	15	47	19	32	0	77
	17	110	22	35	16	20	22	35	16	20	0	29
	19	150	15	77	24	17	21	71	24	17	0	53
	22	150	17	78	17	21	17	78	17	21	0	83
	25	130	11	64	18	20	20	55	10	28	0	35
	26	110	12	51	13	17	12	51	13	17	0	51
	27	140	19	75	15	14	24	70	15	14	0	93
	28	100	9	39	15	20	9	39	15	20	0	48

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	19	M T W Th F
0600	8	Su S
1000	8	M T W Th F
1545	4	M T W Th F
1900	3	M T W Th F
2300	Free	Su M T W Th F S

TOD Schedule Report for 4159: US 1&NE 151 St

Current Time of Day Function

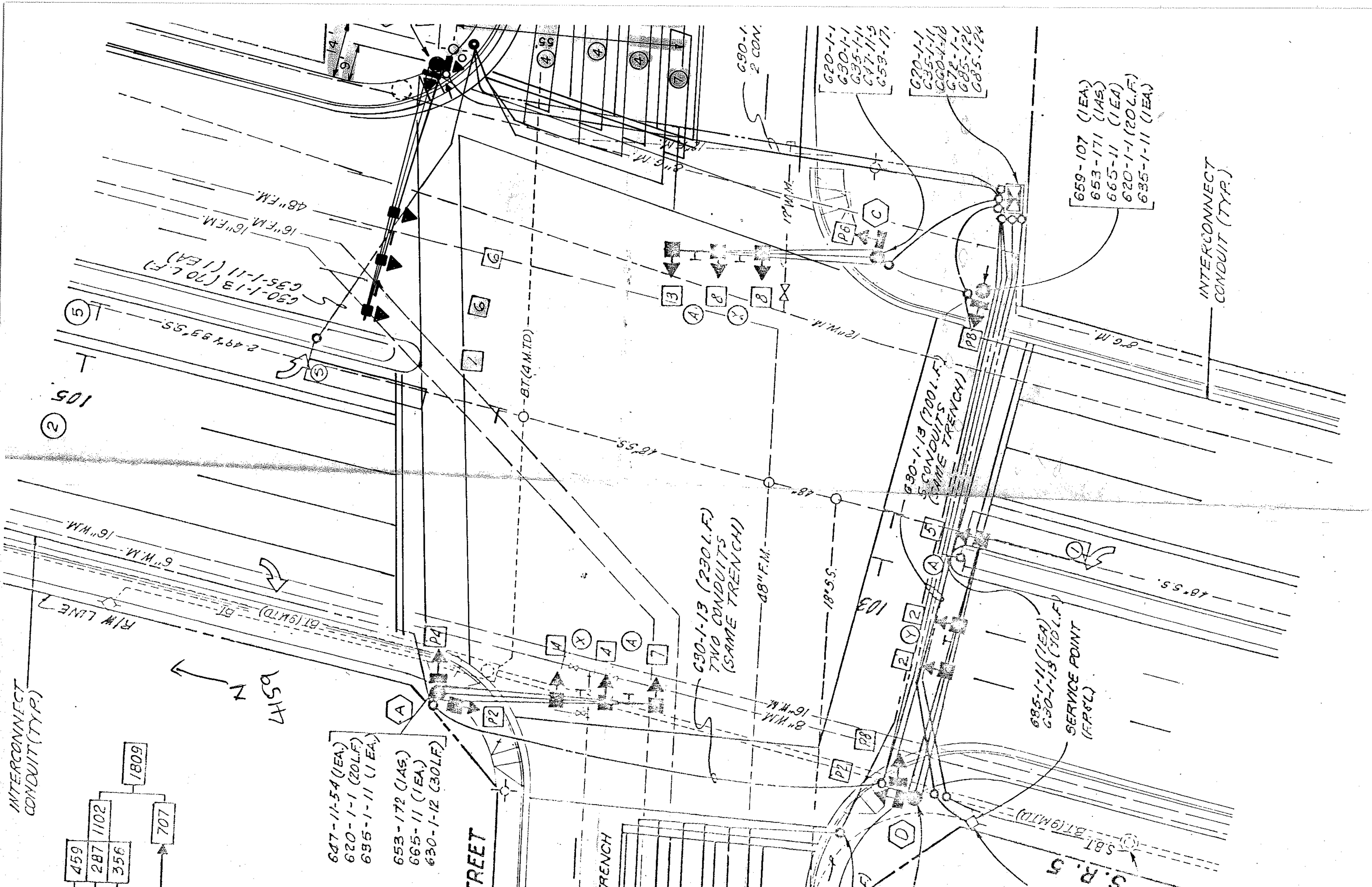
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0600	TOD OUTPUTS	--------	SuM T W ThF S
2300	TOD OUTPUTS	-------1	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0600	TOD OUTPUTS	--------	SuM T W ThF S
2300	TOD OUTPUTS	-------1	SuM T W ThF S

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA



659-107 (1EA.)
653-171 (1AS.)
665-11 (1EA)
620-1-1 (20 L.F.)
635-1-11 (1EA.)
INTERCONNECT CONDUIT (TYP.)
630-1-13 (700 L.F.) 5 CONDUITS (SAME TRENCH)
630-1-13 (230 L.F.) TWO CONDUITS (SAME TRENCH)
630-1-13 (70 L.F.)
635-1-11 (1 EA.)
2-49"x33" S.S.
48"F.M.
16"F.M.
12"W.M.
8"S.M.
48"S.S.
18"S.S.
16"W.M.
6"W.M.
8"W.M.
BT.(AMTD)
105
103
R/W LINE
685-1-11 (1EA)
630-1-13 (70 L.F.)
SERVICE POINT (F.P.&L.)
647-11-54 (1EA.)
620-1-1 (20L.F.)
635-1-11 (1 EA.)
653-172 (1AS.)
665-11 (1EA.)
630-1-12 (30L.F.)
INTERCONNECT CONDUIT (TYP.)
1809
1102
707
459
287
356
STREET
TRENCH
S.R. 5

Print Date: 9/24/2010

Miami-Dade County Traffic Signals

Print Time: 2:01 AM

TOD Schedule Report for 2010: SR- 826&US 1

Active Phase Bank: Phase Bank 1

Phase		Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
		Phase Bank 1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1	NBL	0	0	0	0	0	0	5	5	0	3	3	0	24	15	0	24	24	0	3	2.2
2	SBT	4	4	0	30	30	0	4	4	0	1	1	0	50	35	0	50	40	0	4.3	1.8
3	EBL	0	0	0	0	0	0	5	5	0	3	3	0	25	15	0	25	25	0	3	0.9
4	WBT	4	4	0	33	33	0	7	7	0	2.5	2.5	0	55	30	0	55	55	0	4.3	2.3
5	SBL	0	0	0	0	0	0	5	5	0	3	3	0	24	15	0	24	24	0	3	2.2
6	NBT	4	4	0	30	30	0	4	4	0	1	1	0	50	35	0	50	40	0	4.3	1.8
7	WBL	0	0	0	0	0	0	5	5	0	3	3	0	25	15	0	25	25	0	3	0.9
8	EBT	4	4	0	33	33	0	7	7	0	2.5	2.5	0	55	30	0	55	55	0	4.3	2.3

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12345678
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 NBL	2 SBT	3 EBL	4 WBT	5 SBL	6 NBT	7 WBL	8 EBT	Ring Offset	Offset
	1	115	14	34	15	30	14	34	15	30	0	56
	2	125	16	34	18	35	16	34	18	35	0	107
	3	150	23	37	25	43	23	37	25	43	0	71
	4	110	13	34	14	27	13	34	14	27	0	63
	5	130	15	34	18	41	15	34	18	41	0	18
	6	105	11	34	14	24	11	34	14	24	0	60
	7	105	11	34	14	24	11	34	14	24	0	60
	8	105	11	34	14	24	11	34	14	24	0	60
	10	125	17	34	18	34	17	34	18	34	0	107
	12	115	13	34	15	31	13	34	15	31	0	79
	13	130	15	34	21	38	15	34	21	38	0	54
	14	130	15	34	18	41	15	34	18	41	0	62
	15	150	16	47	23	42	16	47	23	42	0	81
	16	115	11	36	13	33	11	36	13	33	0	56
	22	105	11	34	14	24	11	34	14	24	0	60
	23	105	11	34	14	24	11	34	14	24	0	60
	25	120	14	34	13	33	15	34	20	29	0	52
	26	135	24	33	18	34	23	35	24	31	0	5
	27	160	24	43	18	49	28	40	29	41	0	34
	28	100	14	32	13	15	13	34	14	17	0	83

Local TOD Schedule

Time	Plan	DOW
0000	16	Su M T W Th F S
0100	22	Su M T W Th F S
0500	7	M T W Th F
0530	4	M T W Th F
0600	1	Su S
0700	3	M T W Th F
1000	3	Su S
2330	16	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

Local Time of Day Function

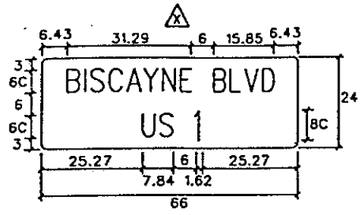
Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S

*** Settings**

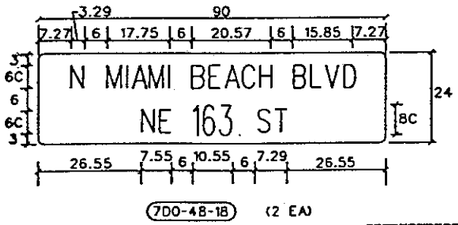
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

STATE PROJ. NO.	SHEET NO.
87030-3569	T-4

OVERHEAD SIGN DETAILS



700-48-18 (3 EA)



700-48-18 (2 EA)

700-48-18 (4 EA)

665-11 (1 EA)
665-13 (3 EA)

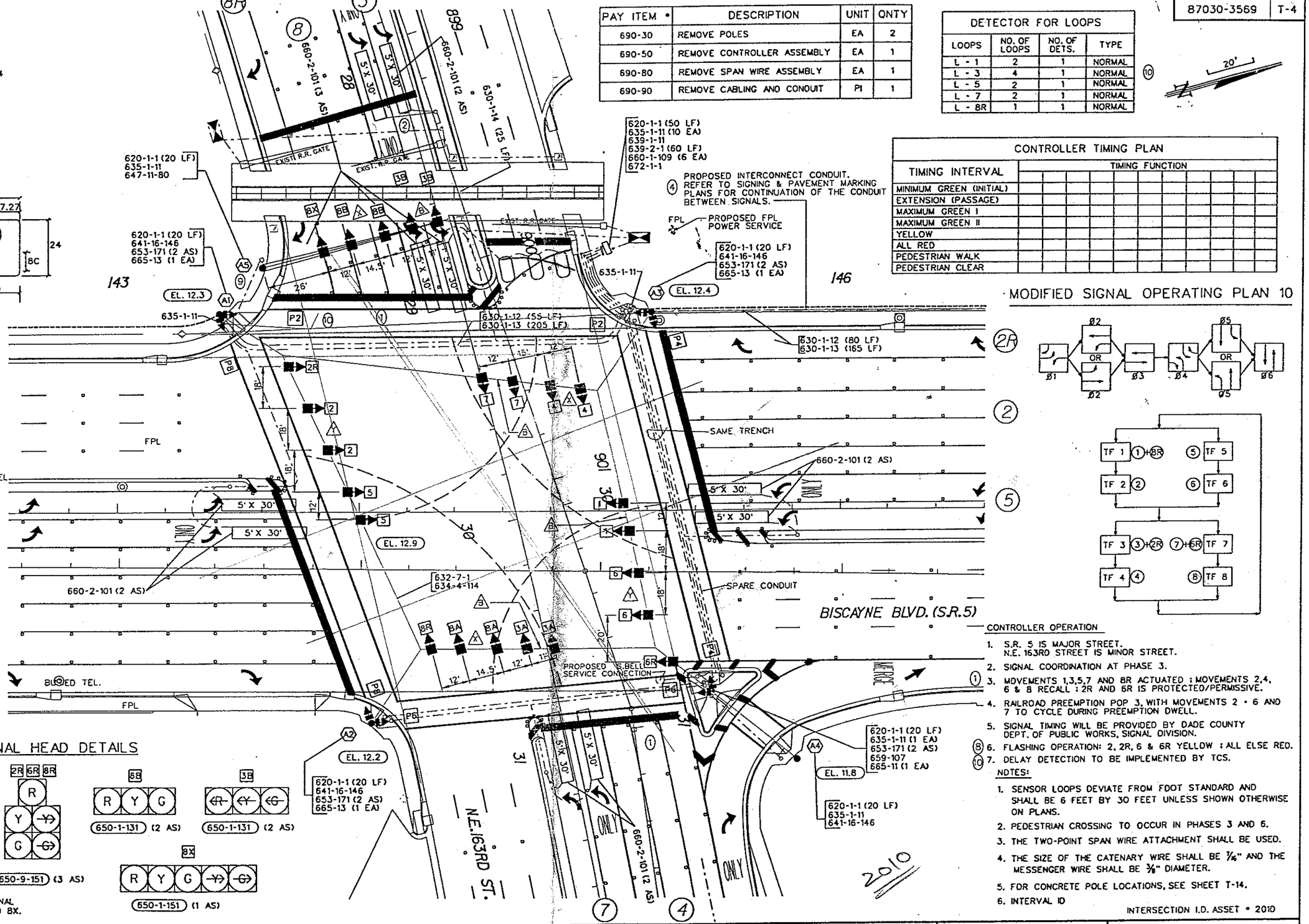
653-171 (8 AS)

PAY ITEM	DESCRIPTION	UNIT	QNTY
690-30	REMOVE POLES	EA	2
690-50	REMOVE CONTROLLER ASSEMBLY	EA	1
690-80	REMOVE SPAN WIRE ASSEMBLY	EA	1
690-90	REMOVE CABLING AND CONDUIT	PI	1

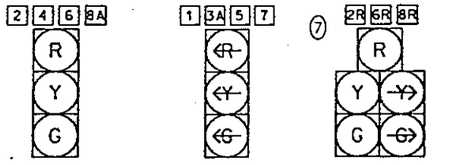
DETECTOR FOR LOOPS			
LOOPS	NO. OF LOOPS	NO. OF DETS.	TYPE
L - 1	2	1	NORMAL
L - 3	4	1	NORMAL
L - 5	2	1	NORMAL
L - 7	2	1	NORMAL
L - 8R	1	1	NORMAL

(10)

CONTROLLER TIMING PLAN											
TIMING INTERVAL	TIMING FUNCTION										
MINIMUM GREEN (INITIAL)											
EXTENSION (PASSAGE)											
MAXIMUM GREEN I											
MAXIMUM GREEN II											
YELLOW											
ALL RED											
PEDESTRIAN WALK											
PEDESTRIAN CLEAR											



SIGNAL HEAD DETAILS



BACKPLATES TO BE USED ON SIGNAL HEADS 3A, 3B, 4, 7, 8A, 8B, 8R, AND 8X.

3/97 REVISED AS PER COUNTY

MODIFIED SIGNAL OPERATING PLAN 10

CONTROLLER OPERATION

1. S.R. 5 IS MAJOR STREET. N.E. 163RD STREET IS MINOR STREET.
2. SIGNAL COORDINATION AT PHASE 3.
3. MOVEMENTS 1,3,5,7 AND 8R ACTUATED ; MOVEMENTS 2,4, 6 & 8 RECALL ; 2R AND 6R IS PROTECTED/PERMISSIVE.
4. RAILROAD PREEMPTION POP 3, WITH MOVEMENTS 2 & 6 AND 7 TO CYCLE DURING PREEMPTION DWELL.
5. SIGNAL TIMING WILL BE PROVIDED BY DADE COUNTY DEPT. OF PUBLIC WORKS, SIGNAL DIVISION.
8. 6. FLASHING OPERATION: 2, 2R, 6 & 6R YELLOW ; ALL ELSE RED.
10. 7. DELAY DETECTION TO BE IMPLEMENTED BY TCS.

NOTES:

1. SENSOR LOOPS DEVIATE FROM FDOT STANDARD AND SHALL BE 6 FEET BY 30 FEET UNLESS SHOWN OTHERWISE ON PLANS.
2. PEDESTRIAN CROSSING TO OCCUR IN PHASES 3 AND 6.
3. THE TWO-POINT SPAN WIRE ATTACHMENT SHALL BE USED.
4. THE SIZE OF THE CATENARY WIRE SHALL BE 7/16" AND THE MESSENGER WIRE SHALL BE 3/8" DIAMETER.
5. FOR CONCRETE POLE LOCATIONS, SEE SHEET T-14.
6. INTERVAL ID

INTERSECTION I.D. ASSET • 2010

REVISIONS			
DATE	BY	DESCRIPTION	
7-96	RCH	UPDATED SYMBOL TO CURRENT FDOT STANDARDS ①DELETE L-4 & L-8 RECALL MVMT. 4 & 8 ②ADD EB. LOOPS ③SHOW CONN. TO RXR CONTR. ④SHOW PROP. INTER. & REFER. ⑤MODIFY SIGN Y ⑥DELETE 103 PED SIGN. CHANGE QUAN. OF US 1 PED SIGN & DETECT. ⑦CHANGE SIGNAL HEAD 2R TO 5-SECTION CLUSTER ⑧MODIFY CONTR. NOTE 6 ⑨SHOW MAST ARM AS FROM SHT. T-4A ⑩SEPER. HOME RUNS FOR EXCL. RT. TURN. ADD NOTE FOR DELAY DETECT. BY TCS.	

	NAME	DATE	NAME	DATE
DESIGNED BY	ALH	6-94	DRAWN BY	RSG 7-94
CHECKED BY	SLZ	6-94	CHECKED BY	ALH 7-94

SUPERVISED BY : MIKE S. DUDECK Jr, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY : MIKE S. DUDECK Jr, P.E.
DATE :

CRAIG A. SMITH & ASSOCIATES
1600 W. MCNAB ROAD
POMPANO BEACH, FL 33069

S.R.5 & N.E. 163RD STREET SIGNALIZATION PLAN

C: \dgn\96082\1011sg01.dgn Sep. 17, 1997 18:24:24

Print Date: 12/4/2009

Miami-Dade County Traffic Signals

Print Time: 12:27 PM

TOD Schedule Report for 4802: SR- 826&NE 34 Av

Active Phase Bank: Phase Bank

Phase		Walk Phase Bank 1	Walk Phase Bank 2	Walk Phase Bank 3	Don't Walk 1	Don't Walk 2	Don't Walk 3	Min Initial 1	Min Initial 2	Min Initial 3	Veh Ext 1	Veh Ext 2	Veh Ext 3	Max Limit 1	Max Limit 2	Max Limit 3	Max 2 1	Max 2 2	Max 2 3	Yellow	Red
1	EBL	0	0	0	0	0	0	5	5	5	2	2	2	10	7	10	10	7	10	3	0.5
2	WBT	0	0	0	0	0	0	15	15	15	1	1	1	40	36	40	40	31	40	4.3	1
3		0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	15	7	15	15	7	15	4	1.5
4	NBT	5	5	5	28	28	28	7	7	7	2.5	2.5	2.5	20	7	20	34	7	20	4	1.7
5	WBL	0	0	0	0	0	0	5	5	5	2	2	2	10	7	10	10	7	10	3.5	0
6	EBT	0	0	0	0	0	0	15	15	15	1	1	1	40	36	40	40	31	40	4.3	1
7		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date:

Permitted Phases

	12345678
Default	123456--
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3	4 NBT	5 WBL	6 EBT	7	8	Ring Offset	Offset
	6	90	7	21	8	34	7	21	0	0	0	15
	7	130	7	62	8	34	8	61	0	0	0	67
	8	120	7	51	8	34	9	50	0	0	0	83
	9	130	7	62	8	34	9	60	0	0	0	45

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0600	6	Su S
0645	7	M T W Th F
0900	8	Su S
1000	8	M T W Th F
1530	9	M T W Th F
2000	6	Su M T W Th F S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0030	TOD OUTPUTS	------2-	SuM T W ThF
0600	TOD OUTPUTS	-------1	M T W ThF
0645	TOD OUTPUTS	--------	M T W ThF

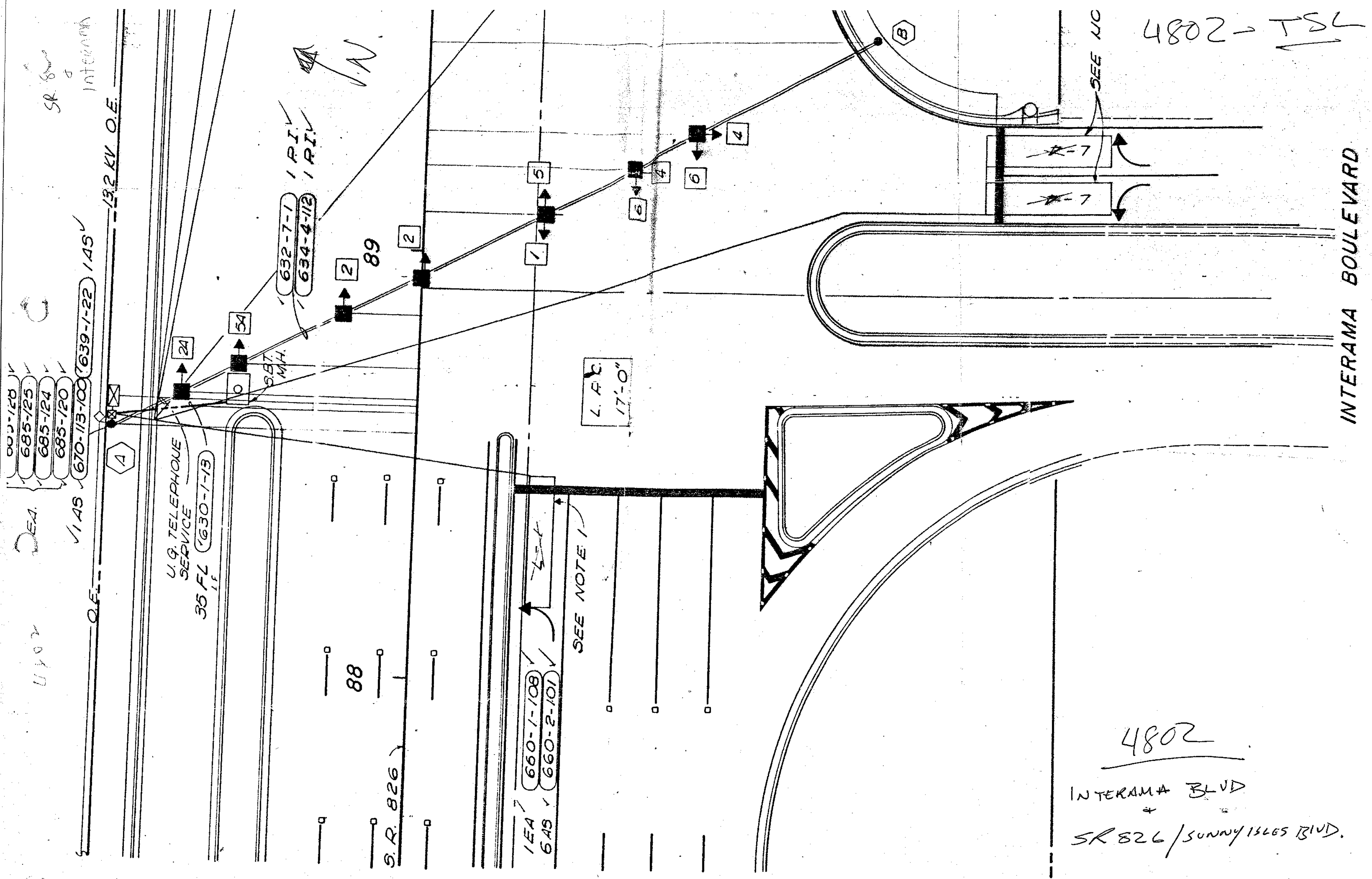
Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0030	TOD OUTPUTS	------2-	SuM T W ThF
0100	TOD OUTPUTS	------2-	S
0600	TOD OUTPUTS	--------	Su S
0600	TOD OUTPUTS	-------1	M T W ThF
0645	TOD OUTPUTS	--------	M T W ThF

*** Settings**

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

4802 - TSL



4802

INTERAMA BLVD
&
SR 826 / SUNNY ISLES BLVD.

Volume Development

Intersection Capacity Analysis

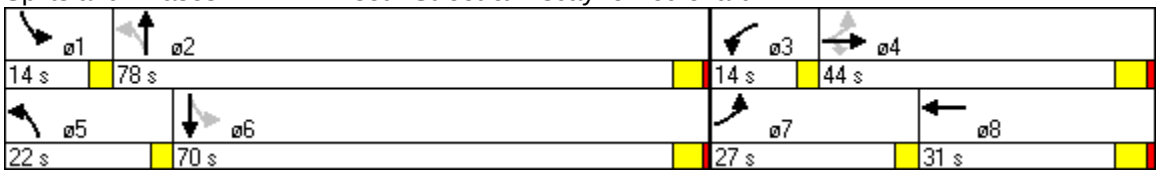
A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	340	62	194	163	116	197	1323	44	1701
Turn Type	pm+pt		Perm	Prot		pm+pt		pm+pt	
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases	4		4			2		6	
Detector Phases	7	4	4	3	8	5	2	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	21.4	21.4	8.0	21.4	8.0	21.0	8.0	21.0
Total Split (s)	27.0	44.0	44.0	14.0	31.0	22.0	78.0	14.0	70.0
Total Split (%)	18.0%	29.3%	29.3%	9.3%	20.7%	14.7%	52.0%	9.3%	46.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	1.4	1.4	0.0	1.4	0.0	1.0	0.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 139 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: NE 135th Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	351	64	200	168	223	203	1432	45	2038
v/c Ratio	0.97	0.20	0.46	0.76	0.62	0.79	0.45	0.23	0.74
Control Delay	92.8	54.4	10.5	90.2	42.7	55.8	15.3	12.8	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.8	54.4	10.5	90.2	42.7	55.8	15.3	12.8	29.1
Queue Length 50th (ft)	319	55	3	85	60	131	257	13	534
Queue Length 95th (ft)	#412	98	73	#136	103	218	323	30	713
Internal Link Dist (ft)		1242			1269		769		842
Turn Bay Length (ft)	140			115		250		250	
Base Capacity (vph)	360	497	567	229	678	293	3195	243	2739
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.13	0.35	0.73	0.33	0.69	0.45	0.19	0.74

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	3433	3294		1770	5049		1770	4979	
Flt Permitted	0.25	1.00	1.00	0.95	1.00		0.05	1.00		0.16	1.00	
Satd. Flow (perm)	464	1863	1583	3433	3294		87	5049		298	4979	
Volume (vph)	340	62	194	163	116	100	197	1323	66	44	1701	275
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	351	64	200	168	120	103	203	1364	68	45	1754	284
RTOR Reduction (vph)	0	0	164	0	95	0	0	3	0	0	12	0
Lane Group Flow (vph)	351	64	36	168	128	0	203	1429	0	45	2026	0
Turn Type	pm+pt		Perm	Prot			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)	37.8	24.1	24.1	10.7	10.8		101.8	93.2		86.7	81.1	
Effective Green, g (s)	39.2	25.5	25.5	9.7	12.2		102.8	94.2		86.7	82.1	
Actuated g/C Ratio	0.26	0.17	0.17	0.06	0.08		0.69	0.63		0.58	0.55	
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	322	317	269	222	268		247	3171		217	2725	
v/s Ratio Prot	c0.17	0.03		0.05	0.04		c0.09	0.28		0.01	0.41	
v/s Ratio Perm	c0.12		0.02				c0.47			0.11		
v/c Ratio	1.09	0.20	0.14	0.76	0.48		0.82	0.45		0.21	0.74	
Uniform Delay, d1	51.1	53.5	52.9	69.0	65.9		47.1	14.5		13.9	25.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	76.4	0.3	0.2	13.7	1.4		19.3	0.5		0.5	1.9	
Delay (s)	127.6	53.8	53.1	82.7	67.2		66.4	14.9		14.4	27.8	
Level of Service	F	D	D	F	E		E	B		B	C	
Approach Delay (s)		95.7			73.9			21.3			27.5	
Approach LOS		F			E			C			C	

Intersection Summary

HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

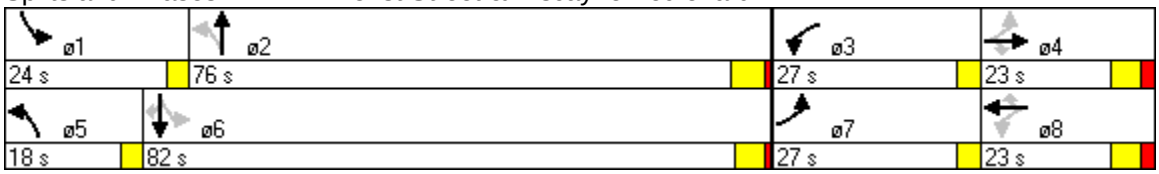
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	138	304	130	300	197	192	87	1160	446	1843	218
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		pm+pt		Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	4	3	8	8	5	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	21.4	8.0	21.0	21.0
Total Split (s)	27.0	23.0	23.0	27.0	23.0	23.0	18.0	76.0	24.0	82.0	82.0
Total Split (%)	18.0%	15.3%	15.3%	18.0%	15.3%	15.3%	12.0%	50.7%	16.0%	54.7%	54.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.3	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	1.1	0.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 13 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	155	342	146	337	221	216	98	1794	501	2071	245
v/c Ratio	0.56	0.78	0.46	0.99	0.35	0.47	0.64	0.75	1.72	0.73	0.25
Control Delay	48.8	76.9	15.5	93.4	56.4	10.2	45.1	32.5	368.9	27.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	76.9	15.5	93.4	56.4	10.2	45.1	32.5	368.9	27.2	5.9
Queue Length 50th (ft)	116	173	7	284	100	0	42	492	~680	535	29
Queue Length 95th (ft)	177	227	72	#465	147	73	100	542	#896	631	78
Internal Link Dist (ft)		557			714			879		1056	
Turn Bay Length (ft)	125		130	200		150	200		500		
Base Capacity (vph)	375	448	321	339	637	462	215	2386	291	2834	961
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.76	0.45	0.99	0.35	0.47	0.46	0.75	1.72	0.73	0.25

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	4877		1770	5085	1583
Flt Permitted	0.61	1.00	1.00	0.19	1.00	1.00	0.06	1.00		0.05	1.00	1.00
Satd. Flow (perm)	1143	3539	1583	360	3539	1583	103	4877		98	5085	1583
Volume (vph)	138	304	130	300	197	192	87	1160	437	446	1843	218
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	155	342	146	337	221	216	98	1303	491	501	2071	245
RTOR Reduction (vph)	0	0	121	0	0	177	0	45	0	0	0	79
Lane Group Flow (vph)	155	342	25	337	221	39	98	1749	0	501	2071	166
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	32.2	16.6	16.6	43.6	25.0	25.0	80.4	70.6		95.4	82.6	82.6
Effective Green, g (s)	33.2	18.6	18.6	45.6	27.0	27.0	80.8	72.0		96.4	83.6	83.6
Actuated g/C Ratio	0.22	0.12	0.12	0.30	0.18	0.18	0.54	0.48		0.64	0.56	0.56
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	6.0	3.0	5.4		3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	314	439	196	326	637	285	153	2341		290	2834	882
v/s Ratio Prot	0.05	0.10		c0.16	0.06		0.04	0.36		c0.23	0.41	
v/s Ratio Perm	0.06		0.02	c0.16		0.02	0.31			c0.87		0.10
v/c Ratio	0.49	0.78	0.13	1.03	0.35	0.14	0.64	0.75		1.73	0.73	0.19
Uniform Delay, d1	49.8	63.7	58.5	46.0	53.8	51.7	24.3	31.6		51.2	24.8	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.2	8.5	0.3	58.8	0.3	0.2	8.8	2.2		341.5	1.7	0.5
Delay (s)	51.1	72.2	58.8	104.8	54.1	51.9	33.1	33.8		392.7	26.5	16.9
Level of Service	D	E	E	F	D	D	C	C		F	C	B
Approach Delay (s)		64.1			75.6			33.8			90.8	
Approach LOS		E			E			C			F	

Intersection Summary

HCM Average Control Delay	68.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

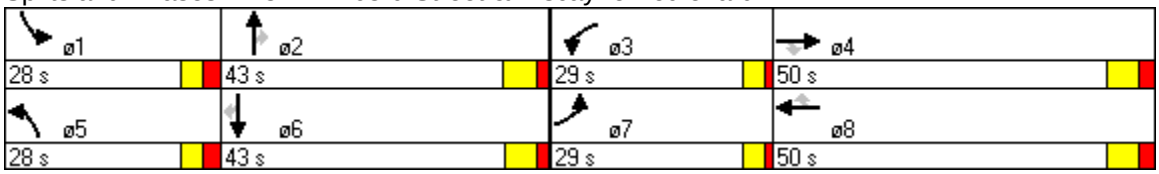
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	330	1046	501	561	1151	514	316	915	248	372	1264	355
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.6	22.6	8.0	22.6	22.6	14.5	22.1	22.1	9.2	21.8	21.8
Total Split (s)	29.0	50.0	50.0	29.0	50.0	50.0	28.0	43.0	43.0	28.0	43.0	43.0
Total Split (%)	19.3%	33.3%	33.3%	19.3%	33.3%	33.3%	18.7%	28.7%	28.7%	18.7%	28.7%	28.7%
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3	4.3	3.0	4.3	4.3	3.0	4.0	4.0
All-Red Time (s)	1.0	2.3	2.3	1.0	2.3	2.3	2.2	1.8	1.8	2.2	1.8	1.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 107 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: NE 163rd Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	347	1101	527	591	1212	541	333	963	261	392	1331	374
v/c Ratio	0.76	0.75	0.79	1.03	0.74	0.75	0.71	0.52	0.40	0.78	0.69	0.53
Control Delay	73.4	51.9	29.9	106.1	48.7	25.4	70.8	46.4	6.7	72.6	49.2	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.4	51.9	29.9	106.1	48.7	25.4	70.8	46.4	6.7	72.6	49.2	11.2
Queue Length 50th (ft)	171	350	217	~319	377	201	162	238	0	191	344	41
Queue Length 95th (ft)	219	405	374	#441	455	371	212	279	72	249	402	147
Internal Link Dist (ft)		648			982			856			1032	
Turn Bay Length (ft)	225		235	380			425		425	420		400
Base Capacity (vph)	572	1559	691	572	1635	724	549	1866	646	549	1939	701
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.71	0.76	1.03	0.74	0.75	0.61	0.52	0.40	0.71	0.69	0.53

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	6408	1583	3433	6408	1583
Volume (vph)	330	1046	501	561	1151	514	316	915	248	372	1264	355
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	347	1101	527	591	1212	541	333	963	261	392	1331	374
RTOR Reduction (vph)	0	0	211	0	0	214	0	0	185	0	0	222
Lane Group Flow (vph)	347	1101	316	591	1212	327	333	963	76	392	1331	152
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	20.0	40.7	40.7	25.0	45.7	45.7	19.2	41.5	41.5	20.9	43.5	43.5
Effective Green, g (s)	20.0	43.3	43.3	25.0	48.3	48.3	20.4	43.6	43.6	22.1	45.3	45.3
Actuated g/C Ratio	0.13	0.29	0.29	0.17	0.32	0.32	0.14	0.29	0.29	0.15	0.30	0.30
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6	6.6	5.2	6.1	6.1	5.2	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	458	1468	457	572	1637	510	467	1863	460	506	1935	478
v/s Ratio Prot	0.10	0.22		c0.17	c0.24		0.10	0.15		c0.11	c0.21	
v/s Ratio Perm			0.20			0.21			0.05			0.10
v/c Ratio	0.76	0.75	0.69	1.03	0.74	0.64	0.71	0.52	0.16	0.77	0.69	0.32
Uniform Delay, d1	62.7	48.4	47.4	62.5	45.3	43.4	62.0	44.4	39.6	61.6	46.1	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0	2.2	4.5	46.4	1.8	2.7	5.1	1.0	0.8	7.3	2.0	1.7
Delay (s)	69.7	50.6	51.9	108.9	47.1	46.2	67.1	45.4	40.4	68.8	48.1	42.2
Level of Service	E	D	D	F	D	D	E	D	D	E	D	D
Approach Delay (s)		54.3			62.5			49.2			50.9	
Approach LOS		D			E			D			D	

Intersection Summary

HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

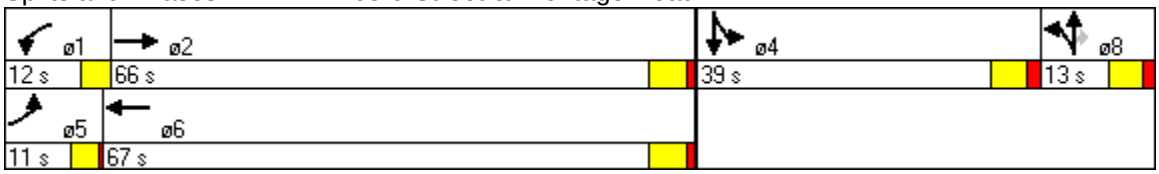
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations								
Volume (vph)	7	1687	9	1943	0	2	4	4
Turn Type	Prot		Prot			Perm	Split	
Protected Phases	5	2	1	6	8		4	4
Permitted Phases						8		
Detector Phases	5	2	1	6	8	8	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	21.3	8.0	21.3	21.5	21.5	21.7	21.7
Total Split (s)	11.0	66.0	12.0	67.0	13.0	13.0	39.0	39.0
Total Split (%)	8.5%	50.8%	9.2%	51.5%	10.0%	10.0%	30.0%	30.0%
Yellow Time (s)	3.0	4.3	3.5	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	0.5	1.0	0.0	1.0	1.5	1.5	1.7	1.7
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 67 (52%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 4: NE 163rd Street & Frontage Road



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	1766	9	2038	2	2	4	49
v/c Ratio	0.09	0.50	0.12	0.58	0.02	0.02	0.01	0.11
Control Delay	62.0	19.0	62.6	20.3	57.0	40.0	35.0	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	19.0	62.6	20.3	57.0	40.0	35.0	11.8
Queue Length 50th (ft)	6	246	7	301	2	0	2	2
Queue Length 95th (ft)	22	337	26	406	11	9	12	35
Internal Link Dist (ft)		679		499	252			77
Turn Bay Length (ft)	200		132					
Base Capacity (vph)	95	3536	109	3539	123	111	477	465
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.50	0.08	0.58	0.02	0.02	0.01	0.11

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.86		1.00	0.86			1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1770	6403		1770	6401			1770	1583	1770	1606	
Flt Permitted	0.95	1.00		0.95	1.00			0.95	1.00	0.95	1.00	
Satd. Flow (perm)	1770	6403		1770	6401			1770	1583	1770	1606	
Volume (vph)	7	1687	9	9	1943	13	2	0	2	4	4	43
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	1757	9	9	2024	14	2	0	2	4	4	45
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	2	0	33	0
Lane Group Flow (vph)	7	1766	0	9	2038	0	0	2	0	4	16	0
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			
Actuated Green, G (s)	1.4	67.7		1.5	67.8			7.5	7.5	33.3	33.3	
Effective Green, g (s)	0.9	69.0		1.0	69.1			9.0	9.0	35.0	35.0	
Actuated g/C Ratio	0.01	0.53		0.01	0.53			0.07	0.07	0.27	0.27	
Clearance Time (s)	3.5	5.3		3.5	5.3			5.5	5.5	5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	12	3399		14	3402			123	110	477	432	
v/s Ratio Prot	0.00	0.28		c0.01	c0.32			c0.00		0.00	c0.01	
v/s Ratio Perm									0.00			
v/c Ratio	0.58	0.52		0.64	0.60			0.02	0.00	0.01	0.04	
Uniform Delay, d1	64.4	19.8		64.3	20.9			56.4	56.3	34.8	35.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.2	0.6		71.2	0.8			0.2	0.0	0.0	0.2	
Delay (s)	120.6	20.3		135.5	21.7			56.6	56.3	34.8	35.2	
Level of Service	F	C		F	C			E	E	C	D	
Approach Delay (s)		20.7			22.2			56.5			35.2	
Approach LOS		C			C			E			D	

Intersection Summary

HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

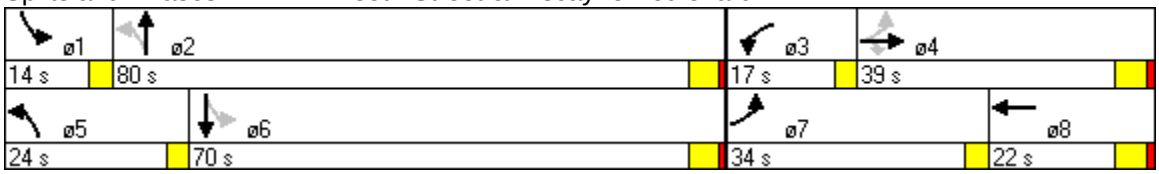
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	430	114	228	106	109	276	1960	119	1711
Turn Type	pm+pt		Perm	Prot		pm+pt		pm+pt	
Protected Phases	7	4		3	8	5	2	1	6
Permitted Phases	4		4			2		6	
Detector Phases	7	4	4	3	8	5	2	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	21.4	21.4	8.0	21.4	8.0	21.0	8.0	21.0
Total Split (s)	34.0	39.0	39.0	17.0	22.0	24.0	80.0	14.0	70.0
Total Split (%)	22.7%	26.0%	26.0%	11.3%	14.7%	16.0%	53.3%	9.3%	46.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	1.4	1.4	0.0	1.4	0.0	1.0	0.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 110 (73%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: NE 135th Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	443	118	235	109	222	285	2140	123	2133
v/c Ratio	1.04	0.29	0.44	0.53	0.61	0.84	0.78	0.71	0.95
Control Delay	101.3	50.7	8.1	77.3	40.3	63.8	30.1	54.7	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.3	50.7	8.1	77.3	40.3	63.8	30.1	54.7	49.4
Queue Length 50th (ft)	~427	97	0	54	55	217	591	66	729
Queue Length 95th (ft)	#575	156	72	86	99	#409	706	#144	#850
Internal Link Dist (ft)		1242			1269		769		842
Turn Bay Length (ft)	140			115		250		250	
Base Capacity (vph)	425	435	550	298	490	341	2754	184	2248
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.27	0.43	0.37	0.45	0.84	0.78	0.67	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	3433	3276		1770	5043		1770	4953	
Flt Permitted	0.25	1.00	1.00	0.95	1.00		0.06	1.00		0.06	1.00	
Satd. Flow (perm)	466	1863	1583	3433	3276		104	5043		111	4953	
Volume (vph)	430	114	228	106	109	107	276	1960	115	119	1711	358
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	443	118	235	109	112	110	285	2021	119	123	1764	369
RTOR Reduction (vph)	0	0	183	0	101	0	0	4	0	0	21	0
Lane Group Flow (vph)	443	118	52	109	121	0	285	2136	0	123	2112	0
Turn Type	pm+pt		Perm	Prot			pm+pt			pm+pt		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4				2			6		
Actuated Green, G (s)	44.6	31.6	31.6	10.0	10.6		95.0	80.7		77.7	66.4	
Effective Green, g (s)	46.0	33.0	33.0	9.0	12.0		96.0	81.7		77.7	67.4	
Actuated g/C Ratio	0.31	0.22	0.22	0.06	0.08		0.64	0.54		0.52	0.45	
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	404	410	348	206	262		340	2747		171	2226	
v/s Ratio Prot	c0.22	0.06		0.03	0.04		c0.14	0.42		0.05	c0.43	
v/s Ratio Perm	c0.12		0.03				0.40			0.32		
v/c Ratio	1.10	0.29	0.15	0.53	0.46		0.84	0.78		0.72	0.95	
Uniform Delay, d1	47.4	48.7	47.2	68.4	65.9		48.6	27.0		30.7	39.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	73.4	0.4	0.2	2.4	1.3		16.3	2.2		13.5	10.3	
Delay (s)	120.8	49.1	47.4	70.9	67.2		64.9	29.2		44.2	50.0	
Level of Service	F	D	D	E	E		E	C		D	D	
Approach Delay (s)		88.5			68.4			33.4			49.7	
Approach LOS		F			E			C			D	

Intersection Summary

HCM Average Control Delay	49.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

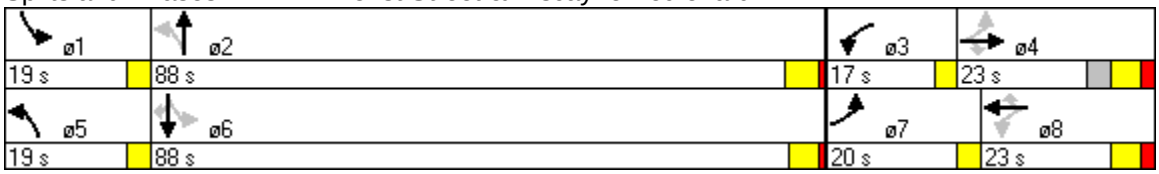
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	186	201	146	338	215	451	172	1799	216	1580	194
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		pm+pt		Perm
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases	4		4	8		8	2		6		6
Detector Phases	7	4	4	3	8	8	5	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	21.4	8.0	21.0	21.0
Total Split (s)	20.0	23.0	23.0	17.0	23.0	23.0	19.0	88.0	19.0	88.0	88.0
Total Split (%)	13.3%	15.3%	15.3%	11.3%	15.3%	15.3%	12.7%	58.7%	12.7%	58.7%	58.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.3	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	1.1	0.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 77 (51%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	196	212	154	356	226	475	181	2102	227	1663	204
v/c Ratio	0.69	0.41	0.42	1.22	0.48	1.27	0.80	0.75	1.00	0.56	0.20
Control Delay	60.1	60.8	11.7	168.1	64.7	169.1	48.0	26.8	102.3	20.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	60.8	11.7	168.1	64.7	169.1	48.0	26.8	102.3	20.5	2.5
Queue Length 50th (ft)	161	100	0	~409	110	~418	79	547	171	353	1
Queue Length 95th (ft)	241	144	67	#495	156	#647	161	605	#355	423	38
Internal Link Dist (ft)		557			714			879		1056	
Turn Bay Length (ft)	125		130	200		150	200		500		
Base Capacity (vph)	293	519	364	293	466	375	269	2814	228	2971	1009
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.41	0.42	1.22	0.48	1.27	0.67	0.75	1.00	0.56	0.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	5010		1770	5085	1583
Flt Permitted	0.40	1.00	1.00	0.55	1.00	1.00	0.10	1.00		0.05	1.00	1.00
Satd. Flow (perm)	749	3539	1583	1027	3539	1583	180	5010		85	5085	1583
Volume (vph)	186	201	146	338	215	451	172	1799	198	216	1580	194
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	196	212	154	356	226	475	181	1894	208	227	1663	204
RTOR Reduction (vph)	0	0	131	0	0	167	0	9	0	0	0	84
Lane Group Flow (vph)	196	212	23	356	226	308	181	2093	0	227	1663	120
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt			pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	36.3	20.0	20.0	31.7	17.7	17.7	95.0	82.6		102.0	86.6	86.6
Effective Green, g (s)	37.3	22.0	22.0	32.7	19.7	19.7	95.4	84.0		102.6	87.6	87.6
Actuated g/C Ratio	0.25	0.15	0.15	0.22	0.13	0.13	0.64	0.56		0.68	0.58	0.58
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0	6.0	3.0	5.4		3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	290	519	232	288	465	208	235	2806		227	2970	924
v/s Ratio Prot	c0.07	0.06		c0.11	0.06		0.06	0.42		c0.10	0.33	
v/s Ratio Perm	0.10		0.01	0.16		c0.19	0.43			c0.58		0.08
v/c Ratio	0.68	0.41	0.10	1.24	0.49	1.48	0.77	0.75		1.00	0.56	0.13
Uniform Delay, d1	47.8	58.1	55.4	56.9	60.5	65.2	18.1	24.9		51.3	19.3	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.1	0.5	0.2	132.5	0.8	240.8	14.4	1.9		59.7	0.8	0.3
Delay (s)	54.0	58.6	55.6	189.4	61.3	305.9	32.4	26.8		111.0	20.1	14.3
Level of Service	D	E	E	F	E	F	C	C		F	C	B
Approach Delay (s)		56.2			214.4			27.2			29.4	
Approach LOS		E			F			C			C	

Intersection Summary

HCM Average Control Delay	63.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

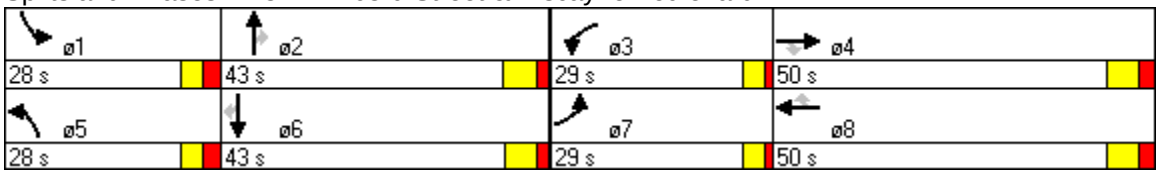
c Critical Lane Group

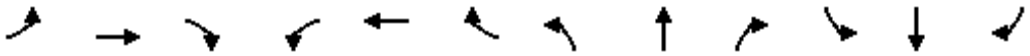
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	1002	490	508	1219	704	631	1609	561	505	1242	401
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phases	7	4	4	3	8	8	5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.6	22.6	8.0	22.6	22.6	14.5	22.1	22.1	9.2	21.8	21.8
Total Split (s)	29.0	50.0	50.0	29.0	50.0	50.0	28.0	43.0	43.0	28.0	43.0	43.0
Total Split (%)	19.3%	33.3%	33.3%	19.3%	33.3%	33.3%	18.7%	28.7%	28.7%	18.7%	28.7%	28.7%
Yellow Time (s)	3.0	4.3	4.3	3.0	4.3	4.3	3.0	4.3	4.3	3.0	4.0	4.0
All-Red Time (s)	1.0	2.3	2.3	1.0	2.3	2.3	2.2	1.8	1.8	2.2	1.8	1.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 107 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 3: NE 163rd Street & Biscayne Boulevard





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	510	1044	510	529	1270	733	657	1676	584	526	1294	418
v/c Ratio	0.91	0.67	0.73	0.94	0.80	1.05	1.20	1.01	0.91	0.96	0.78	0.66
Control Delay	83.3	47.7	25.6	86.4	52.4	77.2	157.3	78.2	45.1	91.2	55.3	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.3	47.7	25.6	86.4	52.4	77.2	157.3	78.2	45.1	91.2	55.3	18.8
Queue Length 50th (ft)	255	327	195	266	421	~569	~400	~485	300	266	343	98
Queue Length 95th (ft)	#352	380	344	#373	482	#822	#526	#573	#539	#381	388	225
Internal Link Dist (ft)		648			982			856			1032	
Turn Bay Length (ft)	225		235	380			425		425	420		400
Base Capacity (vph)	572	1569	695	572	1579	698	549	1666	639	549	1666	635
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.67	0.73	0.92	0.80	1.05	1.20	1.01	0.91	0.96	0.78	0.66

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.86	1.00	0.97	0.86	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	3433	6408	1583	3433	6408	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	3433	6408	1583	3433	6408	1583
Volume (vph)	490	1002	490	508	1219	704	631	1609	561	505	1242	401
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	510	1044	510	529	1270	733	657	1676	584	526	1294	418
RTOR Reduction (vph)	0	0	206	0	0	206	0	0	227	0	0	223
Lane Group Flow (vph)	510	1044	304	529	1270	527	657	1676	357	526	1294	195
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	24.4	43.7	43.7	24.7	44.0	44.0	22.8	36.9	36.9	22.8	37.2	37.2
Effective Green, g (s)	24.4	46.3	46.3	24.7	46.6	46.6	24.0	39.0	39.0	24.0	39.0	39.0
Actuated g/C Ratio	0.16	0.31	0.31	0.16	0.31	0.31	0.16	0.26	0.26	0.16	0.26	0.26
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6	6.6	5.2	6.1	6.1	5.2	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	558	1570	489	565	1580	492	549	1666	412	549	1666	412
v/s Ratio Prot	0.15	0.21		c0.15	0.25		c0.19	c0.26		0.15	0.20	
v/s Ratio Perm			0.19			c0.33			0.23			0.12
v/c Ratio	0.91	0.66	0.62	0.94	0.80	1.07	1.20	1.01	0.87	0.96	0.78	0.47
Uniform Delay, d1	61.8	45.1	44.4	61.9	47.5	51.7	63.0	55.5	53.0	62.5	51.5	46.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.5	1.1	2.5	23.0	3.1	60.9	105.3	23.5	21.0	27.8	3.6	3.8
Delay (s)	81.3	46.2	46.8	84.9	50.6	112.6	168.3	79.0	74.0	90.3	55.1	50.7
Level of Service	F	D	D	F	D	F	F	E	E	F	E	D
Approach Delay (s)		55.0			75.7			98.1			62.6	
Approach LOS		E			E			F			E	

Intersection Summary

HCM Average Control Delay	75.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

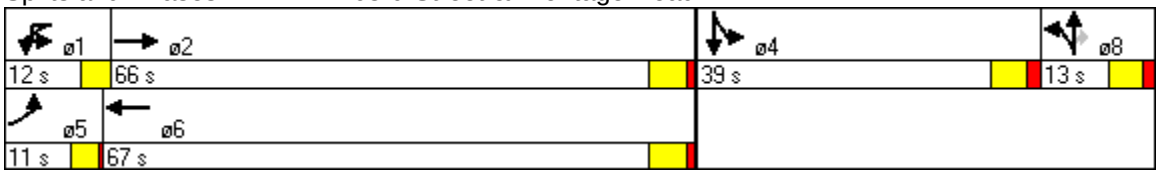
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations								
Volume (vph)	13	1926	7	2209	0	8	9	3
Turn Type	Prot		Prot			Perm	Split	
Protected Phases	5	2	1	6	8		4	4
Permitted Phases						8		
Detector Phases	5	2	1	6	8	8	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	21.3	8.0	21.3	21.5	21.5	21.7	21.7
Total Split (s)	11.0	66.0	12.0	67.0	13.0	13.0	39.0	39.0
Total Split (%)	8.5%	50.8%	9.2%	51.5%	10.0%	10.0%	30.0%	30.0%
Yellow Time (s)	3.0	4.3	3.5	4.3	4.0	4.0	4.0	4.0
All-Red Time (s)	0.5	1.0	0.0	1.0	1.5	1.5	1.7	1.7
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Max	None	C-Max	Max	Max	Max	Max

Intersection Summary

Cycle Length: 130
Actual Cycle Length: 130
Offset: 45 (35%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 4: NE 163rd Street & Frontage Road



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	14	2110	22	2446	12	9	10	48
v/c Ratio	0.17	0.64	0.25	0.71	0.10	0.08	0.02	0.10
Control Delay	64.2	24.4	65.8	24.8	58.7	29.8	35.2	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	24.4	65.8	24.8	58.7	29.8	35.2	11.6
Queue Length 50th (ft)	12	384	18	399	10	0	6	2
Queue Length 95th (ft)	34	436	47	534	31	19	21	33
Internal Link Dist (ft)		679		499	252			77
Turn Bay Length (ft)	200		132					
Base Capacity (vph)	95	3310	109	3426	123	118	477	464
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.64	0.20	0.71	0.10	0.08	0.02	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0			4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86			1.00	0.86			1.00	1.00	1.00	1.00
Frt	1.00	1.00			1.00	1.00			1.00	0.85	1.00	0.86
Flt Protected	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	6400			1770	6390			1770	1583	1770	1601
Flt Permitted	0.95	1.00			0.95	1.00			0.95	1.00	0.95	1.00
Satd. Flow (perm)	1770	6400			1770	6390			1770	1583	1770	1601
Volume (vph)	13	1926	16	13	7	2209	41	11	0	8	9	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	2093	17	14	8	2401	45	12	0	9	10	3
RTOR Reduction (vph)	0	1	0	0	0	2	0	0	0	8	0	33
Lane Group Flow (vph)	14	2109	0	0	22	2444	0	0	12	1	10	15
Turn Type	Prot			Prot	Prot			Split		Perm	Split	
Protected Phases	5	2		1	1	6		8	8		4	4
Permitted Phases										8		
Actuated Green, G (s)	2.9	64.5			4.7	66.3			7.5	7.5	33.3	33.3
Effective Green, g (s)	2.4	65.8			4.2	67.6			9.0	9.0	35.0	35.0
Actuated g/C Ratio	0.02	0.51			0.03	0.52			0.07	0.07	0.27	0.27
Clearance Time (s)	3.5	5.3			3.5	5.3			5.5	5.5	5.7	5.7
Vehicle Extension (s)	3.0	3.0			3.0	3.0			3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	33	3239			57	3323			123	110	477	431
v/s Ratio Prot	0.01	0.33			c0.01	c0.38			c0.01		0.01	c0.01
v/s Ratio Perm										0.00		
v/c Ratio	0.42	0.65			0.39	0.74			0.10	0.01	0.02	0.04
Uniform Delay, d1	63.1	23.6			61.6	24.3			56.7	56.3	34.9	35.0
Progression Factor	1.00	1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2	8.6	1.0			4.3	1.5			1.6	0.1	0.1	0.2
Delay (s)	71.7	24.7			65.9	25.7			58.3	56.4	35.0	35.2
Level of Service	E	C			E	C			E	E	C	D
Approach Delay (s)		25.0				26.1			57.5			35.2
Approach LOS		C				C			E			D

Intersection Summary

HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR
Lane Configurations	
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Volume (vph)	41
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	45
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

APPENDIX H:
Trip Generation

PEAK HOUR TRIP GENERATION COMPARISON

AM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent														
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 1	1	University/College	8	550	5030	stu	80%	20%	790	197	987	0.0%	0	790	197	987	0.0%	0	790	197	987
	2	Middle School/Junior High School	8	522	290	stu	55%	45%	86	71	157	0.0%	0	86	71	157	0.0%	0	86	71	157
	3	High School	8	530	236	stu	68%	32%	67	32	99	0.0%	0	67	32	99	0.0%	0	67	32	99
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
						Total:			943	300	1,243			943	300	1,243			943	300	1,243

PM PEAK HOUR TRIP GENERATION

		ITE TRIP GENERATION CHARACTERISTICS					DIRECTIONAL DISTRIBUTION		GROSS VOLUMES			INTERNAL CAPTURE		EXTERNAL TRIPS			PASS-BY CAPTURE		NET NEW EXTERNAL TRIPS		
							Percent														
		Land Use	ITE Edition	ITE Code	Scale	ITE Units	In	Out	In	Out	Total	Percent	IC Trips	In	Out	Total	Percent	PB Trips	In	Out	Total
GROUP 2	1	University/College	8	550	5030	stu	30%	70%	322	752	1,074	0.0%	0	322	752	1,074	0.0%	0	322	752	1,074
	2	Middle School/Junior High School	8	522	290	stu	45%	55%	41	50	90	0.0%	0	41	50	90	0.0%	0	41	50	90
	3	High School	8	530	236	stu	33%	67%	22	46	68	0.0%	0	22	46	68	0.0%	0	22	46	68
	4																				
	5																				
	6																				
	7																				
	8																				
	9																				
	10																				
	11																				
	12																				
	13																				
	14																				
	15																				
						Total:			385	848	1,232			385	848	1,232			385	848	1,232

Volume Development

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Biscayne Blvd and NE 151st Street
COUNT DATE: October 14, 2010
TIME PERIOD: A.M. Peak Hour
PEAK HOUR FACTOR: 0.891

"EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Raw Turning Movements		133	292	125		288	189	185		84	1,115	420		429	1,772	210
Peak Season Correction Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
EXISTING CONDITIONS		**138**	**304**	**130**		**300**	**197**	**192**		**87**	**1,160**	**437**		**446**	**1,843**	**218**

"BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Yearly Growth Rate	0.25%	0.25%	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
BACKGROUND TRAFFIC GROWTH		9	19	8			12	12			72	27		28	114	13
NON-PROJECT TRAFFIC		**147**	**323**	**138**		**300**	**209**	**204**		**87**	**1,232**	**464**		**474**	**1,957**	**231**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																
Distribution	Exiting																
Net New	Entering			26.0%									37.0%		37.0%		
Distribution	Exiting						43.0%	29.0%	28.0%								

"PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet Trips																
Trips	Net New			245			129	87	84				349		349		
TOTAL PROJECT TRAFFIC			**0**	**245**	**0**		**129**	**87**	**84**		**0**	**0**	**349**		**349**	**0**	**0**
TOTAL TRAFFIC			**147**	**568**	**138**		**429**	**296**	**288**		**87**	**1,232**	**813**		**823**	**1,957**	**231**

TRAFFIC VOLUMES
AT STUDY INTERSECTIONS

INTERSECTION: Biscayne Blvd and NE 151st Street
COUNT DATE: October 14, 2010
TIME PERIOD: P.M. Peak Hour
PEAK HOUR FACTOR: 0.946

"EXISTING TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Raw Turning Movements		179	193	140		325	207	434		165	1,730	190		208	1,519	187
Peak Season Correction Factor	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040	1.040
EXISTING CONDITIONS		**186**	**201**	**146**		**338**	**215**	**451**		**172**	**1,799**	**198**		**216**	**1,580**	**194**

"BACKGROUND TRAFFIC"	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
TOTAL "VESTED" TRAFFIC		0	0	0		0	0	0		0	0	0		0	0	0
Years To Buildout	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Yearly Growth Rate	0.25%	0.25%	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
BACKGROUND TRAFFIC GROWTH		11	12	9			13	28			111	12		13	98	12
NON-PROJECT TRAFFIC		**197**	**213**	**155**		**338**	**228**	**479**		**172**	**1,910**	**210**		**229**	**1,678**	**206**

"PROJECT DISTRUBUTION"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Valet	Entering																
Distribution	Exiting																
Net New	Entering			33.0%									32.0%		35.0%		
Distribution	Exiting						34.0%	21.0%	45.0%								

"PROJECT TRAFFIC"

LAND USE	TYPE	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Project	Valet Trips																
Trips	Net New			127			288	178	382		22		123		135		
TOTAL PROJECT TRAFFIC			0	127	0		288	178	382		22	0	123		135	0	0
TOTAL TRAFFIC			**197**	**340**	**155**		**626**	**406**	**861**		**194**	**1,910**	**333**		**364**	**1,678**	**206**

APPENDIX I:
Intersection Improvements Capacity Analysis

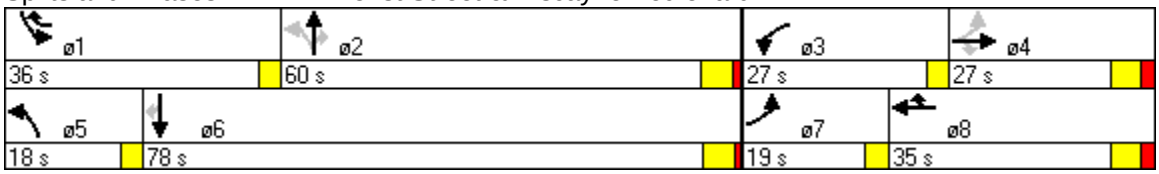
Existing A.M. Peak Hour with Intersection Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	138	304	130	300	197	192	87	1160	437	446	1843	218
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases	4		4				2		2			6
Detector Phases	7	4	4	3	8	8 1	5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		8.0	21.4	21.4	8.0	21.0	21.0
Total Split (s)	19.0	27.0	27.0	27.0	35.0	71.0	18.0	60.0	60.0	36.0	78.0	78.0
Total Split (%)	12.7%	18.0%	18.0%	18.0%	23.3%	47.3%	12.0%	40.0%	40.0%	24.0%	52.0%	52.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.3	4.3	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	1.1	1.1	0.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 13 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	155	342	146	337	221	216	98	1303	491	501	2071	245
v/c Ratio	0.49	0.70	0.43	0.79	0.36	0.33	0.60	0.56	0.54	0.84	0.71	0.25
Control Delay	46.2	69.3	12.7	77.8	55.7	17.8	41.0	32.4	11.1	73.0	26.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	69.3	12.7	77.8	55.7	17.8	41.0	32.4	11.1	73.0	26.1	6.7
Queue Length 50th (ft)	118	169	3	167	102	80	33	341	85	246	512	32
Queue Length 95th (ft)	170	220	64	213	136	127	101	440	214	294	669	90
Internal Link Dist (ft)		557			714			879			1056	
Turn Bay Length (ft)	125		130	200		150	200			500		
Base Capacity (vph)	336	546	365	526	731	706	226	2326	916	732	2918	980
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.63	0.40	0.64	0.30	0.31	0.43	0.56	0.54	0.68	0.71	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	5085	1583	3433	5085	1583
Flt Permitted	0.61	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1143	3539	1583	3433	3539	1583	109	5085	1583	3433	5085	1583
Volume (vph)	138	304	130	300	197	192	87	1160	437	446	1843	218
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	155	342	146	337	221	216	98	1303	491	501	2071	245
RTOR Reduction (vph)	0	0	123	0	0	61	0	0	192	0	0	72
Lane Group Flow (vph)	155	342	23	337	221	155	98	1303	299	501	2071	173
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases	4		4				2		2			6
Actuated Green, G (s)	33.3	18.9	18.9	19.5	24.0	57.0	76.8	67.2	67.2	27.0	85.0	85.0
Effective Green, g (s)	34.3	20.9	20.9	18.5	26.0	56.0	77.2	68.6	68.6	26.0	86.0	86.0
Actuated g/C Ratio	0.23	0.14	0.14	0.12	0.17	0.37	0.51	0.46	0.46	0.17	0.57	0.57
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	5.4	5.4	3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	317	493	221	423	613	591	151	2326	724	595	2915	908
v/s Ratio Prot	0.04	c0.10		c0.10	0.06	0.10	0.04	0.26		c0.15	c0.41	
v/s Ratio Perm	0.07		0.01				0.30		0.19			0.11
v/c Ratio	0.49	0.69	0.10	0.80	0.36	0.26	0.65	0.56	0.41	0.84	0.71	0.19
Uniform Delay, d1	48.9	61.5	56.4	63.9	54.7	32.7	23.6	29.7	27.2	60.0	23.0	15.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	4.2	0.2	10.0	0.4	0.2	9.2	1.0	1.7	10.5	1.5	0.5
Delay (s)	50.1	65.7	56.6	73.9	55.0	32.9	32.9	30.7	29.0	70.5	24.5	15.8
Level of Service	D	E	E	E	E	C	C	C	C	E	C	B
Approach Delay (s)		59.9			57.1			30.3			31.9	
Approach LOS		E			E			C			C	

Intersection Summary

HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

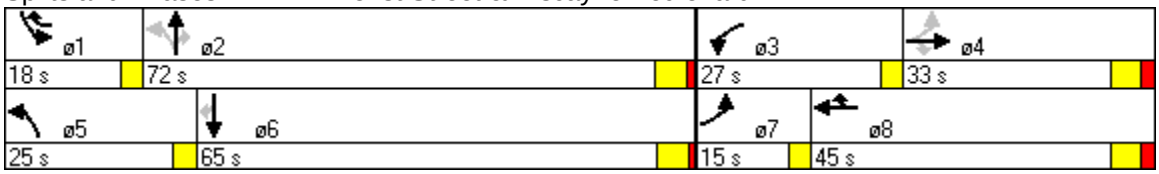
Existing P.M. Peak Hour with Intersection Improvements

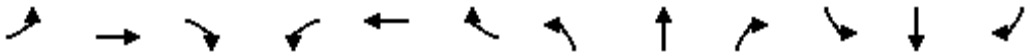
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	186	201	146	338	215	451	172	1799	198	216	1580	194
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases	4		4				2		2			6
Detector Phases	7	4	4	3	8	8 1	5	2	2	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		8.0	21.4	21.4	8.0	21.0	21.0
Total Split (s)	15.0	33.0	33.0	27.0	45.0	63.0	25.0	72.0	72.0	18.0	65.0	65.0
Total Split (%)	10.0%	22.0%	22.0%	18.0%	30.0%	42.0%	16.7%	48.0%	48.0%	12.0%	43.3%	43.3%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.3	4.3	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	1.1	1.1	0.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 77 (51%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	196	212	154	356	226	475	181	1894	208	227	1663	204
v/c Ratio	0.54	0.29	0.35	0.81	0.25	0.76	0.80	0.79	0.25	0.76	0.70	0.25
Control Delay	43.4	51.9	9.4	78.6	44.3	45.2	60.2	36.6	8.7	83.4	35.2	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	51.9	9.4	78.6	44.3	45.2	60.2	36.6	8.7	83.4	35.2	8.9
Queue Length 50th (ft)	135	91	0	177	91	355	120	583	35	113	482	30
Queue Length 95th (ft)	202	135	63	228	128	498	200	648	88	160	584	90
Internal Link Dist (ft)		557			714			879			1056	
Turn Bay Length (ft)	125		130	200		150	200			500		
Base Capacity (vph)	362	723	446	526	967	628	299	2412	827	320	2362	815
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.29	0.35	0.68	0.23	0.76	0.61	0.79	0.25	0.71	0.70	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	5085	1583	3433	5085	1583
Flt Permitted	0.61	1.00	1.00	0.95	1.00	1.00	0.06	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1138	3539	1583	3433	3539	1583	116	5085	1583	3433	5085	1583
Volume (vph)	186	201	146	338	215	451	172	1799	198	216	1580	194
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	196	212	154	356	226	475	181	1894	208	227	1663	204
RTOR Reduction (vph)	0	0	122	0	0	32	0	0	76	0	0	80
Lane Group Flow (vph)	196	212	32	356	226	443	181	1894	132	227	1663	124
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		Perm	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases	4		4				2		2			6
Actuated Green, G (s)	40.7	28.7	28.7	20.1	36.8	56.9	85.3	69.7	69.7	14.1	68.6	68.6
Effective Green, g (s)	41.7	30.7	30.7	19.1	38.8	55.9	85.7	71.1	71.1	13.1	69.6	69.6
Actuated g/C Ratio	0.28	0.20	0.20	0.13	0.26	0.37	0.57	0.47	0.47	0.09	0.46	0.46
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	5.4	5.4	3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	363	724	324	437	915	590	227	2410	750	300	2359	735
v/s Ratio Prot	0.04	0.06		c0.10	0.06	c0.28	0.08	0.37		0.07	0.33	
v/s Ratio Perm	0.11		0.02				c0.38		0.08			0.08
v/c Ratio	0.54	0.29	0.10	0.81	0.25	0.75	0.80	0.79	0.18	0.76	0.70	0.17
Uniform Delay, d1	44.1	50.5	48.4	63.7	44.0	41.0	39.7	33.1	22.6	66.9	32.0	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.2	0.1	11.1	0.1	5.4	17.4	2.7	0.5	10.4	1.8	0.5
Delay (s)	45.6	50.7	48.5	74.8	44.2	46.3	57.2	35.7	23.1	77.3	33.8	23.9
Level of Service	D	D	D	E	D	D	E	D	C	E	C	C
Approach Delay (s)		48.3			55.5			36.3			37.6	
Approach LOS		D			E			D			D	

Intersection Summary

HCM Average Control Delay	41.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

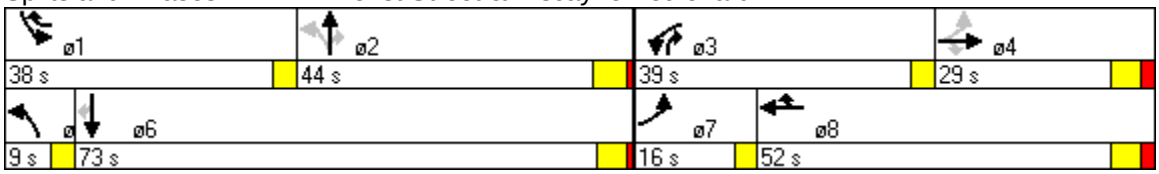
Year 2034 A.M. Peak Hour with Intersection Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	568	138	429	296	288	87	1232	813	823	1957	231
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		pm+ov	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2	3	1	6	
Permitted Phases	4		4				2		2			6
Detector Phases	7	4	4	3	8	8 1	5	2	3	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		8.0	21.4	8.0	8.0	21.0	21.0
Total Split (s)	16.0	29.0	29.0	39.0	52.0	90.0	9.0	44.0	39.0	38.0	73.0	73.0
Total Split (%)	10.7%	19.3%	19.3%	26.0%	34.7%	60.0%	6.0%	29.3%	26.0%	25.3%	48.7%	48.7%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.3	3.0	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	1.1	0.0	0.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actuated Cycle Length: 150
Offset: 13 (9%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	165	638	155	482	333	324	98	1384	913	925	2199	260
v/c Ratio	0.54	1.08	0.47	0.60	0.29	0.34	0.90	1.02	1.09	1.19	0.94	0.32
Control Delay	38.2	118.1	31.5	55.0	38.8	13.2	93.6	83.3	93.4	146.6	47.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	118.1	31.5	55.0	38.8	13.2	93.6	83.3	93.4	146.6	47.7	10.6
Queue Length 50th (ft)	101	~366	63	218	128	118	48	~524	~1005	~560	739	57
Queue Length 95th (ft)	154	#484	136	276	170	178	#156	#609	#1245	#681	797	118
Internal Link Dist (ft)		557			714			879			1056	
Turn Bay Length (ft)	125		130	200		150	200			500		
Base Capacity (vph)	313	590	332	801	1151	951	109	1356	836	778	2339	814
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	1.08	0.47	0.60	0.29	0.34	0.90	1.02	1.09	1.19	0.94	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	5085	1583	3433	5085	1583
Flt Permitted	0.55	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1026	3539	1583	3433	3539	1583	186	5085	1583	3433	5085	1583
Volume (vph)	147	568	138	429	296	288	87	1232	813	823	1957	231
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	165	638	155	482	333	324	98	1384	913	925	2199	260
RTOR Reduction (vph)	0	0	68	0	0	35	0	0	2	0	0	85
Lane Group Flow (vph)	165	638	87	482	333	289	98	1384	911	925	2199	175
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		pm+ov	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2	3	1	6	
Permitted Phases	4		4				2		2			6
Actuated Green, G (s)	35.2	23.0	23.0	36.0	46.8	87.8	44.6	38.6	74.6	35.0	68.0	68.0
Effective Green, g (s)	36.2	25.0	25.0	35.0	48.8	86.8	45.0	40.0	75.0	34.0	69.0	69.0
Actuated g/C Ratio	0.24	0.17	0.17	0.23	0.33	0.58	0.30	0.27	0.50	0.23	0.46	0.46
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	5.4	3.0	3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	303	590	264	801	1151	916	109	1356	834	778	2339	728
v/s Ratio Prot	0.04	c0.18		0.14	0.09	0.18	0.03	0.27	c0.25	c0.27	0.43	
v/s Ratio Perm	0.09		0.05				0.24		0.32			0.11
v/c Ratio	0.54	1.08	0.33	0.60	0.29	0.32	0.90	1.02	1.09	1.19	0.94	0.24
Uniform Delay, d1	47.6	62.5	55.1	51.3	37.7	16.3	47.6	55.0	37.5	58.0	38.5	24.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	61.0	0.7	1.3	0.1	0.2	54.9	29.8	59.4	97.7	9.0	0.8
Delay (s)	49.6	123.5	55.8	52.6	37.8	16.5	102.5	84.8	96.9	155.7	47.6	25.4
Level of Service	D	F	E	D	D	B	F	F	F	F	D	C
Approach Delay (s)		99.8			38.0			90.1			75.4	
Approach LOS		F			D			F			E	

Intersection Summary

HCM Average Control Delay	77.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

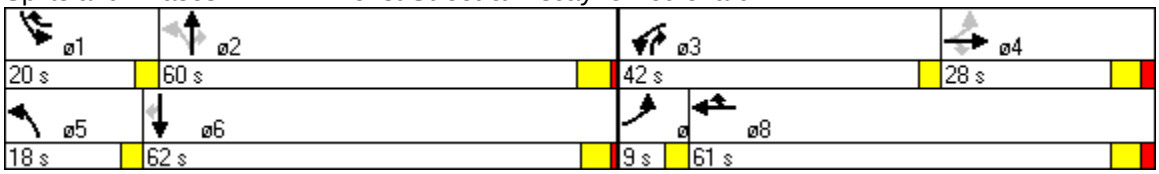
Year 2034 P.M. Peak Hour with Intersection Improvements

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	197	340	155	626	406	861	194	1910	333	364	1678	206
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		pm+ov	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2	3	1	6	
Permitted Phases	4		4				2		2			6
Detector Phases	7	4	4	3	8	8 1	5	2	3	1	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		8.0	21.4	8.0	8.0	21.0	21.0
Total Split (s)	9.0	28.0	28.0	42.0	61.0	81.0	18.0	60.0	42.0	20.0	62.0	62.0
Total Split (%)	6.0%	18.7%	18.7%	28.0%	40.7%	54.0%	12.0%	40.0%	28.0%	13.3%	41.3%	41.3%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.3	3.0	3.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	1.1	0.0	0.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	None	None	C-Max	C-Max

Intersection Summary

Cycle Length: 150
Actual Cycle Length: 150
Offset: 77 (51%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	207	358	163	659	427	906	204	2011	351	383	1766	217
v/c Ratio	0.87	0.53	0.38	0.86	0.32	1.11	0.95	1.06	0.35	1.05	0.90	0.31
Control Delay	78.0	58.9	12.1	68.3	33.6	99.7	90.9	83.4	12.8	122.5	50.5	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	58.9	12.1	68.3	33.6	99.7	90.9	83.4	12.8	122.5	50.5	12.1
Queue Length 50th (ft)	127	168	7	321	154	~1005	150	~789	139	~209	592	46
Queue Length 95th (ft)	#306	231	76	382	200	#1268	#315	#880	184	#317	661	109
Internal Link Dist (ft)		557			714			879			1056	
Turn Bay Length (ft)	125		130	200		150	200			500		
Base Capacity (vph)	238	677	427	870	1345	818	214	1898	1046	366	1966	700
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.53	0.38	0.76	0.32	1.11	0.95	1.06	0.34	1.05	0.90	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	5085	1583	3433	5085	1583
Flt Permitted	0.50	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	937	3539	1583	3433	3539	1583	133	5085	1583	3433	5085	1583
Volume (vph)	197	340	155	626	406	861	194	1910	333	364	1678	206
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	207	358	163	659	427	906	204	2011	351	383	1766	217
RTOR Reduction (vph)	0	0	125	0	0	5	0	0	14	0	0	88
Lane Group Flow (vph)	207	358	38	659	427	901	204	2011	337	383	1766	129
Turn Type	pm+pt		Perm	Prot		pt+ov	pm+pt		pm+ov	Prot		Perm
Protected Phases	7	4		3	8	8 1	5	2	3	1	6	
Permitted Phases	4		4				2		2			6
Actuated Green, G (s)	32.7	26.7	26.7	34.3	55.0	78.0	69.6	54.6	88.9	17.0	57.0	57.0
Effective Green, g (s)	33.7	28.7	28.7	33.3	57.0	77.0	70.0	56.0	89.3	16.0	58.0	58.0
Actuated g/C Ratio	0.22	0.19	0.19	0.22	0.38	0.51	0.47	0.37	0.60	0.11	0.39	0.39
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0		3.0	5.4	3.0	3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	238	677	303	762	1345	813	215	1898	985	366	1966	612
v/s Ratio Prot	0.03	0.10		c0.19	0.12	c0.57	0.09	c0.40	0.08	0.11	0.35	
v/s Ratio Perm	0.17		0.02				0.35		0.14			0.08
v/c Ratio	0.87	0.53	0.13	0.86	0.32	1.11	0.95	1.06	0.34	1.05	0.90	0.21
Uniform Delay, d1	54.2	54.6	50.3	56.2	32.8	36.5	45.2	47.0	15.4	67.0	43.2	30.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.9	0.7	0.2	10.1	0.1	65.4	46.5	38.5	0.2	59.7	7.0	0.8
Delay (s)	81.0	55.3	50.5	66.2	32.9	101.9	91.7	85.5	15.6	126.7	50.2	31.5
Level of Service	F	E	D	E	C	F	F	F	B	F	D	C
Approach Delay (s)		61.5			75.3			76.5			60.9	
Approach LOS		E			E			E			E	

Intersection Summary

HCM Average Control Delay	69.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

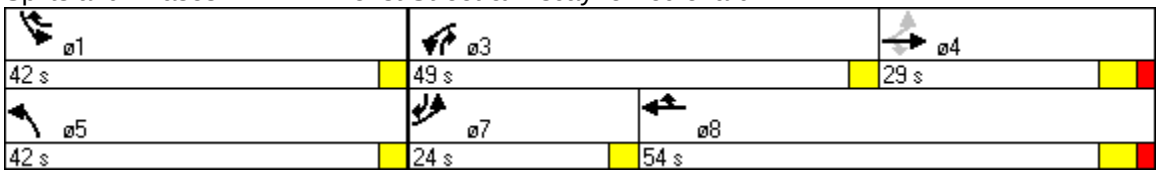
Year 2034 A.M. Peak Hour with Grade Separation

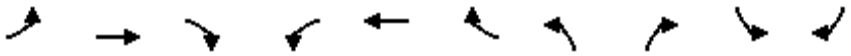
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Volume (vph)	147	568	138	429	296	288	87	813	823	231
Turn Type	pm+pt		Perm	Prot		pt+ov	Prot	Over	Prot	Over
Protected Phases	7	4		3	8	8 1	5	3	1	7
Permitted Phases	4		4							
Detector Phases	7	4	4	3	8	8 1	5	3	1	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		8.0	8.0	8.0	8.0
Total Split (s)	24.0	29.0	29.0	49.0	54.0	96.0	42.0	49.0	42.0	24.0
Total Split (%)	20.0%	24.2%	24.2%	40.8%	45.0%	80.0%	35.0%	40.8%	35.0%	20.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		Yes
Recall Mode	None	None	None	None	None		None	None	None	None

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	165	638	155	482	333	324	98	913	925	260
v/c Ratio	0.44	0.86	0.37	0.40	0.20	0.23	0.17	0.92	0.81	0.76
Control Delay	20.4	58.2	16.8	29.7	18.9	0.7	30.3	52.3	43.5	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	58.2	16.8	29.7	18.9	0.7	30.3	52.3	43.5	26.1
Queue Length 50th (ft)	51	253	30	138	71	0	55	369	344	33
Queue Length 95th (ft)	81	#341	89	181	115	17	97	#469	421	112
Internal Link Dist (ft)		557			714					
Turn Bay Length (ft)	125		130	200		150	200		500	
Base Capacity (vph)	511	755	423	1287	1678	1384	593	1045	1149	444
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.85	0.37	0.37	0.20	0.23	0.17	0.87	0.81	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00		0.88	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770		2787	3433		1583
Flt Permitted	0.55	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	1026	3539	1583	3433	3539	1583	1770		2787	3433		1583
Volume (vph)	147	568	138	429	296	288	87	0	813	823	0	231
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	165	638	155	482	333	324	98	0	913	925	0	260
RTOR Reduction (vph)	0	0	85	0	0	51	0	0	0	0	0	196
Lane Group Flow (vph)	165	638	70	482	333	273	98	0	913	925	0	64
Turn Type	pm+pt		Perm	Prot		pt+ov	Prot		Over	Prot		Over
Protected Phases	7	4		3	8	8 1	5		3	1		7
Permitted Phases	4		4									
Actuated Green, G (s)	35.1	23.2	23.2	43.6	54.9	102.1	41.2		43.6	41.2		11.9
Effective Green, g (s)	36.1	25.2	25.2	42.6	56.9	101.1	40.2		42.6	40.2		10.9
Actuated g/C Ratio	0.30	0.21	0.21	0.36	0.47	0.84	0.34		0.36	0.34		0.09
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0		3.0		3.0	3.0		3.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	376	743	332	1219	1678	1334	593		989	1150		144
v/s Ratio Prot	0.04	c0.18		0.14	0.09	0.17	0.06		c0.33	c0.27		0.04
v/s Ratio Perm	0.09		0.04									
v/c Ratio	0.44	0.86	0.21	0.40	0.20	0.20	0.17		0.92	0.80		0.44
Uniform Delay, d1	32.3	45.7	39.2	29.0	18.3	1.8	28.1		37.1	36.3		51.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.8	9.7	0.3	0.2	0.1	0.1	0.1		13.7	4.2		2.2
Delay (s)	33.2	55.4	39.5	29.2	18.4	1.9	28.2		50.8	40.5		53.8
Level of Service	C	E	D	C	B	A	C		D	D		D
Approach Delay (s)		49.0			18.3			48.6			43.4	
Approach LOS		D			B			D			D	

Intersection Summary

HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

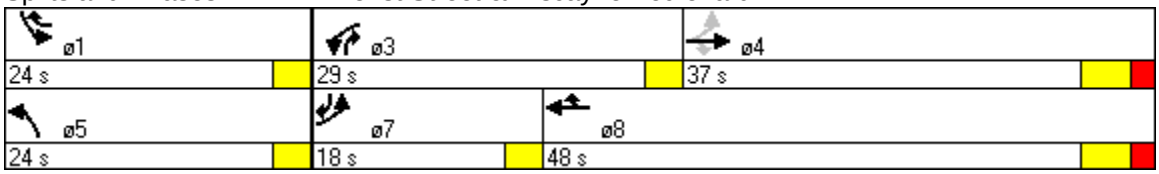
Year 2034 P.M. Peak Hour with Grade Separation

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Volume (vph)	197	340	155	626	406	861	194	333	364	206
Turn Type	pm+pt		Perm	Prot		pt+ov	Prot	Over	Prot	Over
Protected Phases	7	4		3	8	8 1	5	3	1	7
Permitted Phases	4		4							
Detector Phases	7	4	4	3	8	8 1	5	3	1	7
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0		8.0	8.0	8.0	8.0
Total Split (s)	18.0	37.0	37.0	29.0	48.0	72.0	24.0	29.0	24.0	18.0
Total Split (%)	20.0%	41.1%	41.1%	32.2%	53.3%	80.0%	26.7%	32.2%	26.7%	20.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	0.0	0.0	0.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag			Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes			Yes		Yes
Recall Mode	None	None	None	None	None		None	None	None	None

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 57 (63%), Referenced to phase 2: and 6:, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 2: NE 151st Street & Biscayne Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	207	358	163	659	427	906	204	351	383	217
v/c Ratio	0.51	0.49	0.36	0.79	0.37	0.67	0.27	0.52	0.27	0.57
Control Delay	18.2	32.9	6.2	39.5	23.0	4.5	22.0	32.0	20.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	32.9	6.2	39.5	23.0	4.5	22.0	32.0	20.5	11.5
Queue Length 50th (ft)	69	100	0	180	101	48	70	97	67	0
Queue Length 95th (ft)	60	108	39	232	101	144	172	138	142	61
Internal Link Dist (ft)		557			714					
Turn Bay Length (ft)	125		130	200		150	200		500	
Base Capacity (vph)	467	1298	684	954	1730	1359	744	774	1443	429
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.28	0.24	0.69	0.25	0.67	0.27	0.45	0.27	0.51

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00		0.88	0.97		1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770		2787	3433		1583
Flt Permitted	0.50	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95		1.00
Satd. Flow (perm)	937	3539	1583	3433	3539	1583	1770		2787	3433		1583
Volume (vph)	197	340	155	626	406	861	194	0	333	364	0	206
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	207	358	163	659	427	906	204	0	351	383	0	217
RTOR Reduction (vph)	0	0	129	0	0	107	0	0	0	0	0	191
Lane Group Flow (vph)	207	358	34	659	427	799	204	0	351	383	0	26
Turn Type	pm+pt		Perm	Prot		pt+ov	Prot		Over	Prot		Over
Protected Phases	7	4		3	8	8 1	5		3	1		7
Permitted Phases	4		4									
Actuated Green, G (s)	28.3	16.5	16.5	22.7	27.4	72.2	38.8		22.7	38.8		11.8
Effective Green, g (s)	29.3	18.5	18.5	21.7	29.4	71.2	37.8		21.7	37.8		10.8
Actuated g/C Ratio	0.33	0.21	0.21	0.24	0.33	0.79	0.42		0.24	0.42		0.12
Clearance Time (s)	3.0	6.0	6.0	3.0	6.0		3.0		3.0	3.0		3.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	405	727	325	828	1156	1252	743		672	1442		190
v/s Ratio Prot	0.06	0.10		c0.19	0.12	c0.50	0.12		0.13	0.11		0.02
v/s Ratio Perm	0.11		0.02									
v/c Ratio	0.51	0.49	0.10	0.80	0.37	0.64	0.27		0.52	0.27		0.14
Uniform Delay, d1	23.2	31.6	29.0	32.1	23.2	4.0	17.1		29.7	17.0		35.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	1.1	0.5	0.1	5.3	0.2	1.1	0.2		0.7	0.1		0.3
Delay (s)	24.3	32.1	29.2	37.4	23.4	5.0	17.3		30.4	17.1		35.8
Level of Service	C	C	C	D	C	A	B		C	B		D
Approach Delay (s)		29.2			19.7			25.6			23.9	
Approach LOS		C			B			C			C	

Intersection Summary

HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX J:
Cost Estimates

Improving Access in Florida International University Biscayne Bay Campus Area
Planning Level Project Cost Estimates

Proposed Project	Length	Unit Roadway Construction Cost[1]	Actual Roadway Construction Cost	Bridge Cost (per square-foot)[2]	Bridge Cross Section Width (Feet)	Bridge Length (Feet)	Bridge Square-Footage	Bridge Cost	MOT (10%)	Mobilization (10%)	SubTotal	Scope Contingency/ Project Unkown (10%)	Total Construction Cost	Environmental Impact Study (15%)[3]	PE Design (15%)	CEI (15%)	Total Project Cost (Present Day $$)
NE 135th Street																	
2-Lane Roadway Alternative	0.52	$3,363,882	$1,749,219	$145	40	150	6,000	$870,000	$261,922	$261,922	**$3,143,062**	$314,306	**$3,457,369**	$518,605	$518,605	$518,605	**$5,013,185**
4-Lane Roadway Alternative																	
New 4-Lane Roadway	0.52	$3,363,882	$1,749,219	$145	62	150	9,300	$1,348,500	$309,772	$309,772	$3,717,262	$371,726	$4,088,989	$613,348	$613,348	$613,348	**$5,929,034**
Widen 2-Lane to 4-Lane Roadway	0.90	$3,327,726	$2,994,954						$299,495	$299,495	$3,593,944	$359,394	$3,953,339	$593,001	$593,001	$593,001	**$5,732,341**
Total 4-Lane Roadway Alternative	1.42	$6,691,608	$4,744,172					$1,348,500	$609,267	$609,267	**$7,311,207**	$731,121	**$8,042,327**	$1,206,349	$1,206,349	$1,206,349	**$11,661,375**
NE 143rd Street																	
2-Lane Roadway Alternative	0.50	$3,363,882	$1,681,941	$184	40	1,570	62,800	$11,555,200	$1,323,714	$1,323,714	**$15,884,569**	$1,588,457	**$17,473,026**	$2,620,954	$2,620,954	$2,620,954	**$25,335,888**
4-Lane Roadway Alternative	0.50	$4,837,011	$2,418,506	$184	62	1,570	97,340	$17,910,560	$2,032,907	$2,032,907	**$24,394,879**	$2,439,488	**$26,834,367**	$4,025,155	$4,025,155	$4,025,155	**$38,909,832**
NE 163rd Street																	
2-Lane Roadway Alternative	1.02	$3,363,882	$3,431,160						$343,116	$343,116	**$4,117,392**	$411,739	**$4,529,131**	$679,370	$679,370	$679,370	**$6,567,240**
4-Lane Roadway Alternative	1.02	$4,837,011	$4,933,752						$493,375	$493,375	**$5,920,502**	$592,050	**$6,512,552**	$976,883	$976,883	$976,883	**$9,443,201**

Note: (1) Based on FDOT Generic Cost Per Mile Models 2/1/11.

(2) Based on FDOT Bridge Costs 3/4/11.

(3) Does not include environmental mitigation costs.

Bridge Costs

A highway bridge is defined as any span of 20 feet or more in length. Not all bridges go over bodies of water. Overpasses and ramps that are part of highway interchanges are bridges too. A large proportion of the statewide highway construction budget, usually in excess of 20%, is devoted to bridge construction. Typically, the FDOT completes between 100 and 200 bridges each year. As a rule of thumb, bridges from 20 to 45 feet in length are short span bridges. Bridges from 45 to 150 feet are medium span bridges, and those extending over 150 feet are long span bridges.

Bridge construction costs increased rapidly in the mid-2000s. As with other categories of construction, costs per square foot have tended to decline or stabilize over the last few years.

New Construction

(Cost per Square Foot)

Bridge Type	**Low**	**High**
Short Span Bridges:		
Reinforced Concrete Flat Slab Simple Span*	$112	$160
Pre-cast Concrete Slab Simple Span*	$80	$150
Reinforced Concrete Flat Slab Continuous Span*	NA	NA
Medium and Long Span Bridges:		
Concrete Deck/ Steel Girder - Simple Span*	$100	$138
Concrete Deck/ Steel Girder - Continuous Span*	$125	$173
Concrete Deck/ Pre-stressed Girder - Simple Span	$67	$140
Concrete Deck/ Pre-stressed Girder - Continuous Span	$85	$145
Concrete Deck/ Steel Box Girder – Span Range from 150' to 280' (for curvature, add a 15% premium)	$110	$160
Segmental Concrete Box Girders - Cantilever Construction, Span Range from 150' to 280'	$145	$175
Movable Bridge - Bascule Spans and Piers	$1,450	$2,000
* Increase the cost by twenty percent for phased construction.		

Bridge Demolition and Widening

(Cost per Square Foot)

Bridge Demolition:	**Low**	**High**
Typical Bridge Removal	$18	$50
Movable Span Bridge (Bascule)	$50	$75
Project Type:		
Bridge Widening Construction	$85	$160

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Updated as of: 02/01/11

Generic Cost Per Mile Models

Disclaimer: These models are generic in nature, and not based on actual construction projects. They are for reference purposes only, and are not intended to predict or support future estimates.

	Models	Cost Per Mile
OTHER	Two Directional 12' Shared Use Path	$163,320.58
	Rails to Trails project 12' width	$150,915.48
	Sidewalk construction` 5' one side 4 inch depth	$102,284.97
	Mid-Block Crossing	$80,110.37
RURAL	New Construction Undivided 2 Lane Rural Road with 5' Paved Shoulders	$1,472,830.90
	New Construction Undivided 3 Lane Rural Road with 5' Paved Shoulders Center Turn Lane	$1,801,411.96
	New Construction Undivided 4 Lane Rural Road with 5' Paved Shoulders	$2,228,883.11
	New Construction 4 Lane Divided Rural Road with 2' Paved Shoulders Inside and 5' Paved Shoulders Outside	$2,917,832.94
	New Construction Divided Rural 4 Lane Interstate with Paved Shoulders 10' Outside and 4' Inside	$3,657,029.14
	New Construction Undivided 5 Lane Rural Road with 5' Paved Shoulders Center Turn Lane	$2,623,677.21
	New Construction 6 Lane Divided Rural Road with 5' Paved Shoulders Inside and Out	$3,664,042.62
	New Construction Divided Rural 6 Lane Interstate with 10' Paved Shoulders Inside and Out	$4,492,389.83
	New Construction Extra Cost for 1 Single Additional Lane on Rural Arterial	$384,339.39
	New Construction Extra Cost for 1 Single Additional Lane on a Rural Interstate	$447,258.74
	Milling and Resurfacing 2 Lane Rural Road with 5' Paved Shoulders	$381,214.82
	Milling and Resurfacing 3 Lane Rural Road with 5' Paved Shoulders and Center Turn Lane	$534,223.42
	Milling and Resurfacing 4 Lane Rural Road with 5' Paved Shoulders	$839,613.64
	Mill + Resurface 4 Lane Divided Rural Arterial with 5' Outside Shoulders and 2' Inside	$880,586.96
	Mill + Resurface 4 Lane Divided Rural Interstate with Paved Shoulders 10' Outside and 4' Inside	$1,033,754.78
	Milling and Resurfacing 5 Lane Rural Road with 5' Paved Shoulders and Center Turn Lane	$1,022,233.30
	Mill + Resurface 6 Lane Divided Rural Arterial with 5' Paved Shoulders Inside and Out	$1,259,767.24
	Mill + Resurface 6 Lane Divided Rural Interstate with 10' Paved Shoulders Inside and Out	$1,474,183.59
	Mill + Resurface 1 Additional Lane Rural Interstate	$226,343.17
	Mill + Resurface 1 Additional Lane Rural Arterial	$192,241.64
	Widen Existing 2 Lane Arterial to 4 Lanes Undivided` Add 1 Lane to Each Side` 5' Paved Shoulders	$1,730,566.53
	Widen Existing 2 Lane Arterial to 4 Lane Divided` Resurface Existing 2 Lanes` 5' Paved Shoulders Inside + Out	$1,991,137.87
	Widen Existing 4 Lane Divided Arterial to 6 Lane Divided` Resurface Existing 4 Lanes` 5' Paved Shoulders Inside + Out	$1,989,598.65
	Widen 4 Lane Interstate to 6 Lanes In Median ` Mill + Resurface Existing` 10' Paved Shoulders Inside + Out	$2,975,524.16
	Widen 4 Lane Interstate to 6 Lanes Outside ` Mill + Resurface Existing` 10' Shoulders Outside` Widen Existing 4' Inside Shoulders to 10'	$2,862,612.84
	Widen Existing 6 Lane Divided Arterial to 8 Lane Divided` Resurface Existing 4 Lanes` 5' Paved Shoulders Inside + Out	$2,233,463.18
	Widen 6 Lane Interstate to 8 Lanes in Median ` Mill + Resurface Existing` 10' Paved Shoulders Inside and Out	$3,362,433.04
	Widen Divided Rural 4-Lane for Right Turn Lane 300'	$141,018.33
SUBURBAN	New Construction Suburban 4 Lane with Paved Shoulders Outside and Curb Median	$2,954,414.92
	Widen Exisiting Rural Facility to the Inside with Addition of Closed Drainage System and Median Barrier Wall	$2,249,630.97
	Widen 4 Lane Suburban Roadway with 6~5' Paved Shoulder and Convert to C+G Out` Stripe for Bike Lane	$1,886,901.62
	Add 2 Lanes with C+G Out to Existing 4 Lane Urban or Suburban Roadway with C+G Out	$1,965,704.95
URBAN	New Construction 2 Lane Undivided Urban Arterial with 4' Bike Lanes	$3,363,882.19
	New Construction 3 Lane Undivided Urban Arterial with Center Lane and 4' Bike Lanes	$3,774,078.45
	New Construction Undivided Urban Arterial with 4' Bike Lanes	$4,080,986.31
	New Construction 4 Lane Urban Road with 22' Median and 4' Bike Lanes	$4,837,011.48

Updated as of: 02/01/11

Generic Cost Per Mile Models

Disclaimer: These models are generic in nature, and not based on actual construction projects. They are for reference purposes only, and are not intended to predict or support future estimates.

	Models	Cost Per Mile
URBAN	New Construction 4 Lane Divided Urban Interstate Closed 22' Median with Barrier Wall 10' Shoulders Inside + Out	$7,539,756.52
	New Construction 5 Lane Undivided Urban Arterial with Center Turn Lane and 4' Bike Lanes	$4,664,511.63
	New Construction 6 Lane Urban Road with 22' Median and 4' Bike Lanes	$5,537,010.93
	New Construction Divided Urban 6 Lane Interstate with 22' Closed Median with Barrier Wall 10' Shoulders Inside + Out	$8,346,988.43
	New Construction Extra Cost for Additional Lane on Urban Arterial	$436,229.97
	New Construction Extra Cost for Additional Lane on Urban Interstate	$477,819.47
	Mill + Resurface 2 Lane Urban Road with 4' Bike Lanes	$469,381.99
	Mill + Resurface 3 Lane Urban Road with Center Turn Lane and 4' Bike Lanes	$643,441.51
	Mill + Resurface 4 Lane Undivided Urban Roadway with 4' Bike Lanes	$897,568.94
	Mill + Resurface 4 Lane Divided Urban Roadway with 4' Bike Lanes	$906,939.57
	Mill + Resurface 5 Lane Urban Roadway with Center Turn Lane and 4' Bike Lanes	$1,078,325.74
	Mill + Resurface 6 Lane Divided Urban Arterial with 4' Bike Lanes	$1,388,550.92
	Mill + Resurface 1 Additional Lane Urban Arterial	$189,454.43
	Add 2 Lanes to Existing 2 Lane Undivided Arterial 1 Lane Each Side with 4' Bike Lanes	$3,327,726.17
	Widen 2 Lane Urban Arterial to 4 Lane Divided with 22' Median + 4' Bike Lanes	$3,747,223.64
	Add 2 Lanes to Existing 3 Lane Undivided Arterial 1 Lane Each Side with Center Turn Lane and 4' Bike Lanes	$3,501,224.35
	Widen 4 Lane Urban Divided Arterial to 6 Lane Urban Divided with 22' Median and 4' Bike Lanes	$3,525,726.11
	Widen 4 Lane Urban Interstate with Closed Median to 6 Lanes Outside ` Mill + Resurface Existing` 10' Shoulders Outside	$5,303,381.28
	Widen 6 Lane Urban Divided Arterial to 8 Lane Urban Divided with 4' Bike Lanes	$3,785,988.93
	Widen 6 Lane Urban Interstate with Closed Median to 8 Lanes Outside ` Mill + Resurface Existing` 10' Shoulders Outside	$5,717,299.94

IMPROVING ACCESS IN FLORIDA INTERNATIONAL UNIVERSITY BISCAYNE BAY CAMPUS AREA
PLAN LEVEL PROJECT COST ESTIMATES

	Project	Model	Length (miles)/ Units	Cost per Mile/Unit	Road Work Cost	Signal Work	Project Cost	Design/Study Cost (20 Percent)	Total Project Cost
	Short-Term Improvements								
1	Replace non-standard stop signs (Northbound Bay Vista Boulevard and FIU Biscayne Bay Campus Main Entrance	0700 20 12		$750.00	per sign		$0.00	0	$1,500.00
4	Relocate existing bus stops at High School next to crosswalk, provide bus shelters	0700 20 40		$185.00	per sign		$0.00	$0.00	$370.00
		2 Bus Shelters		$17,500.00	per shelter	$0.00	$35,000.00	$7,000.00	$42,000.00
	Total								$42,000.00
5	NE 151st Street and Biscayne Boulevard Intersection Improvements								
	Additional Westbound Left-Turn Lane		0.1136364	$436,229.97	$50,000.00	$50,000.00	$100,000.00	$20,000.00	$120,000.00
	Additional Southbound Left-Turn Lane		0.1136364	$436,229.97	$50,000.00	$50,000.00	$100,000.00	$30,000.00	$130,000.00
	Install Westbound Right-Turn Overlap Phase		0	$436,229.97	$0.00	$50,000.00	$50,000.00	$10,000.00	$60,000.00
	Total								$320,000.00
6	Construct sidewalk (railing and canopy medium-term) along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus		1.0606061	$102,284.97	$109,000.00	$0.00	$109,000.00	$21,800.00	$130,800.00
7	Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus. (Provide railings and canopy on entire sidewalk, medium-term)		0.15625	$102,284.97	$16,000.00		$16,000.00	$3,200.00	$19,200.00
8	Construct bicycle lane along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	(assumed sidewalk cost)	1.0606061	$102,284.97	$109,000.00		$109,000.00	$21,800.00	$130,800.00
9	Construct bicycle lane along south side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus	(assumed sidewalk cost)	0.5113636	$102,284.97	$53,000.00		$53,000.00	$10,600.00	$63,600.00
10	Provide transit amenities for bus stops at Biscayne Boulevard and NE 151st Street	2 Bus Shelters		$17,500.00	per shelter	$0.00	$35,000.00	$7,000.00	$42,000.00
	Medium-Term Improvements								
1 and 2	NE 151st Street and Biscayne Boulevard Intersection Improvements		0.5397727	$3,525,726.11	$1,904,000.00		$1,904,000.00	$380,800.00	$2,300,000.00
	Construct Northbound Right-Turn Lane		0.0473485	$436,229.97	$21,000.00	$50,000.00	$71,000.00	$14,200.00	$85,200.00
	Extend Eastbound Left-Turn Lane		0.0170455	$436,229.97	$8,000.00	$0.00	$8,000.00	$1,600.00	$9,600.00
3	Construct sidewalk (with railing and canopy) along north side of NE 151st Street from Biscayne Boulevard to FIU Biscayne Bay Campus								
	Railing	0515 2202	5600	$62.74	$352,000.00	$0.00	$352,000.00	$70,400.00	$422,400.00
	Canopy	Assume $100 per LF	5600	$100.00	$560,000.00	$0.00	$560,000.00	$112,000.00	$672,000.00
	Total								$1,094,400.00
4	Extend sidewalk on south side of NE 151st Street from K-8 School to FIU Biscayne Bay Campus. Provide railings and canopy on entire sidewalk								
	Railing	0515 2202	5600	$62.74	$352,000.00	$0.00	$352,000.00	$70,400.00	$422,400.00
	Canopy	Assume $100 per LF	5600	$100.00	$560,000.00	$0.00	$560,000.00	$112,000.00	$672,000.00
	Total								$1,094,400.00
5	Construct transit transfer facility on southeast corner of Biscayne Boulevard and NE 151st Street				$0.00		$0.00	$0.00	TBD
6	Provide shuttle service from transit transfer facility to FIU Biscayne Bay Campus	WUUA24-U-19-BB/ WUUA24-U-20-BB (AVG.)	2.02	$4,569,546.34	$9,231,000.00	$750,000.00	$9,981,000.00	$1,996,200.00	TBD
	Long-Term Improvements								
1	Widen NE 151st Street to six (6) lanes from Biscayne Boulevard to Bay Vista Boulevard (High School and K-8 School). Implement reversible lanes		0.5397727	$3,525,726.11	$1,904,000.00		$1,904,000.00	$380,800.00	$2,300,000.00
2	Implement Bus Rapid Transit (BRT) along Biscayne Boulevard								TBD
3	Grade separate Biscayne Boulevard at NE 151st Street (2640' length, cs 75', $160 sf)				$31,680,000.00	$400,000.00	$32,080,000.00	$6,416,000.00	$38,500,000.00