

DADE COUNTY PARK & RIDE LOT PLAN

WPI No. 6810187

State Job No. 87000-1845

JUSTIFICATION REPORT WEST DADE COUNTY CORRIDOR PARK AND RIDE LOTS

Prepared for the
FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6



By
FREDERIC R. HARRIS, INC.
MIAMI LAKES, FLORIDA

In Association With
Avino and Associates, Inc.
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I. INTRODUCTION

This Justification Report has been developed to assist in the implementation of the **Dade County Park and Ride Lot Plan**. The Park and Ride Lot Plan provided a generic analysis of potential park and ride lot locations identifying site(s)/system(s) with the best potential for immediate and short range implementation and documenting future park and ride lot locations for integration into the long range planning process.

This Report is based on the development of a park and ride lot system to service the Western Dade County and relieve traffic congestion on SR 836. The proposal includes the development of new express bus transit service and utilizing the Flagler MAX which begins operating in March, 1993. The report provides sufficient data and explanation to show the need and purpose of this proposal. The analysis includes: a presentation of alternatives with associated costs and benefits; the relation of the proposal to other plans and existing projects in the area; the impacts on the local transportation system; and the needs required by the improvement. In addition, conceptual design plans have been prepared as a general outline of site needs.

The Report is formatted into four (4) sections. Following this Section is Section II: Plans, Projects and Proposals which provides a background discussion of the corridor proposed for park and ride implementation followed by a discussion of future plans. Section III includes the analysis of alternative lot and corridor treatments and estimations of costs. A benefit/cost analysis based on system implementation is also provided in this section. The Final Section summarizes the need and benefits of the proposed improvement.

Note, the analyses provided in this document are more specific than those provided in the Park and Ride Lot Plan. Where the Park and Ride Lot Plan performed demand estimates based on the development of individual lots, this Report revises those estimates based on the development of multiple sites in the same area and adjusts service areas based on competition between sites. This Report documents the specific impacts of the proposed Park and Ride Lot treatments to the West Dade County: Flagler Street/Coral Way/Bird Road Corridors.

II. PLANS, PROJECTS and PROPOSALS

Introduction

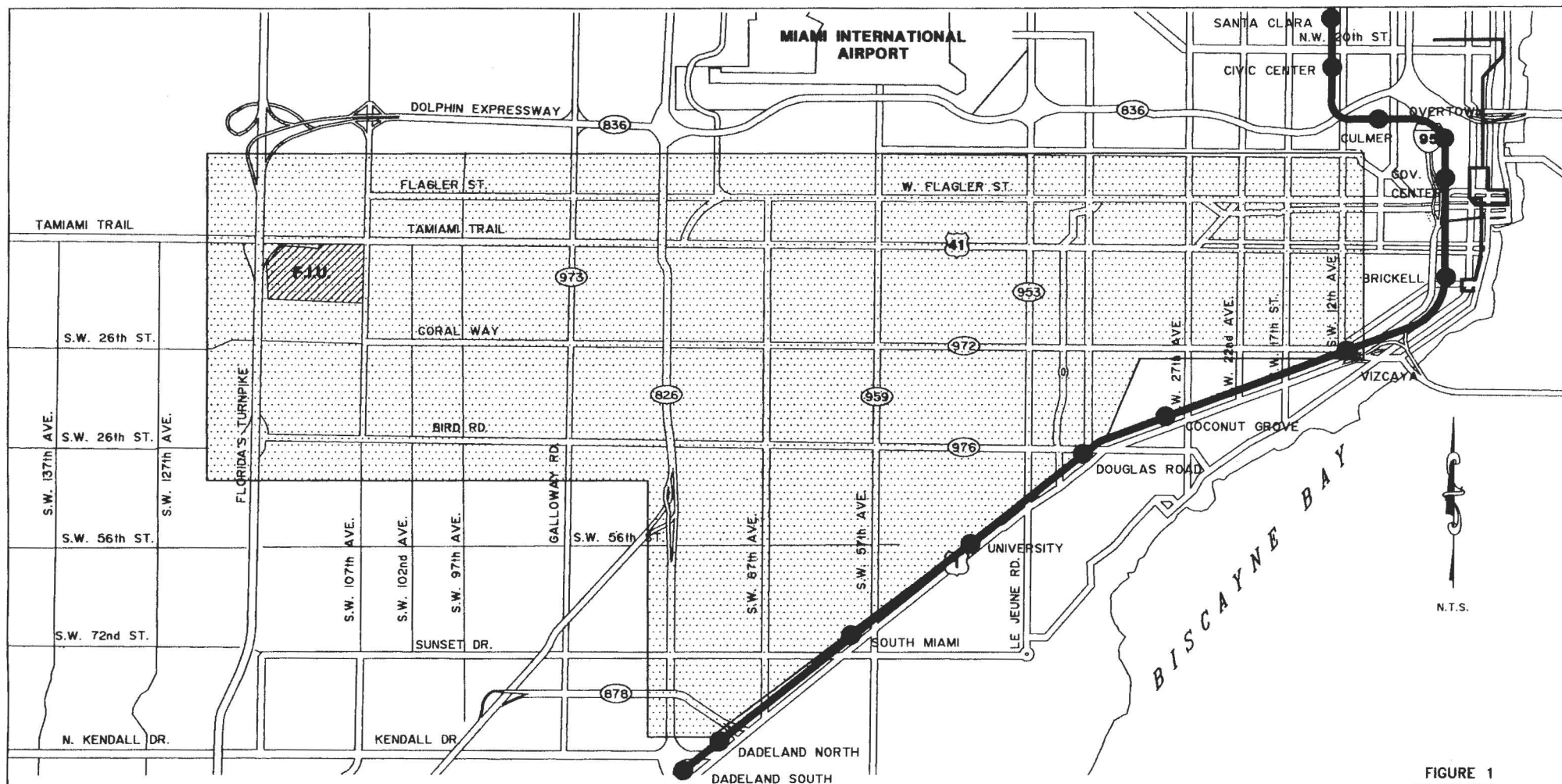
The West Dade County study area generally includes the Flagler Street, Coral Way (SW 22nd Street) and Bird Road (SW 40th Street) Corridors between 137th Avenue and Downtown Miami. Figure 1 shows the analysis corridor. The proposal is open to a number of alternatives to connect the lots to the destination areas including potential interface with the Metrorail at Brickell, Vizcaya, Coconut Grove and/or Douglas Road. Express bus routing also has the option of utilizing a number of arterials and or collectors to provide service to each lot.

Existing Transportation System

The corridor is serviced by a number of north/south local bus routes and major bus transfer facilities at the Coral Gables Bus Terminal and at the Douglas Road Metro Rail Station. Figure 2 shows an excerpt from the Dade County Transit Map provided by Metro-Dade Transit Agency indicating the availability of bus routes on most arterials and major collectors. The map does not show Flagler MAX service which is programmed to begin service in March, 1993. MAX routes is a commuter oriented service providing limited-stop express service between SW 137th Avenue and Miami Beach. Major roadways accommodating the route include Coral Way, Flagler Street, Biscayne Boulevard, McArthur Causeway and Washington Street. Fare is \$1.25 and can traverse the SW 132nd Avenue to Downtown route (one-way) in approximately 50 to 55 minutes.

Flagler Street, SW 8th Street, Coral Way and Bird Road are all served by local routes on a direct east/west route. Route 11 operates on Flagler Street between the Florida International University (FIU) south campus and Biscayne Boulevard providing steady service throughout the day including 6 to 7 minute headways during the peak hours. The route has many stops and requires 70 minutes for a complete one-way trip. Route 24 operates on Coral Way between the FIU south campus, Vizcaya Metrorail Station and Downtown on 15 minute headways during the peak hours. The route schedule indicates 48-50 minutes between FIU and the Vizcaya Station and an additional 20 minutes to reach Downtown. Major roadways on the route include Coral Way (SW 24th Street) and Brickell Avenue.

Route 40 provides local service on Bird Road between SW 127 Avenue, the Douglas Road Metrorail Station and the Coral Gables Bus Terminal. Service is provided at half hour headways and the route takes approximately 45 minutes to travel from SW 127th Avenue to the Douglas Road Station. All local service is provided for a standard \$1.25 fare with \$0.25 transfers.



LEGEND

- = Study Area
- = Metrorail
- = Metrorail Stations
- = Metromover

**FIGURE 1
STUDY AREA**

**JUSTIFICATION REPORT,
WEST DADE COUNTY
CORRIDOR**

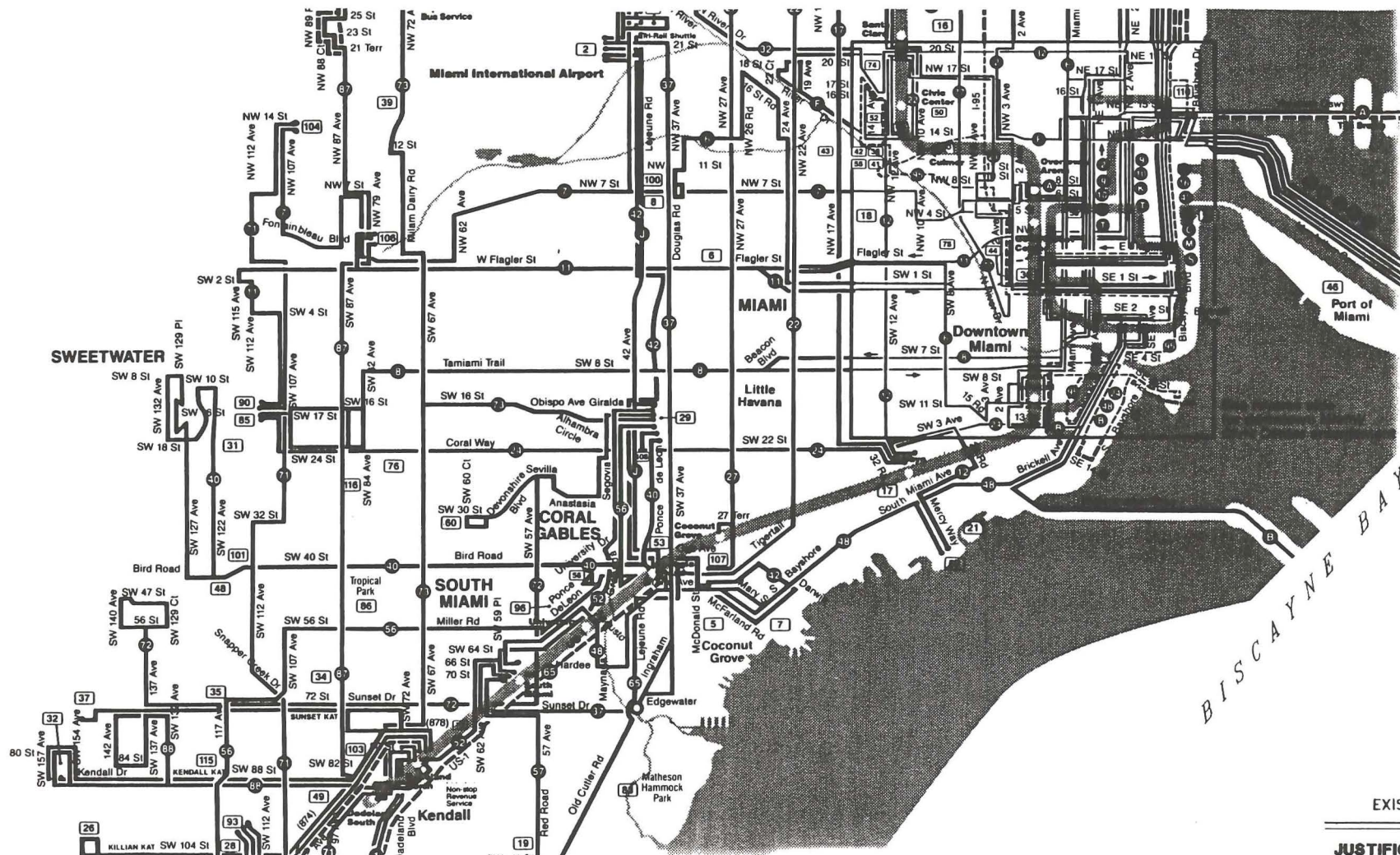


FIGURE 2
EXISTING TRANSIT

**JUSTIFICATION REPORT:
WEST DADE,
U.S. 1 CORRIDOR**

LEGEND

Table 1 provides an inventory of the major roadway facilities in the study area. The inventory includes a listing of roadway segments with number of lanes and median design. Flagler Street, Tamiami Trail, Bird Road and Coral Way all provide for east/west traffic movement. Flagler Street and Tamiami Trail have the potential to connect park and riders to the downtown area while Bird Road may provide an interface at the Douglas Road Metrorail Station and Coral Way may provide an interface at the Vizcaya Station.

North/south traffic flow is provided by two expressway facilities and several arterials and collectors. The Homestead Extension of the Florida's Turnpike (HEFT) and the Palmetto Expressway (SR 826) are limited access facilities providing access to north, south and central Dade County. SW 107th Avenue, SW 97th Avenue, SW 87th Avenue, SW 67th Avenue, SW 57th Avenue, SW 42nd Avenue, SW 37th Avenue, SW 27th Avenue, and SW 12th Avenue are controlled access facilities that will be reviewed for support of express bus service. Several of these facilities provide direct and indirect access to the Metrorail stations located south of the corridor. SR 826 and SW 67th Avenue may be used for a potential interface with the Dadeland Stations; SW 57th Avenue is in proximity to the South Miami Station; SW 37th provides access to the Douglas Road Station; SW 27th Avenue accesses the Coconut Grove Station and SW 12th Avenue can provide indirect access to the Vizcaya Station.

Previous Transit Programs

There have been no past transit programs in the Western Corridor. The Flagler MAX service is new and should be operating by the time this report is available. Dade County has had experience, however, in the application of travel demand management programs prior to the development of capital intensive improvements. These experiences are similar to this proposal because the western corridor is being considered for major transit improvements along SR 836 and Flagler Street. The two projects include the Orange Streaker on NW 7th Avenue in northern Dade County and the Blue Dash on South Dixie Highway in South Dade. The Orange Streaker was implemented prior to the construction of HOV lanes on I-95 and operated as an exclusive bus lane within the NW 7th Avenue median. Once the HOV lanes were completed, the route was converted to the 95X as described earlier. The Blue Dash operated on South Dixie Highway prior to the construction of the Metrorail. The project provided a contra-flow bus lane in the AM and PM peak hours. The project was very expensive to operate because of the man hours involved in setting up and dismantling the lane for each peak period.

The County now operates a reversible lane system on NW 199th Street in northwest Dade County. The system is located on the south side of Joe Robbie Stadium, however, it is utilized only for special events at the stadium and does not relate to commuter applications.

Past park and ride lot experience in Dade County in general, however, has seen its successes and failures. There are four active park and ride sites, outside of the Metrorail system, that operate at relatively high levels of success. These include the Golden Glades Lot, Hammocks Town Center, West lakes Plaza, and Miami-Dade-South Campus. The **MDTA Park and Ride Lots Facilities Plan, 1989** indicates the success of these lots can be attributed to:

Table 1
Existing Roadway Design

Roadway	From	To	Exist	
			Lanes	Exist Median
Bird Road	HEFT	SW 97th Ave	4L	Unrestricted
	SW 97th Ave	SW 87th Ave	4L	No Median
	SW 87th Ave	SR 826	6L	Restricted
	SR 826	SW 57th Ave	6L	Restricted
	SW 57th Ave	SW 42nd Ave	4L	Restricted
Coral Way	HEFT	SW 97th Ave	4L	Restricted
	SW 97th Ave	SW 87th Ave	4L	Restricted
	SW 87th Ave	SR 826	4L	Restricted
	SR 826	SW 57th Ave	4L	Restricted
	SW 57th Ave	SW 42nd Ave	4L	Undivided
	SW 42nd Ave	SW 27th Ave	4L	Undivided
	SW 27th Ave	SW 12th Ave	4L	Restricted
	SW 12th Ave	Vizcaya Metror	4L	Restricted
SW 8th St	HEFT	SW 97th Ave	6L	Restricted
	SW 97th Ave	SW 87th Ave	6L	Restricted
	SW 87th Ave	SR 826	6L	Restricted
	SR 826	SW 57th Ave	6L	No Median
	SW 57th Ave	SW 42nd Ave	6L	No Median
	SW 42nd Ave	SW 27th Ave	6L	No Median
	SW 27th Ave	SW 12th Ave	3L	One Way
	SW 12th Ave	Downtown	3L	One Way
Flagler St	HEFT	SW 97th Ave	6L	Restricted
	SW 97th Ave	SW 87th Ave	6L	Restricted
	SW 87th Ave	SR 826	6L	Restricted
	SR 826	SW 57th Ave	4L	Restricted
	SW 57th Ave	SW 42nd Ave	4L	Unrestricted
	SW 42nd Ave	SW 27th Ave	4L	Unrestricted
	SW 27th Ave	SW 12th Ave	4L	Unrestricted
	SW 12th Ave	Downtown	4L	Unrestricted
HEFT	Flagler St	Tamiami Trail	6L	Expressway
	Tamiami Trail	Coral Way	6L	Expressway
	Coral Way	Bird Rd	6L	Expressway
SW 107th Av	Flagler St	Tamiami Trail	4L	Restricted
	Tamiami Trail	Coral Way	4L	Restricted
	Coral Way	Bird Rd	4L	Unrestricted

Roadway	From	To	Exist Lanes	Exist Median
SW 97th Ave	Flagler St	Tamiami Trail	4L	Restricted
	Tamiami Trail	Coral Way	2L	No Median
	Coral Way	Bird Rd	2L	No Median
SW 87th Ave	Flagler St	Tamiami Trail	4L	Restricted
	Tamiami Trail	Coral Way	4L	Restricted
	Coral Way	Bird Rd	4L	Restricted
SR 826	Flagler St	Tamiami Trail	10L	Expressway
	Tamiami Trail	Coral Way	8L	Expressway
	Coral Way	Bird Rd	8L	Expressway
	Bird Rd	Kendall Dr	8L	Expressway
	Kendall Dr	Dadeland North Metrorail	8L	Expressway
SW 67th Ave	Flagler St	Tamiami Trail	2L	No Median
	Tamiami Trail	Coral Way	2L	No Median
	Coral Way	Bird Rd	2L	No Median
	Bird Rd	Kendall Dr	2L	No Median
	Kendall Dr	US 1	2L	No Median
SW 57th Ave	Flagler St	Tamiami Trail	4L	Unrestricted
	Tamiami Trail	Coral Way	2L	No Median
	Coral Way	Bird Rd	2L	No Median
	Bird Rd	South Miami Metrorail	2L	No Median
SW 42nd Ave	Flagler St	Tamiami Trail	6L	Restricted
	Tamiami Trail	Coral Way	4L	No Median
	Coral Way	Douglas Rd Metrorail	4L	Unrestricted
SW 37th Ave	Flagler St	Tamiami Trail	4L	Unrestricted
	Tamiami Trail	Coral Way	4L	Unrestricted
	Coral Way	Douglas Rd Metrorail	4L	Unrestricted
SW 27th Ave	Flagler St	Tamiami Trail	4L	Restricted
	Tamiami Trail	Coral Way	4L	Restricted
	Coral Way	Coconut Grove Metrorail	4L	Unrestricted
SW 12th Ave	Flagler St	Tamiami Trail	4L	Unrestricted
	Tamiami Trail	Vizcaya Metrorail	4L	Unrestricted

- Frequent Metrobus Service
- Availability of Off-Peak Service
- Competitive Cost in Comparison to Automobile
- Competitive Travel Time in Comparison to Automobile
- Clear Lot Identification, lighting and sheltered waiting areas
- High, visible security

There are also a number of park and ride lot facilities with and without Metrorail service that have failed and are currently inactive. The Dade County **Congestion Management Plan Background Report** indicates the inactive lots outside of the Metrorail system have failed because of low transit frequencies. One of the inactive lots is shown within the study area around LeJeune Road and NW 7th Street. Data provided in the State Park and Ride Lot Manual also indicates this location is too close to the destination areas.

Programmed and Planned Improvements

There are two transportation improvements scheduled for the Study Area. Table 2 documents those improvements provided in the Metro-Dade Metropolitan Planning Organization's (MPO) Transportation Improvement Program (TIP). The Table indicates additional lanes are programmed for Flagler Street and Bird Road.

The Metro-Dade Transit Agency has also analyzed the potential for developing the Bird Road Area Transit (BRAT) service. The BRAT is documented in the 1991 Unified Planning Work Program indicating alternative express bus routes. Figure 3 shows the proposed routes.

The Western Corridor is also part of the MPO **Dade County Transit Corridors Transitional Analysis**, where long range multi-modal corridor treatments are being analyzed. Alternative improvements include Busway, "Hybrid" LRT, "Regular" LRT and an extensions of the Metrorail. The Western Corridor is being analyzed for four different alignments and for potential extension from Downtown to the Beach. The alignments under consideration include: (1) a corridor along SR 836; (2) along SR 836 and SW 8th Street; (3) along SR 836 and LeJeune Rd. to the Airport Multimodal Facility and (4) along Flagler Street. Potential stations within each alignment include:

Table 2 – Programmed Improvements

Roadway	From	To	Improvement	Constr FY
SW 40th St	SW 117th Ave	SW 87th Ave	+1L(6L)	'94-'95
Flagler St	SR 826	NW 71st Ave	+2L(6LD)	'92-'93
Tamiami Trail	SR 826	E of SW 112th St	+2L,4L(6LD)	Underway

Source: Frederic R. Harris, Inc.
Metro-Dade MPO

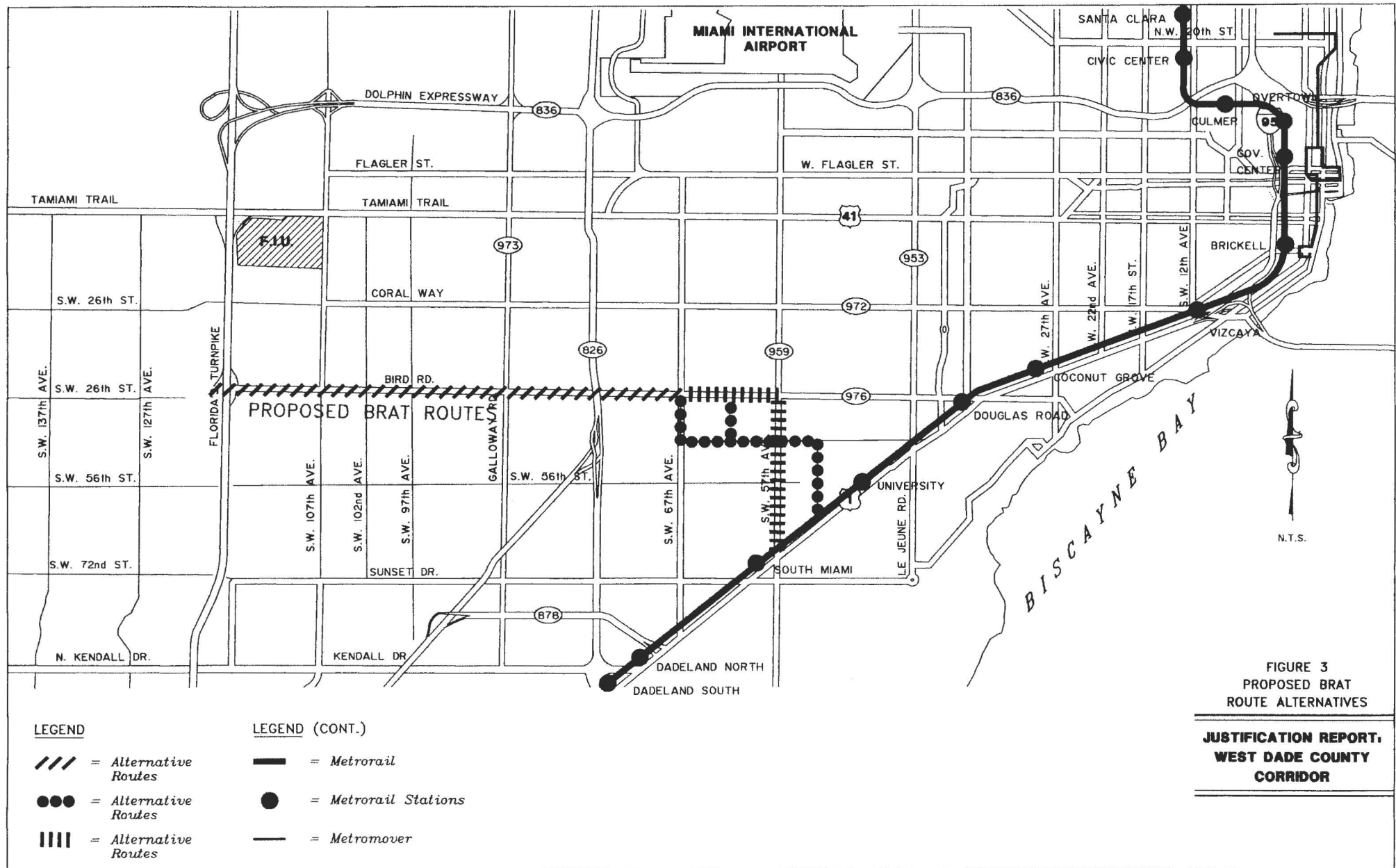


FIGURE 3
PROPOSED BRAT
ROUTE ALTERNATIVES

**JUSTIFICATION REPORT,
WEST DADE COUNTY
CORRIDOR**

SR 836

FIU
 107th Avenue
 97th Avenue
 87th Avenue
 SR 826
 57th Avenue
 42nd Avenue
 Airport Multimodal Facility
 37th Avenue
 22nd Avenue
 12th Avenue

Flagler St

FIU
 107th Avenue
 97th Avenue
 87th Avenue
 SR 826
 8th St/FEC
 Flagler/FEC
 57th Avenue
 49th Avenue
 42nd Avenue
 Airport Multimodal Facility
 7th Street
 37th Avenue
 32nd Avenue
 27th Avenue
 22nd Avenue
 17th Avenue
 12th Street
 8th Avenue
 Government Center

SR 836/SW 8th St

FIU
 107th Avenue
 97th Avenue
 87th Avenue
 SR 826
 Flagler St/FEC
 57th Ave
 42nd Ave
 Airport Multimodal Facility
 37th Avenue
 27th Avenue
 22nd Avenue
 12th Avenue

SR 836/LeJeune Rd

FIU
 107th Avenue
 97th Avenue
 87th Avenue
 SR 826
 57th Avenue
 42nd Avenue
 Airport Multimodal Facility

Depending on the recommended mode, most, or all, of the Stations west of the Airport Multimodal Facility will be provided with a park and ride facility of some kind. However, these are long range considerations that will be justified based on the cost of the overall transportation improvement.

Site Location Analysis

Potential sites for the implementation of park and ride lots were identified based on the results of a Systems and Project Level analysis documented in the Park and Ride Lot Plan. The results of the Systems Level analysis indicated the FIU/HEFT, SW 87th Avenue/Coral Way, Bird Road/HEFT and Bird Road/SR 826 can support park and ride lot facilities. Real Estate Data, Inc. (REDI) aerial photographs and plat books were reviewed and field surveys performed within each area to identify potential sites for lot development. The results identified two (2) sites in the FIU/HEFT area, seven (7) sites

in the SW 87th Avenue/Coral Way area, two (2) sites Bird Road/HEFT and four (4) sites at Bird Road/SR 826.

A project level analysis was utilized to identify the "best" site for development based on criteria provided in the **State Park and Ride Planning Manual**. The results of the analysis are provided below:

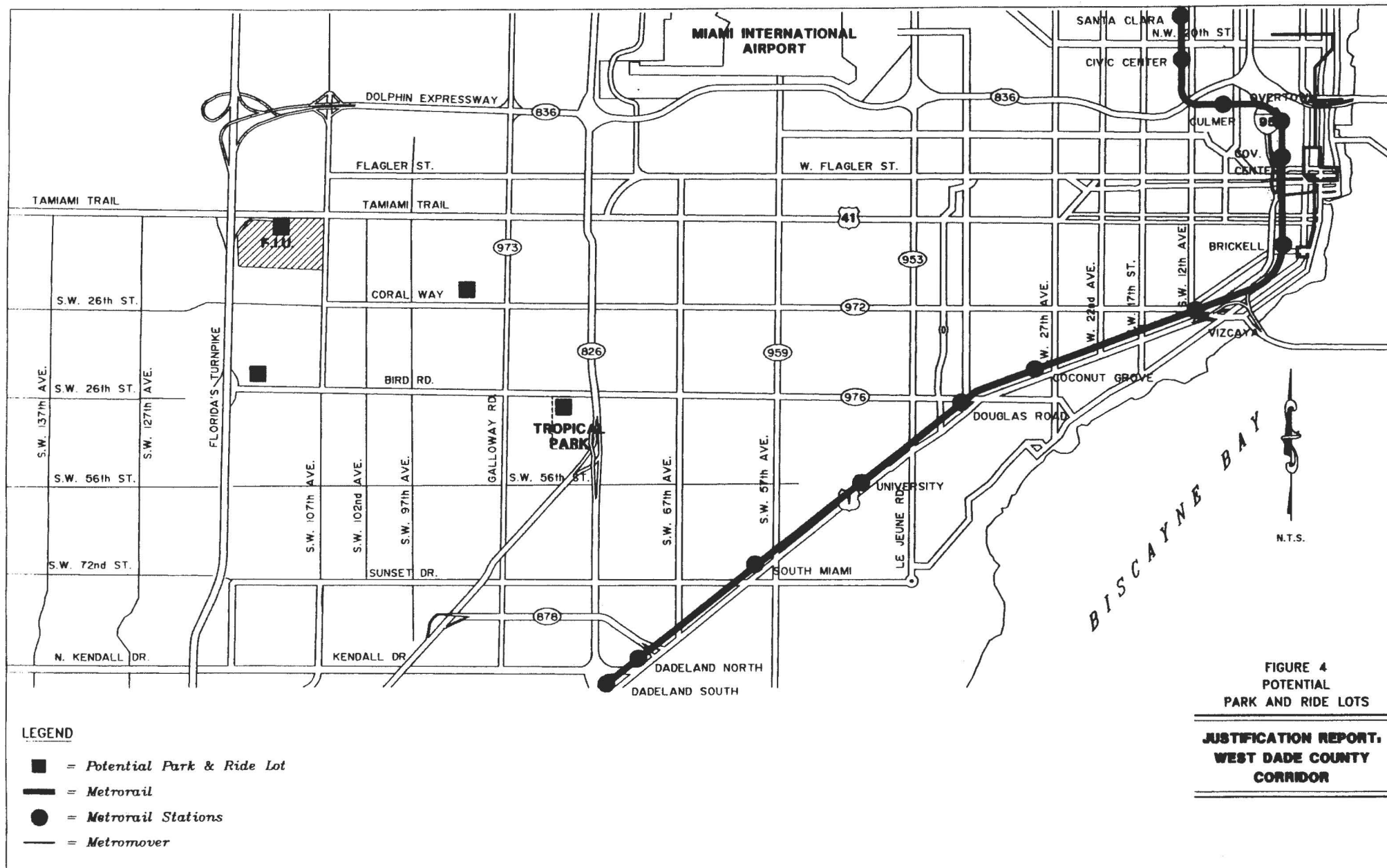
FIU/HEFT	SW 8th Street R/W at FIU Entrance
87th Ave/Coral Way	Westchester West Shopping Center
Bird Rd/HEFT	Concord Plaza at Bird Rd/SW 112th Ave Westbird Center at Bird Rd/SW 114th Ave
Bird Rd/SR 826	Tropical Park

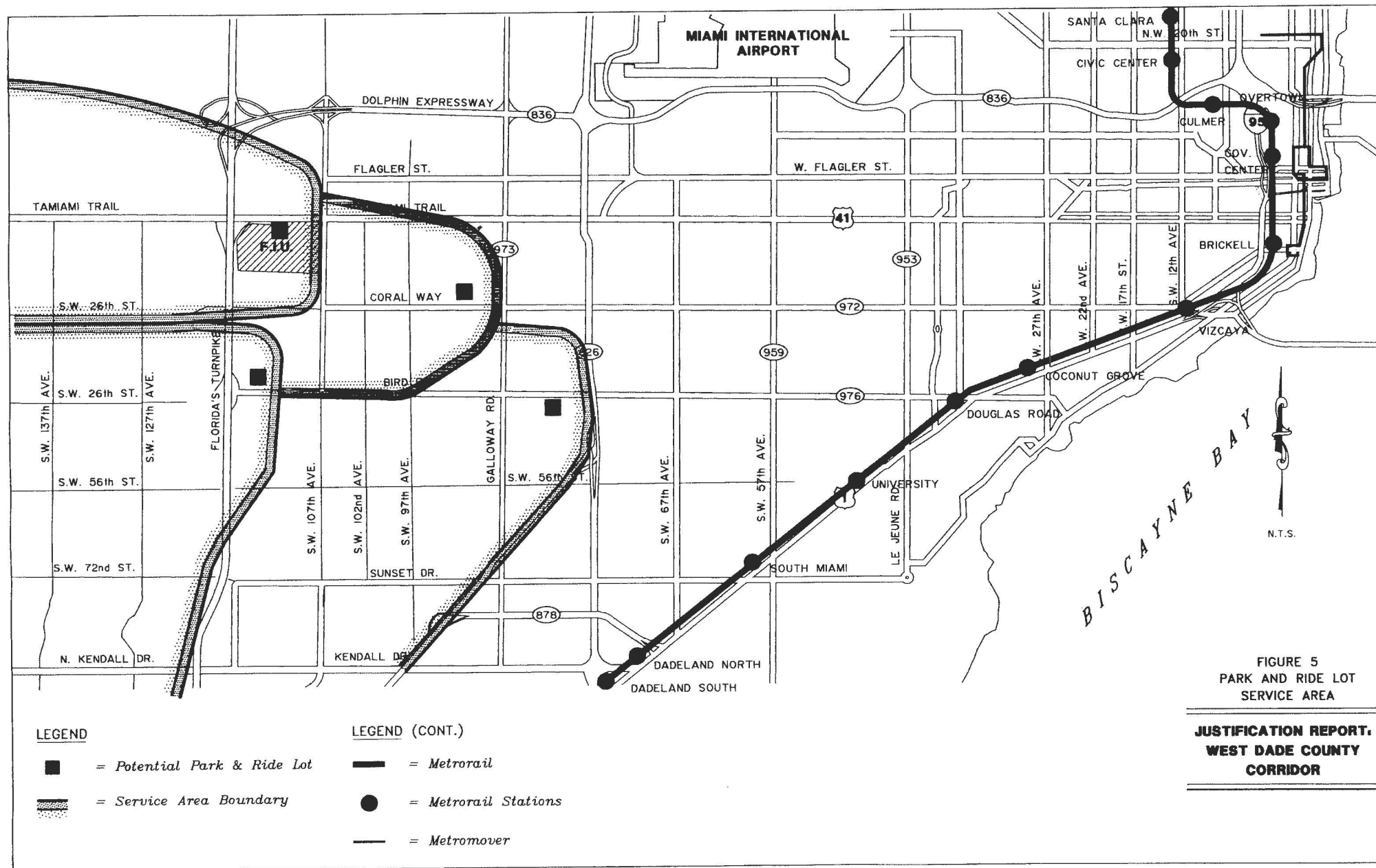
Figure 4 shows the location of the potential sites.

Parking Demand Estimates

The travel demand estimates documented in the **Park and Ride Lot Plan** were projected based the development of individual lots for comparison amongst each other. The Plan indicates the western corridor parking lot service areas overlap and would have to be analyzed for competition once a plan was prepared. Figure 5 indicates the revised service area boundaries for the western lots. Revised 1997 and 2010 parking projections were developed using the demand model documented in the Plan and are shown below.

<u>Location Area</u>	<u>Parking Demand 1997</u>	<u>Parking Demand 2010</u>
FIU/HEFT	116	164
87th Ave/Coral Way	111	117
Bird Rd/HEFT	113	156
Bird Rd/SR 826	105	115





III. PARK AND RIDE LOT SYSTEM TREATMENTS AND COSTS

Introduction

Conceptual design details of the recommended plan improvements are presented in this section of the report. The improvements include the development of joint use parking facilities, providing on-site transit service and Transportation Demand Management (TDM) options. The details are presented at a level which permits the Department to approach private landowners for lease negotiations and the subsequent design of system improvements.

Recommended park and ride lot treatments include:

1. The development of joint use sites at:
 - Westchester West Shopping Center
 - Concord Shopping Center and/or the Westbird Center
 - Tropical Parkand the development of a new site at:
 - SW 8th Street R/W at FIU
2. Use of Flagler MAX and development of a new Express Route
3. Potential traffic operations improvements
4. Development, encouragement and involvement in TDM programs and strategies

Park-and-Ride Facilities

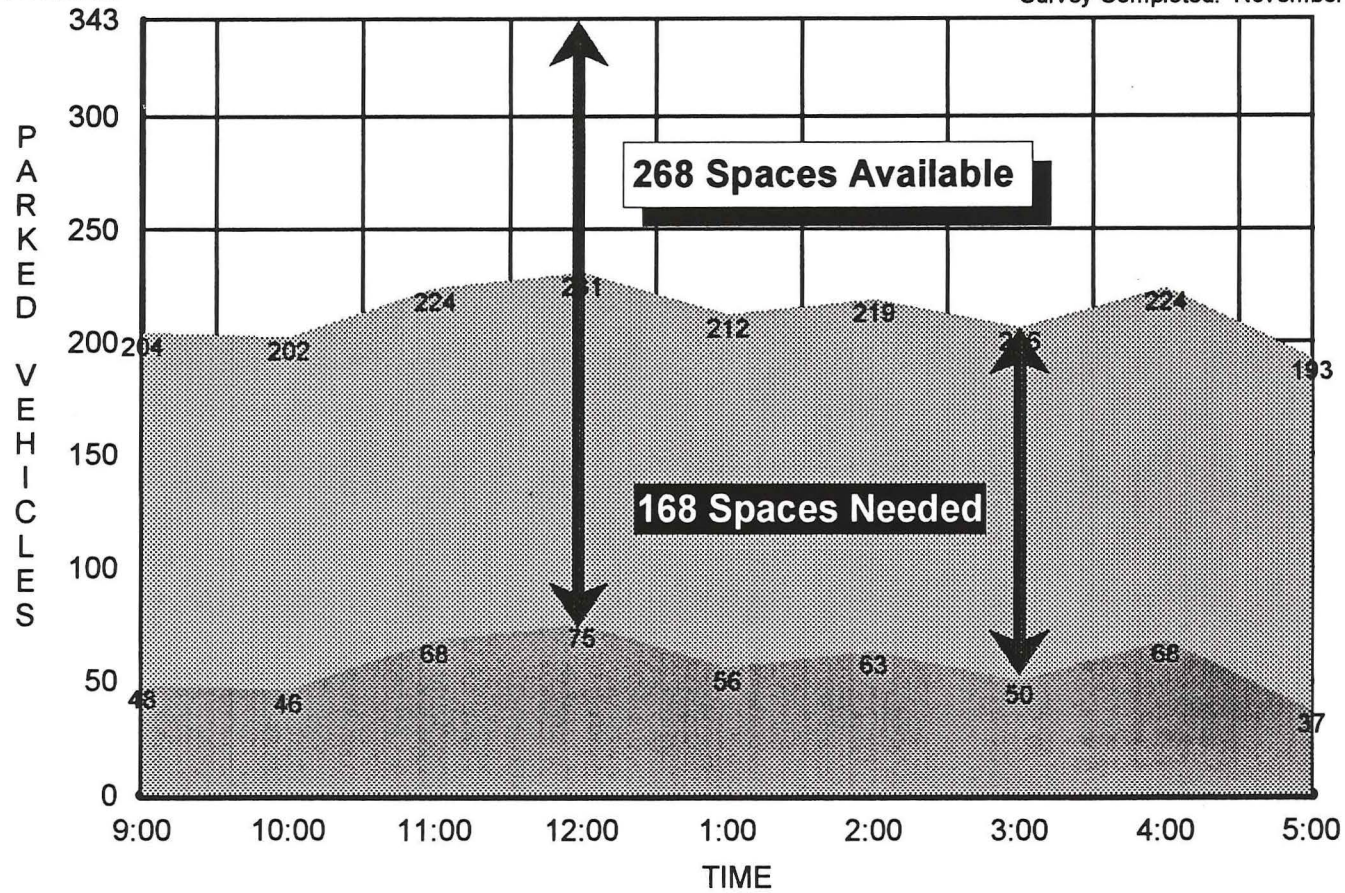
Three (3) of the potential park-and-ride sites proposed for the Western Corridor are part of existing shopping centers and/or commercial properties. Capital costs for these sites are limited to bus shelters, passenger amenities, signage and pavement marking improvements. However, the success of this facility is contingent upon the availability of parking and a successful agreement with the shopping center management. The proposal is based on obtaining parking to accommodate 2010 demand as revised in this report. A parking occupancy study was performed to determine existing utilization at each of the lot locations. Exhibits A, B, and C show the results.

The results indicate sufficient parking at all the plazas. Parking occupancy was not analyzed at Tropical Park because at the time of the study the park was closed due to Hurricane Andrew.

Exhibit A
Parking Occupancy Study
Concord Plaza
SW 112th Ave and Bird Rd.

Total Spaces Available:

Survey Completed: November 10, 1992



Legend

- Parked Vehicles
- Ultimate Park & Ride Needs

Exhibit B
Parking Occupancy Study
Westchester West Shopping Center
SW 87th Ave and Coral Way
NW Corner

Total Spaces Available:

Survey Performed : November 10, 1992

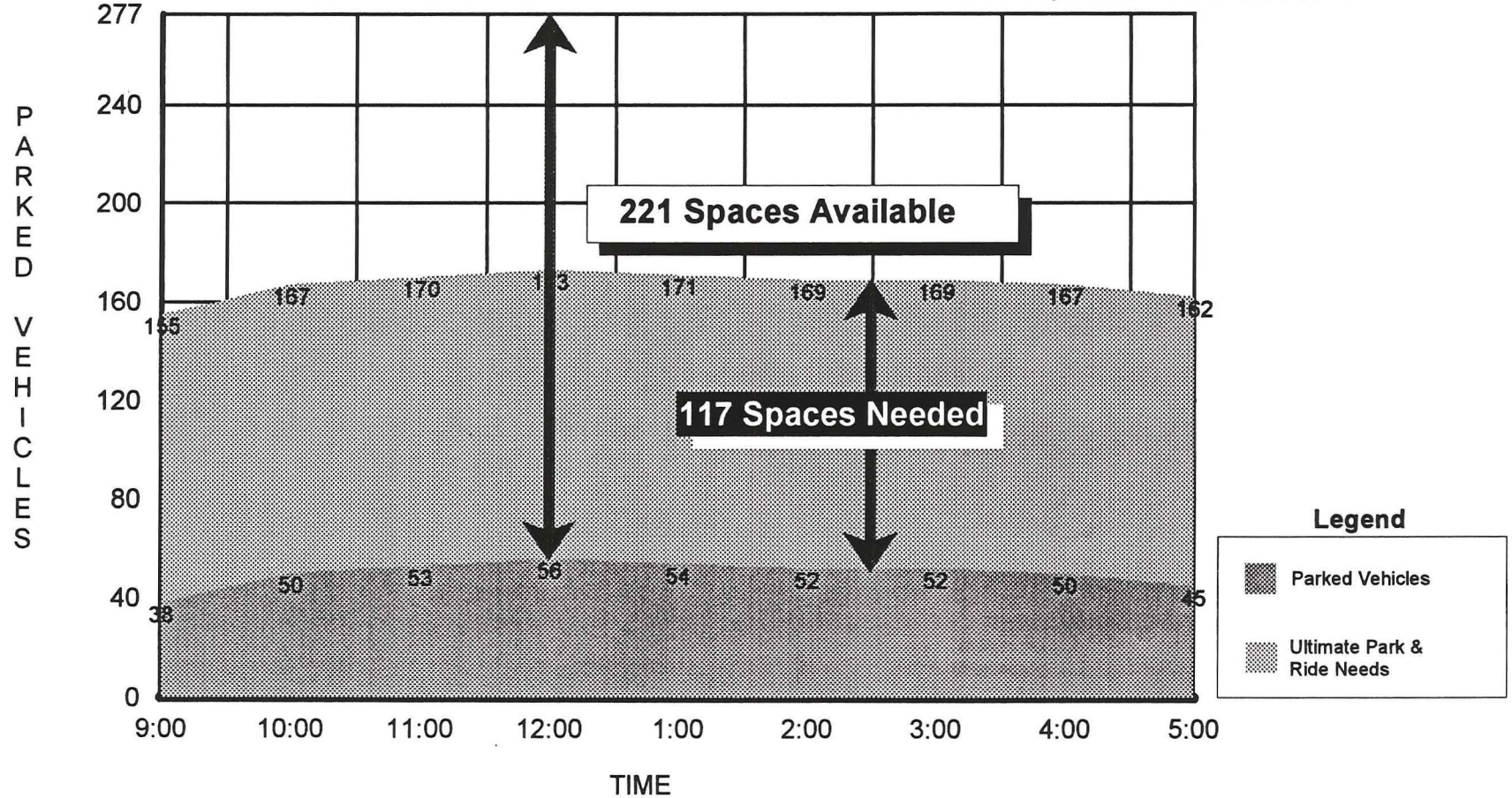
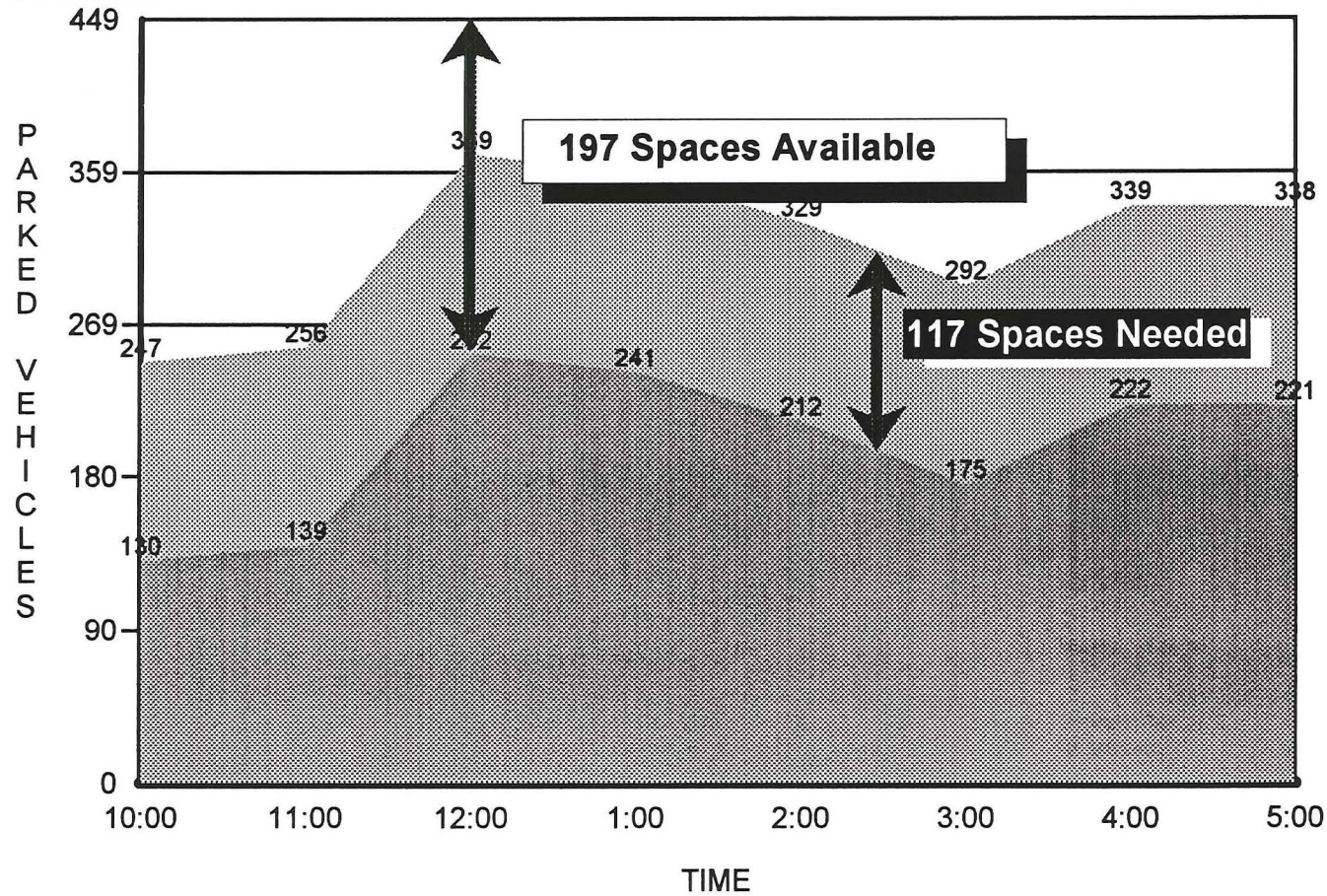


Exhibit C
Parking Occupancy Study
Westchester Shopping Center
SW 87 Ave and Coral Way
NE Corner

Total Spaces Available:

Study Performed : November 10, 1992



Land development costs were developed for the FIU/HEFT based on the \$1,800 per space estimate provided in the Plan. The estimated costs (1992 dollars) of bus shelters, passenger amenities, signage and pavement markings for each site is provided below. Passenger amenities include two (2) bus shelters, two (2) public phones, newspaper racks, benches and posted bus schedules/routes. Bus shelters are estimated at \$5,000 apiece (MDTA estimate) and amenities, on-site signage and pavement markings are based on estimates from the Justification Report developed for the Kendall Area Transit Park and Ride Lots prepared by Frederic R. Harris, Inc adjusted to 1992 dollars.

An analysis was also performed for the development of a landscape buffer at the shopping center sites. The buffer was provided both to make the site more attractive to the commuter (i.e. security and appearance) and to entice the property owners into a lease agreement. The provision of the buffer will be considered optional until the final analysis. A landscape buffer option is not an option at the Tropical Park Site because the lot is already sufficiently landscaped.

• FIU/HEFT	Clearing, Paving & Drainage	\$290,200
	Shelters (2)	\$10,000
	Amenities, Pavement & Marking, On-Site Signs	<u>\$19,000</u>
	Total	\$319,200
• Westchester West Plaza (87 Ave /Coral Way)	Shelter (2)	\$10,000
	Amenities, Pavement & Marking, On-Site Signs	<u>\$13,500</u>
	Total	\$23,500
	Landscape Buffer (Opt)	<u>\$21,000</u>
	Total w/Landscape	\$44,500
• Concord Plaza (Bird Road/HEFT)	Shelter (2)	\$10,000
	Amenities, Pavement & Marking, On-Site Signs	<u>\$18,000</u>
	Total	\$28,000
	Landscape Buffer (Opt)	<u>\$28,000</u>
	Total w/Landscape	\$56,000
• Tropical Park (Bird Rd/SR 826)	Shelter (2)	\$10,000
	Amenities, Pavement & Marking, On-Site Signs	<u>\$18,000</u>
	Total	\$28,000

Utilization of the parking spaces at the shopping center sites could be accomplished by any one of the following methods:

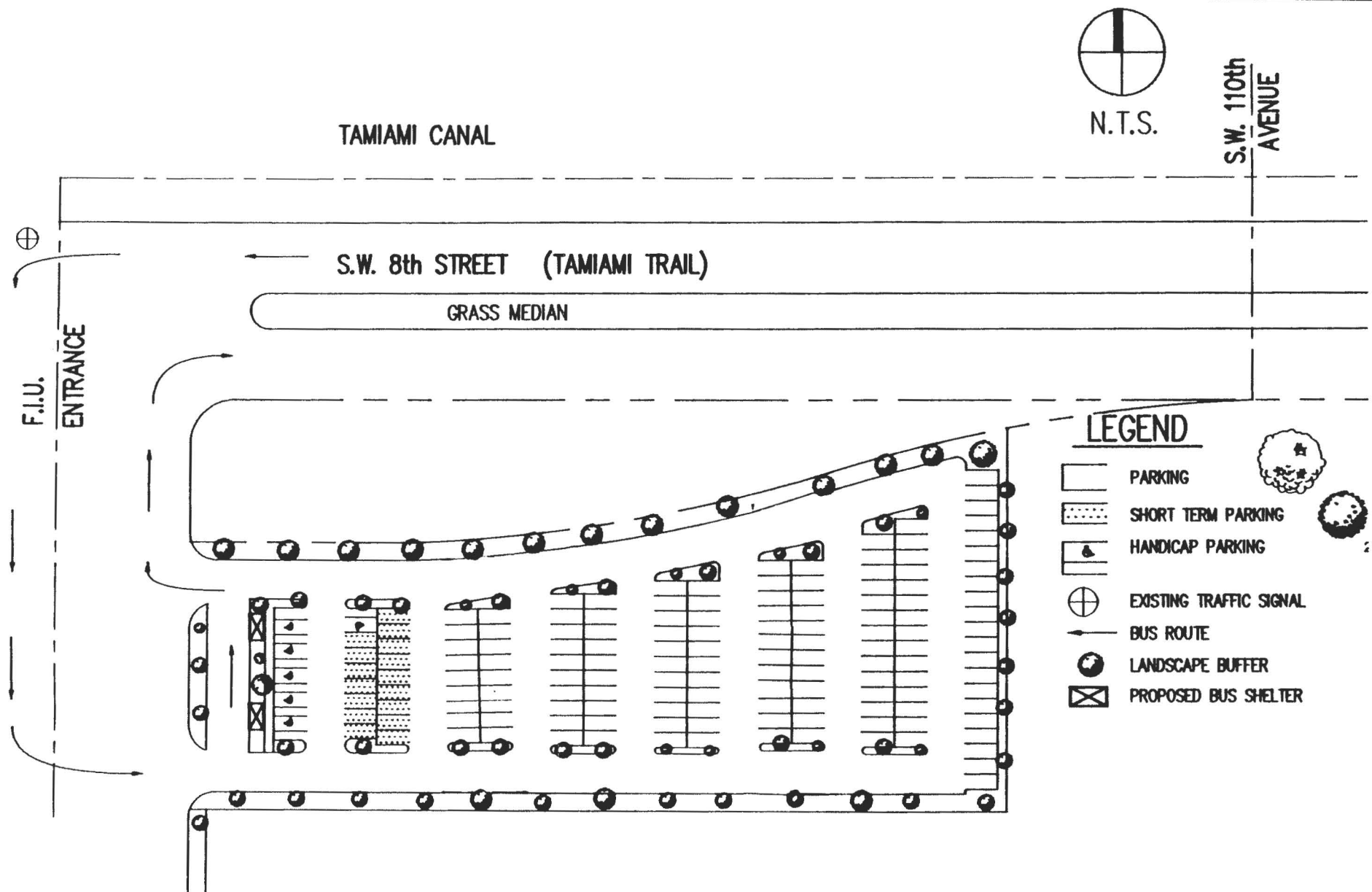
- Free use of the parking spaces may be agreed upon between the shopping center management and FDOT. An incentive for the shopping center to allow free usage of the parking spaces might be increased business to the shopping mall's stores.

- Lease agreement where FDOT would enter into agreement with both property owners. The Department estimates an annual lease cost of 10–12% of site value. Based on cost information provided by the Department the lease cost of the Westchester West Plaza would be \$72,000, and the Concord Plaza \$96,000/year.
- Note, purchase of the sites is not considered feasible.

The Department will utilize public right of way for the FIU/HEFT location and it is anticipated the Department will negotiate with the County to obtain free use of the Tropical Park location. It is assumed, however, the Department will be required to negotiate a lease for use of the shopping center sites at the remaining locations. A summary of the startup costs and lease agreements for each site is provided below.

- FIU/HEFT: \$319,200 (First Year), Owned No Annual Lease Payments
- 87 Ave/Coral Way: \$116,500 (First Year), \$72,000 (Each Following Year)
- Bird Rd/HEFT: \$152,000 (First Year), \$96,000 (Each Following Year)
- Tropical Park: \$28,000 (First Year), Owned by County, No Annual Lease

Conceptual design plans for each location are provided on Figures 6, 7, 8 and 9. Note, the lots were designed to accommodate the parking projections documented in the Park and Ride Plan. If there are revisions to this proposal during the implementation phase and some lots are not included in the system the larger design may become necessary. However, all cost estimates are based on meeting the demand of the system including four lots.



TABULATION

TOTAL PARKING= 156 SPACES
 HANDICAP PARKING= 6 SPACES
 SHORT TERM PARKING= 16 SPACES

FIGURE 6
 FIU / HEFT

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 CORRIDOR



N.T.S.

TABULATION

TOTAL PARKING= 116 SPACES
HANDICAP PARKING= 5 SPACES
SHORT TERM PARKING=12 SPACES

LEGEND

- PARKING
- SHORT TERM PARKING
- HANDICAP PARKING
- EXISTING TRAFFIC SIGNAL
- BUS ROUTE
- LANDSCAPE BUFFER
- PROPOSED BUS SHELTER
- PEDESTRIAN CROSSING

PARKING LOT

EXIST. DRIVEWAY
ENTRANCE

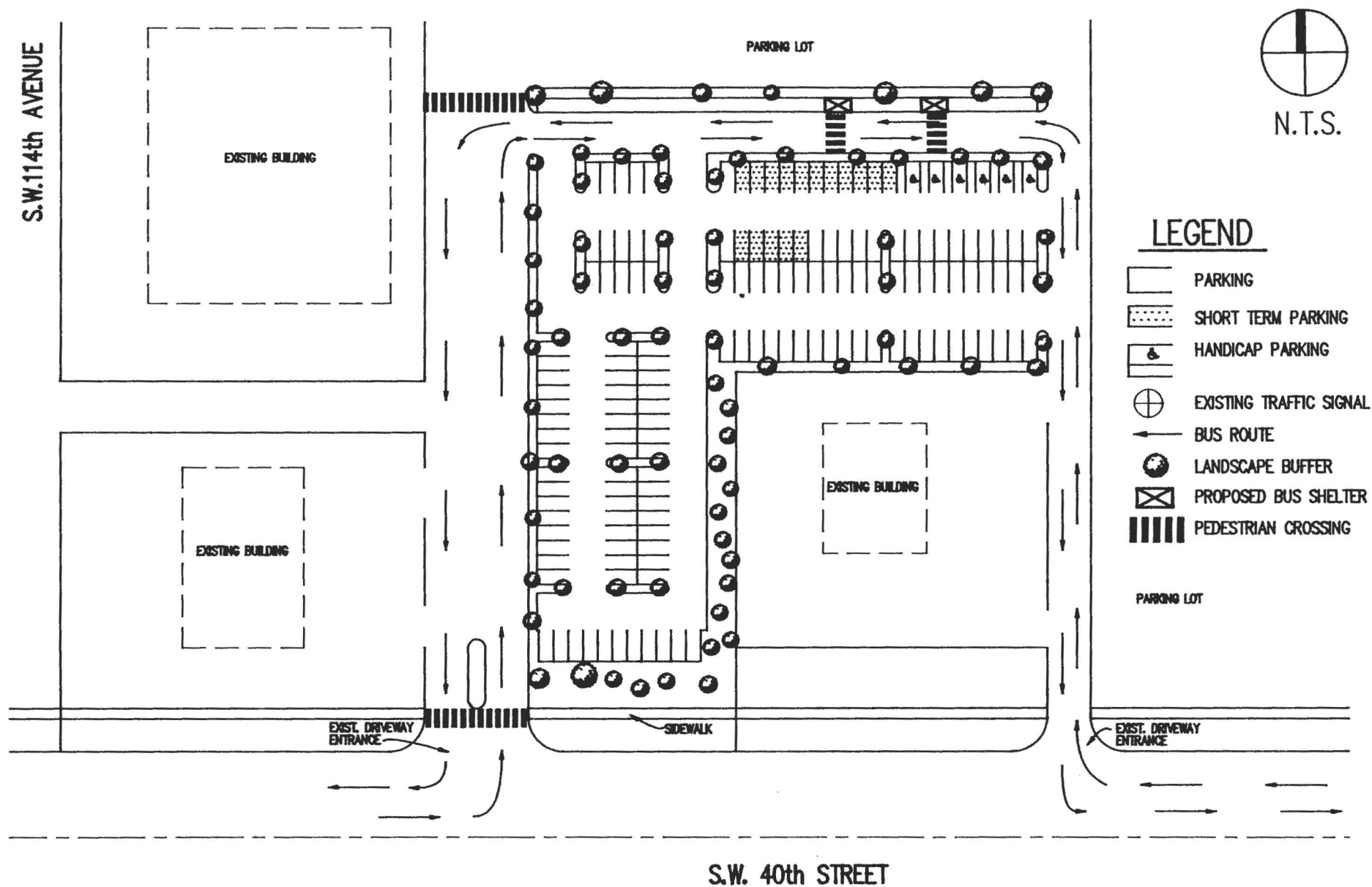
EXIST. DRIVEWAY
ENTRANCE

EXIST.
BUILDING

S.W. 24th STREET

FIGURE 7
WESTCHESTER
WEST SHOPPING CENTER

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CORRIDOR

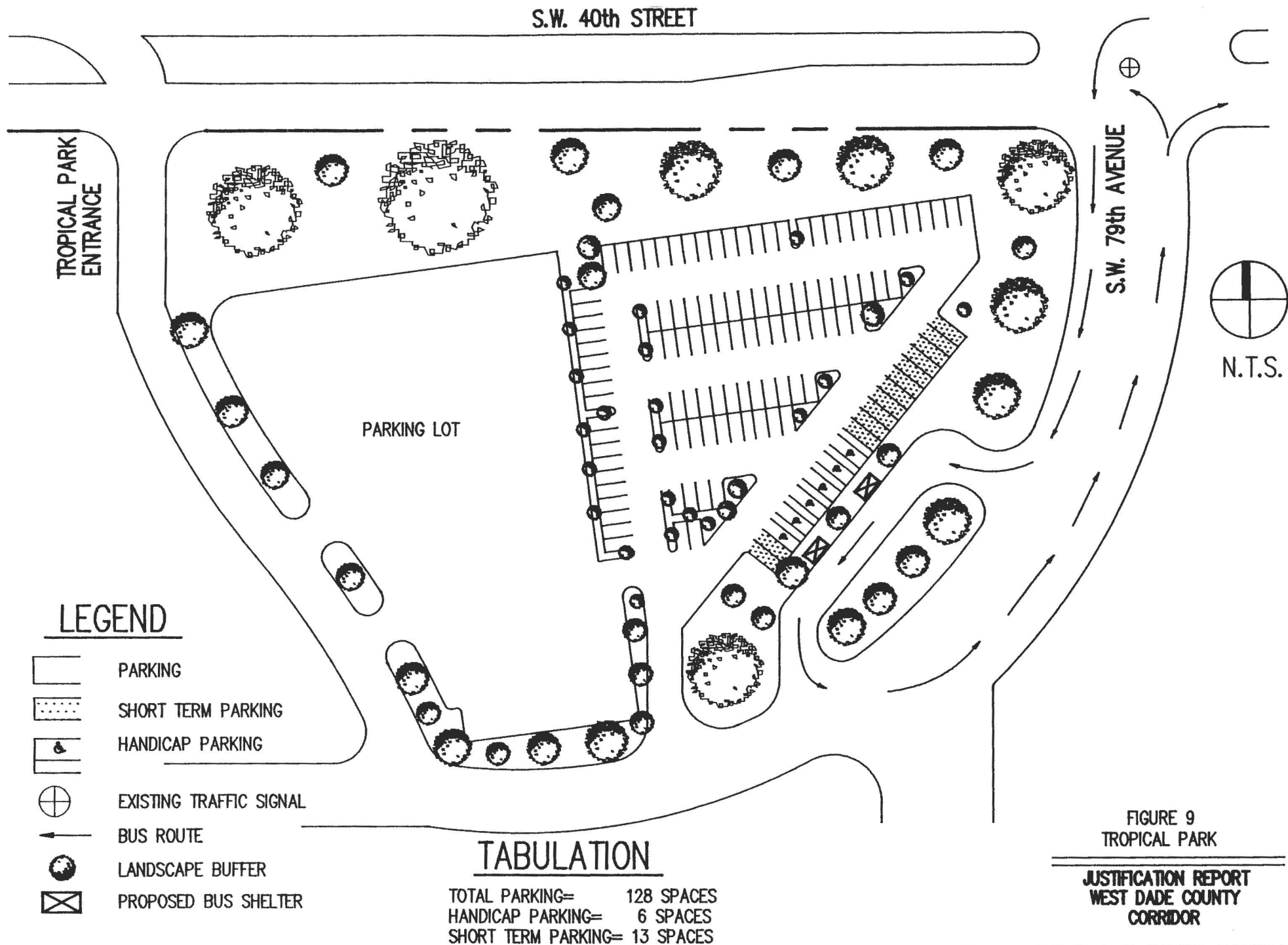


TABULATION

TOTAL PARKING= 155 SPACES
 HANDICAP PARKING= 6 SPACES
 SHORT TERM PARKING= 16 SPACES

FIGURE 8
 CONCORD PLAZA

JUSTIFICATION REPORT
 WEST DADE COUNTY
 CORRIDOR



Security

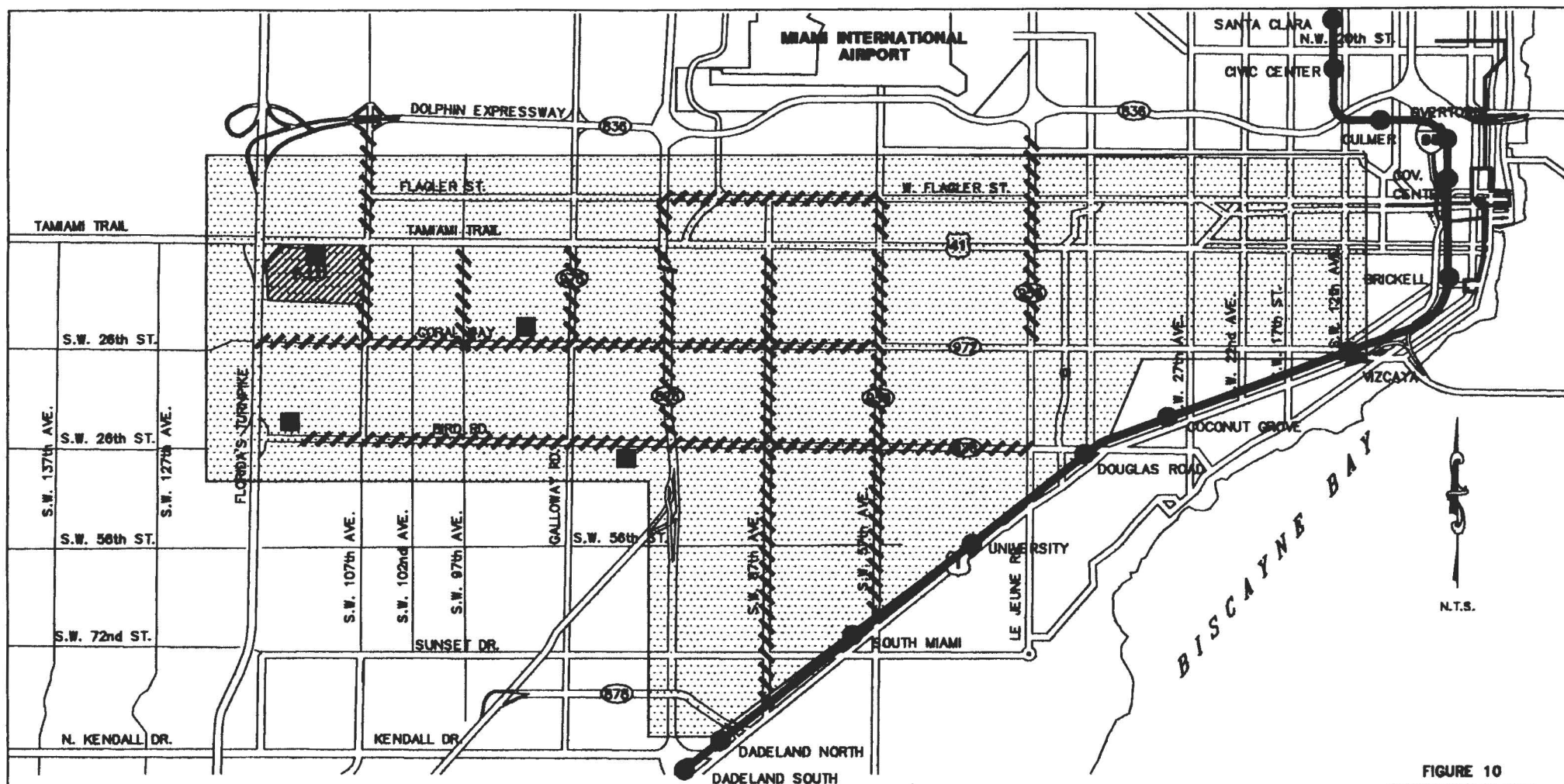
Lot security is a critical element to the success of this proposal. A conceptual plan to provide a secure facility, attractive to the commuter, includes the installation of access gates, a video system and the leasing of a roving security guard. At each lot an automatic gate system would be provided at all access points where vehicles would have to stop before entering or exiting the lot. Strategically placed video cameras would tape the vehicle, passenger and license plate. Additional cameras would be placed to obtain an overall view of the lots. The lots would also be protected by a roving security officer from 6:00 AM to 8:00 PM. Signage indicating security and video are in use will also be provided. The officer would travel between the lots and inspect each site throughout the day. The cost of implement the video system and the annual cost of providing the security officer is shown below.

Video Cameras (4/lot)	\$800/ each	\$12,800
Weatherization (per camera)	\$1,000/ camera	\$16,000
VCR (1/lot)	\$1,100/ each	\$4,400
Quad Monitor (1/lot)	\$1,000/ each	\$4,000
Security Officer: Leased Mon-Fri 6AM to 8PM (Annual)	\$61,000/ year	\$61,000
Total Security System:		\$98,200

Traffic Operations Improvements

Traffic operations improvements reviewed in this analysis include the provision of HOV facilities, contra flow bus lanes, reversible lanes, signal pre-emption, signal optimization and access and signage improvements. An analysis of 1997 conditions was performed to determine route(s) for express bus implementation. Figure 10 shows the results of the analysis indicating all overcapacity links and Table 3 shows the analysis of all links. Other than significant sections of Flagler Street, Tamiami Trail, the HEFT and SR 826, the results show almost every link in the study area is overcapacity. Analysis of the results indicates all roadways adjacent to park and ride lot facilities are overcapacity and there is no readily apparent route connecting the lots to Downtown or the rail system.

An analysis was performed to identify the impact of implementing a contra-flow/reversible lane on all of the east/west roadways and on the north/south roadways in proximity to Metrorail stations. Table 4 shows the results indicating 1997 V/C ratios in both the peak and off peak direction. The reversible lane scenario is analyzed in the last two columns where a revised capacity based on the reservation of one lane in the off peak direction is provided with a revised off-peak direction V/C ratio. The V/C results indicate congestion exceeding 2.0 (LOS F) on every roadway except for Tamiami Trail and SW 37th Avenue where the maximum V/C ratios are 1.30 and 1.38 (both LOS F). These impacts are severe and indicate reversible lanes are not a feasible alternative.



LEGEND

- = Potential Park & Ride Lot
- /// = Overcapacity Road Segments
- ▨ = Analysis Area

LEGEND (CONT.)

- = Metrorail
- = Metrorail Stations
- = Metromover

FIGURE 10
OVERCAPACITY LINK

JUSTIFICATION REPORT.
WEST DADE COUNTY
CORRIDOR

Table 3
1997 Analysis of AM Peak Hour Conditions

Roadway	From	To	Design*	1997 AM Peak		
				Vol	Capacity	V/C
Bird Road	HEFT	SW 97th Ave	4LD	1,591	1,520	1.05
	SW 97th Ave	SW 87th Ave	4LU	1,995	1,450	1.38
	SW 87th Ave	SR 826	6LD	2,399	2,330	1.03
	SR 826	SW 57th Ave	6LD	2,700	2,330	1.16
	SW 57th Ave	SW 42nd Ave	4LU	1,760	1,520	1.16
Coral Way	HEFT	SW 97th Ave	4LD	1,915	1,520	1.26
	SW 97th Ave	SW 87th Ave	4LD	1,622	1,520	1.07
	SW 87th Ave	SR 826	4LD	2,019	1,520	1.33
	SR 826	SW 57th Ave	4LD	1,687	1,520	1.11
	SW 57th Ave	SW 42nd Ave	4LU	983	1,450	0.68
	SW 42nd Ave	SW 27th Ave	4LU	983	1,450	0.68
	SW 27th Ave	SW 12th Ave	4LD	983	1,520	0.65
	SW 12th Ave	Vizcaya Metrora	4LD	983	1,520	0.65
SW 8th St	HEFT	SW 97th Ave	6LD	1,535	2,330	0.66
	SW 97th Ave	SW 87th Ave	6LD	1,722	2,330	0.74
	SW 87th Ave	SR 826	6LD	2,059	2,330	0.88
	SR 826	SW 57th Ave	6LU	1,873	2,200	0.85
	SW 57th Ave	SW 42nd Ave	6LU	1,706	2,200	0.78
	SW 42nd Ave	SW 27th Ave	6LU	1,590	2,200	0.72
	SW 27th Ave	SW 12th Ave	3LOW	882	690	1.28
	SW 12th Ave	Downtown	3LOW	763	690	1.11
Flagler St	HEFT	SW 97th Ave	6LD	1,402	2,330	0.60
	SW 97th Ave	SW 87th Ave	6LD	1,582	2,330	0.68
	SW 87th Ave	SR 826	6LD	2,104	2,330	0.90
	SR 826	SW 57th Ave	4LD	1,599	1,520	1.05
	SW 57th Ave	SW 42nd Ave	4LU	1,486	1,450	1.02
	SW 42nd Ave	SW 27th Ave	4LU	1,372	1,450	0.95
	SW 27th Ave	SW 12th Ave	4LU	870	1,450	0.60
	SW 12th Ave	Downtown	4LU	579	1,450	0.40
HEFT	Flagler St	Tamiami Trail	6LX	3,161	5,040	0.63
	Tamiami Trail	Coral Way	6LX	2,623	5,040	0.52
	Coral Way	Bird Rd	6LX	2,623	5,040	0.52
SW 107th Ave	Flagler St	Tamiami Trail	4LD	2,449	1,520	1.61
	Tamiami Trail	Coral Way	4LD	1,834	1,520	1.21
	Coral Way	Bird Rd	4LU	979	1,450	0.68

Roadway	From	To	Design*	1997 AM Peak		
				Vol	Capacity	V/C
SW 97th Ave	Flagler St	Tamiami Trail	4LD	865	1,520	0.57
	Tamiami Trail	Coral Way	2LU	865	690	1.25
	Coral Way	Bird Rd	2LU	611	690	0.89
SW 87th Ave	Flagler St	Tamiami Trail	4LD	1,353	1,520	0.89
	Tamiami Trail	Coral Way	4LD	1,318	1,520	0.87
	Coral Way	Bird Rd	4LD	1,318	1,520	0.87
SR 826	Flagler St	Tamiami Trail	10LX	8,728	8,610	1.01
	Tamiami Trail	Coral Way	8LX	8,072	6,890	1.17
	Coral Way	Bird Rd	8LX	7,564	6,890	1.10
	Bird Rd	Kendall Dr	8LX	4,368	6,890	0.63
	Kendall Dr	Dadeland North Metrorail	8LX	1,766	6,890	0.26
SW 67th Ave	Flagler St	Tamiami Trail	2LU	631	690	0.91
	Tamiami Trail	Coral Way	2LU	983	690	1.42
	Coral Way	Bird Rd	2LU	886	690	1.28
	Bird Rd	Kendall Dr	2LU	886	690	1.28
	Kendall Dr	US 1	2LU	886	690	1.28
SW 57th Ave	Flagler St	Tamiami Trail	4LU	1,917	1,520	1.26
	Tamiami Trail	Coral Way	2LU	810	690	1.17
	Coral Way	Bird Rd	2LU	810	690	1.17
	Bird Rd	South Miami Metrorail	2LU	810	690	1.17
SW 42nd Ave	Flagler St	Tamiami Trail	6LD	3,572	2,330	1.53
	Tamiami Trail	Coral Way	4LU	2,309	1,520	1.52
	Coral Way	Douglas Rd Metrorail	4LU	1,202	1,520	0.79
SW 37th Ave	Flagler St	Tamiami Trail	4LU	430	1,520	0.28
	Tamiami Trail	Coral Way	4LU	600	1,520	0.39
	Coral Way	Douglas Rd Metrorail	4LU	718	1,520	0.47
SW 27th Ave	Flagler St	Tamiami Trail	4LD	1,648	1,520	1.08
	Tamiami Trail	Coral Way	4LD	1,202	1,520	0.79
	Coral Way	Coconut Grove Metrorail	4LU	1,537	1,520	1.01
SW 12th Ave	Flagler St	Tamiami Trail	4LU	595	1,520	0.39
	Tamiami Trail	Vizcaya Metrorail	4LU	530	1,520	0.35

Source: Frederic R. Harris, Inc.

* Note: #LU - # Lanes Undivided Median
#LD - # Lanes Divided Median
#LX - # Lanes Expressway
#LOW - # Lanes One-Way

Table 4

continued ...

Table 4
1997 Analysis of Contra-Flo/Reversible Lanes

Roadway	From	To	Total # of Lanes	AM Peak Volume		Peak Hour Capacity		EB/NB V/C	WB/SB V/C	Impact of Contra/Reverse on General Use Lanes in the Off-Peak Dir	
				EB/NB	WB/SB	EB/NB	WB/SB			WB/SB(1) GU Lanes Cap	WB/SB(2) GU Lanes V/C
Flagler St	HEFT	SW 97th Ave	6LD	1,402	1,015	2,330	1,770	0.60	0.57	1,150	0.88
	SW 97th Ave	SW 87th Ave	6LD	1,582	1,146	2,330	1,770	0.68	0.65	1,150	1.00
	SW 87th Ave	SR 826	6LD	2,104	1,524	2,330	1,770	0.90	0.86	1,150	1.32
	SR 826	SW 57th Ave	4LD	1,599	1,158	1,520	1,150	1.05	1.01	530	2.18
	SW 57th Ave	SW 42nd Ave	4LU	1,486	1,076	1,450	1,100	1.02	0.98	500	2.15
	SW 42nd Ave	SW 27th Ave	4LU	1,372	994	1,450	1,100	0.95	0.90	500	1.99
	SW 27th Ave	SW 12th Ave	4LU	870	630	1,450	1,100	0.60	0.57	500	1.26
	SW 12th Ave	Downtown	4LU	579	420	1,450	1,100	0.40	0.38	500	0.84
SR 826	Flagler St	Tamiami Trail	10LX	8,728	6,320	8,610	6,560	1.01	0.96	4,930	1.28
	Tamiami Trail	Coral Way	8LX	8,072	5,845	6,890	4,930	1.17	1.19	3,830	1.53
	Coral Way	Bird Rd	8LX	7,564	5,477	6,890	4,930	1.10	1.11	3,830	1.43
	Bird Rd	Kendall Dr	8LX	4,368	3,163	6,890	4,930	0.63	0.64	3,830	0.83
	Kendall Dr	Dadeland North Metrorail	8LX	1,766	1,279	6,890	4,930	0.26	0.26	3,830	0.33
SW 67th Ave	Flagler St	Tamiami Trail	2LU	631	606	690	530	0.91	1.14	N/A	N/A
	Tamiami Trail	Coral Way	2LU	983	944	690	530	1.42	1.78	N/A	N/A
	Coral Way	Bird Rd	2LU	886	852	690	530	1.28	1.61	N/A	N/A
	Bird Rd	Kendall Dr	2LU	886	852	690	530	1.28	1.61	N/A	N/A
	Kendall Dr	US 1	2LU	886	852	690	530	1.28	1.61	N/A	N/A
continued ...											

Table 4
1997 Analysis of Contra-Flo/Reversible Lanes

Roadway	From	To	Total # of Lanes	AM Peak Volume		Peak Hour Capacity		EB/NB V/C	WB/SB V/C	Impact of Contra/Reverse on General Use Lanes in the Off-Peak Dir	
				EB/NB	WB/SB	EB/NB	WB/SB			WB/SB(1) GU Lanes Cap	WB/SB(2) GU Lanes V/C
SW 57th Ave	Flagler St	Tamiami Trail	4LU	1,917	1,842	1,450	1,100	1.32	1.67	500	3.68
	Tamiami Trail	Coral Way	2LU	810	779	690	530	1.17	1.47	N/A	N/A
	Coral Way	Bird Rd	2LU	810	779	690	530	1.17	1.47	N/A	N/A
	Bird Rd	South Miami Metrorail	2LU	810	779	690	530	1.17	1.47	N/A	N/A
SW 42nd Ave	Flagler St	Tamiami Trail	6LD	3,572	3,432	2,330	1,770	1.53	1.94	1,150	2.98
	Tamiami Trail	Coral Way	4LU	2,309	2,218	1,450	1,100	1.59	2.02	500	4.44
	Coral Way	Douglas Rd Metrorail	4LU	1,202	1,155	1,450	1,100	0.83	1.05	500	2.31
SW 37th Ave	Flagler St	Tamiami Trail	4LU	430	413	1,450	1,100	0.30	0.38	500	0.83
	Tamiami Trail	Coral Way	4LU	600	577	1,450	1,100	0.41	0.52	500	1.15
	Coral Way	Douglas Rd Metrorail	4LU	718	690	1,450	1,100	0.50	0.63	500	1.38

Source: Frederic R. Harris, Inc.

(1) - Revised General Use (GU) Lanes to reflect a lane dedicated to the peak direction.

(2) - 1997 peak hour, off-peak direction volume divided by revised capacity.

Note: #LU - # Lanes Undivided Median

#LD - # Lanes Divided Median

#LX - # Lanes Expressway

#LOW - # Lanes One-Way

The analysis of HOV facilities is provided on Table 5. The Table is formatted in much the same format as the analysis of reversible lanes except the reserved lane is in the peak direction. In addition, the traffic volumes are adjusted to account for traffic removed per park and ride lot utilization and additional carpool use. The results are similar, LOS F conditions dominate most roadways except for SW 37th Avenue. However, this scenario indicates there is potential for HOV lanes on SR 826 where the V/C ratios range between 1.06 (LOS E) to .25 (LOS A) between Coral Way and Kendall drive.

Signal pre-emption was not analyzed in detail. Discussions with FTA Office of Mobility Enhancement indicated this type of application has only been successful within exclusive busways which is beyond the scope of this report. Additionally, national experience indicates the impact to shared and cross street traffic offsets any benefits.

Signal optimization improvements were reviewed, however, the analysis indicates Bird Road and Coral Way are already synchronized and on the Dade County computer system.

Transit Service

Capital and operating costs were determined for the proposed new route. The system will require six (6) buses to meet a 15 minute headway based on a 9.5 mile route, and the MDTA standard of 17 MPH. Discussions with MDTA indicates each bus costs approximately \$185,000, indicating a total of \$1,110,000 for the proposed system.

A recommended transit plan for the western corridor was developed and is shown on Figure 11. The plan includes supporting the FIU/HEFT site with Flagler Max service and the remaining three (3) lots to be served by a new express bus route. The Plan also includes the use of HOV lanes on SR 826 between Bird Road and Kendall Drive. The Tables indicate there is sufficient capacity, and once appropriate signage and pavement markings are in place, the system operates very inexpensively. Estimated costs of providing standard pavement markings including the HOV diamond, double dashed white thermoplastic lane markers and overhead HOV LANE signage is approximately \$91,500.

Table 5
1997 Analysis of HOV Lanes

Roadway	From	To	Total # of Lanes	1997 AM Peak						Impact of HOV Lane on General Use Lanes in the Peak Dir	
				Volume		Peak Hour Capacity		EB/NB	WB/SB	NB/EB(1) GU Lanes	NB/EB(2) GU Lanes
				EB/NB	WB/SB	EB/NB	WB/SB	V/C	V/C	Cap	V/C
Bird Road	HEFT	SW 97th Ave	4LD	1,591	1,152	1,520	1,150	1.05	1.00	690	2.31
	SW 97th Ave	SW 87th Ave	4LU	1,995	1,445	1,450	1,100	1.38	1.31	650	3.07
	SW 87th Ave	SR 826	6LD	2,399	1,737	2,330	1,770	1.03	0.98	1,520	1.58
	SR 826	SW 57th Ave	6LD	2,700	1,955	2,330	1,770	1.16	1.10	1,520	1.78
	SW 57th Ave	SW 42nd Ave	4LD	1,760	1,275	1,520	1,150	1.16	1.11	690	2.55
Coral Way	HEFT	SW 97th Ave	4LD	1,915	1,387	1,520	1,150	1.26	1.21	690	2.78
	SW 97th Ave	SW 87th Ave	4LD	1,622	1,175	1,520	1,150	1.07	1.02	690	2.35
	SW 87th Ave	SR 826	4LD	2,019	1,462	1,520	1,150	1.33	1.27	690	2.93
	SR 826	SW 57th Ave	4LD	1,687	1,222	1,520	1,150	1.11	1.06	690	2.45
	SW 57th Ave	SW 42nd Ave	4LU	983	712	1,450	1,100	0.68	0.65	650	1.51
	SW 42nd Ave	SW 27th Ave	4LU	983	712	1,450	1,100	0.68	0.65	650	1.51
	SW 27th Ave	SW 12th Ave	4LD	983	712	1,520	1,150	0.65	0.62	690	1.42
	SW 12th Ave	Vizcaya Metrorail	4LD	983	712	1,520	1,150	0.65	0.62	690	1.42
SW 8th St	HEFT	SW 97th Ave	6LD	1,535	1,112	2,330	1,770	0.66	0.63	1,520	1.01
	SW 97th Ave	SW 87th Ave	6LD	1,722	1,247	2,330	1,770	0.74	0.70	1,520	1.13
	SW 87th Ave	SR 826	6LD	2,059	1,491	2,330	1,770	0.88	0.84	1,520	1.35
	SR 826	SW 57th Ave	6LU	1,873	1,356	2,200	1,700	0.85	0.80	1,400	1.34
	SW 57th Ave	SW 42nd Ave	6LU	1,706	1,236	2,200	1,700	0.78	0.73	1,400	1.22
	SW 42nd Ave	SW 27th Ave	6LU	1,590	1,151	2,200	1,700	0.72	0.68	1,400	1.14
	SW 27th Ave	SW 12th Ave	3LOW	882	639	2,800	2,100	0.32	0.30	1,380	0.46
	SW 12th Ave	Downtown	3LOW	763	552	2,800	2,100	0.27	0.26	1,380	0.40
continued ...											

Table 5
1997 Analysis of HOV Lanes

[illegible]

Table 5
1997 Analysis of HOV Lanes

Roadway	From	To	Total # of Lanes	1997 AM Peak						Impact of HOV Lane on General Use Lanes in the Peak Dir	
				Volume		Peak Hour Capacity		EB/NB	WB/SB	NB/EB(1) GU Lanes	NB/EB(2) GU Lanes
				EB/NB	WB/SB	EB/NB	WB/SB	V/C	V/C	Cap	V/C
SW 57th Ave	Flagler St	Tamiami Trail	4LU	1,917	1,842	1,450	1,100	1.32	1.67	650	2.83
	Tamiami Trail	Coral Way	2LU	810	779	690	530	1.17	1.47	N/A	N/A
	Coral Way	Bird Rd	2LU	810	779	690	530	1.17	1.47	N/A	N/A
	Bird Rd	South Miami Metrorail	2LU	810	779	690	530	1.17	1.47	N/A	N/A
SW 42nd Ave	Flagler St	Tamiami Trail	6LD	3,572	3,432	2,330	1,770	1.53	1.94	1,520	2.26
	Tamiami Trail	Coral Way	4LU	2,309	2,218	1,450	1,100	1.59	2.02	650	3.41
	Coral Way	Douglas Rd Metrorail	4LU	1,202	1,155	1,450	1,100	0.83	1.05	650	1.78
SW 37th Ave	Flagler St	Tamiami Trail	4LU	430	413	1,450	1,100	0.30	0.38	650	0.64
	Tamiami Trail	Coral Way	4LU	600	577	1,450	1,100	0.41	0.52	650	0.89
	Coral Way	Douglas Rd	4LU	718	690	1,450	1,100	0.50	0.63	650	1.06

Source: Frederic R. Harris, Inc.

(1) - Revised General Use (GU) Lanes to reflect a lane dedicated to the peak direction.

(2) - 1997 peak hour, peak direction volume, less park and ride users, less 25% vehicles

w/2 or more occupants, divided by the revised capacity

Note: #LU - # Lanes Undivided Median

#LD - # Lanes Divided Median

#LX - # Lanes Expressway

#LOW - # Lanes One-Way

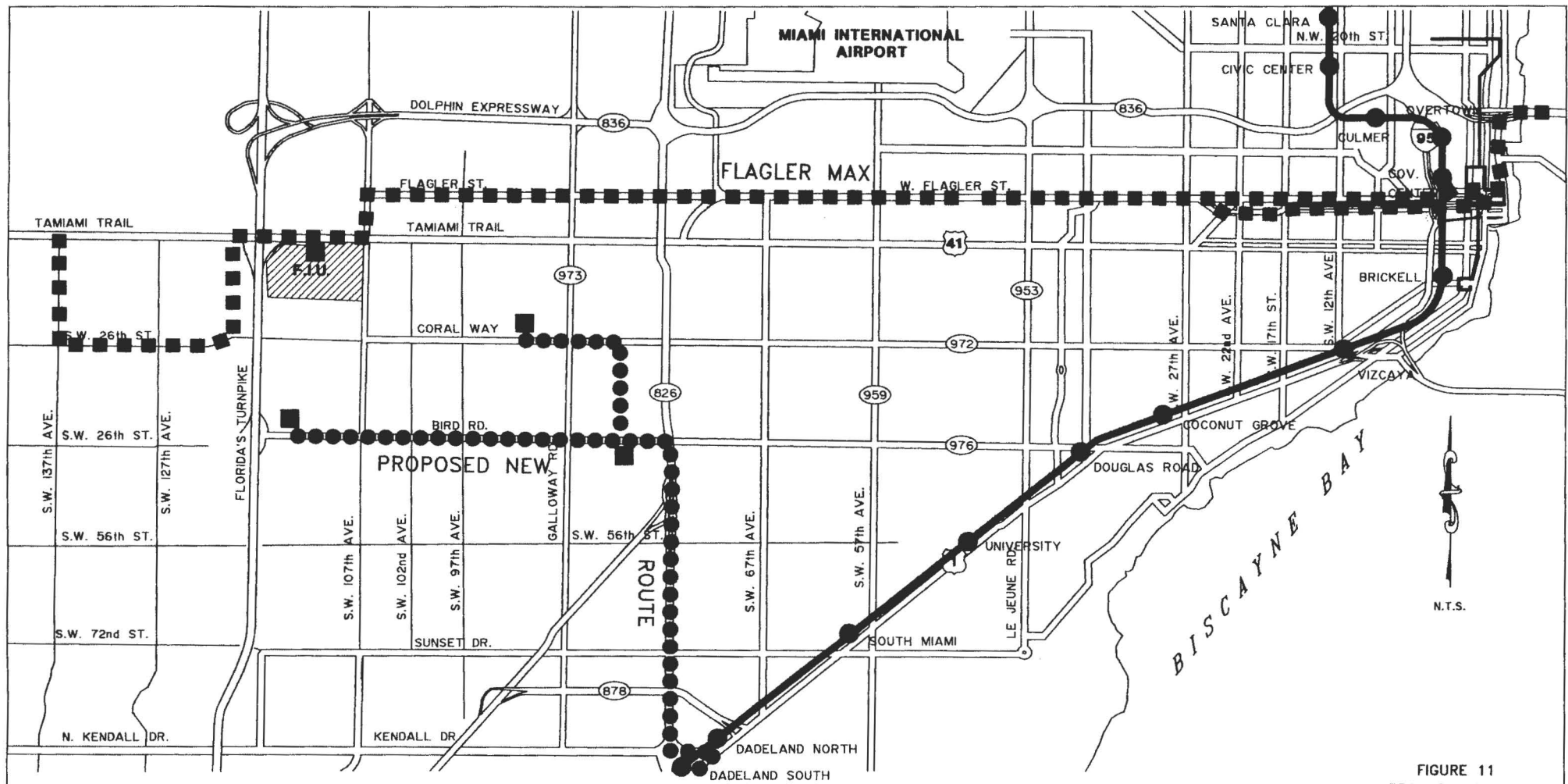


FIGURE 11
PROPOSED ROUTE

**JUSTIFICATION REPORT,
WEST DADE COUNTY
CORRIDOR**

Transit operating and maintenance costs were developed based on the an equation provided in the Park and Ride Lot Planning Manual. The equation is related to the vehicle miles of travel for the system and includes costs incurred for driver wages and fringe benefits, vehicle operating costs, insurance and administrative costs, vehicle depreciation and contributions to roadway maintenance. The analysis indicates the proposed route would cost \$121,000 year to operate.

Access improvements were reviewed at each of the sites. The FIU/HEFT was designed to provide a slip ramp for both automobile and bus access. This type of design has been included to give the site high visibility and to be separated from University traffic. The design will require median openings for westbound traffic. The improvements are shown on Figure 6 (see page 20) and will costs approximately \$30,000. None of the other lots will require improvement.

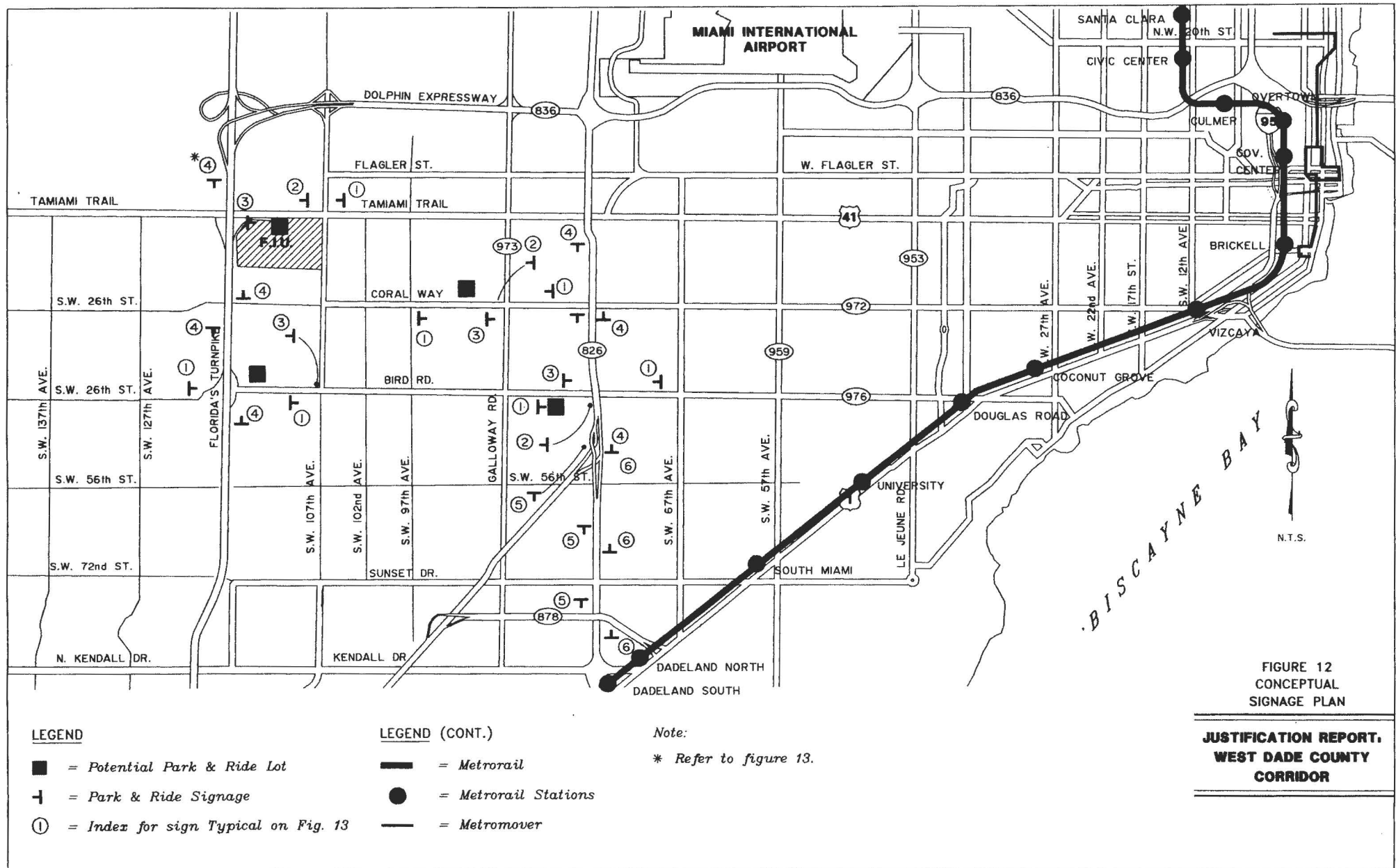
The Westchester West Plaza site has access to an existing traffic signal which will be utilized by the bus and park and ride patrons. The Concord Plaza lot does have access to a traffic signal, but there are traffic signals located 450' to the west and 600 feet to the east. The proximity of the signals should allow for sufficient gaps in traffic. The Tropical Park site is provided access via a traffic signal at the park entrance and a median cut provided on the western end of the site.

Signage improvements for the western corridor include guide signs indicating the location of park-and-ride facilities and amenities. Figure 12 and 13 provide a conceptual corridor signage plan and index. The cost of this plan is estimated at \$9,200 excluding the costs of HOV signs (included in Traffic Improvements).

Congestion Management Plan

Dade County is currently funding a **Transportation Management and Congestion Mitigation Study** to develop a countywide Congestion Management Plan (CMP). A number of recommended approaches to congestion management are now being study including specific applications relating to park and ride facilities. The **Congestion Management Plan Background Report** prepared by Barton-Aschman Associates, Inc. provides a number of Transportation Demand Management (TDM) tools that have the potential of encouraging direct use of park and ride lots or indirect use of the lots as staging areas. The recommended TDM measures include:

- Carpool Programs
- Subsidized or Reduced Transit Costs
- Vanpool Programs in associate with Transportation Management Areas
- Increased Park and Ride Lot Use
- Flextime
- Employee Paid Parking
- Employee Travel Allowances
- Congestion Pricing
- Subscription Bus Service
- Telecommuting
- Incorporate TDM as DIC Alternative
- Negotiated TDM Developer Agreements
- Mixed Use Developments



1,2 & 3 SIGNAGE PROVIDED BY MUTCD.
SHOULD BE REVISED TO INICATE MULTIMODAL
PROVISIONS RATHER THAN CARPOOL ONLY.

1



04-2
20" x 20"

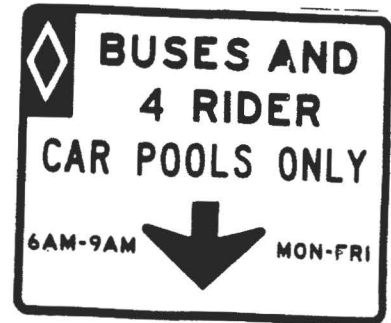
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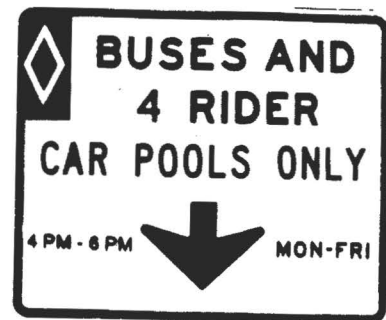
3



5



6



4



LEGEND

① = Index reference
for figure 12

FIGURE 13
CONCEPTUAL
SIGNAGE PLAN INDEX

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WEST DADE COUNTY
CORRIDOR

- Parking Supply Limitations
- Pedestrian Amenities at Suburban Centers
- Bicycle Facilities and Parking

In addition to these TDM measures, the CMP also recommends required complimentary actions for TDM's that will be beneficial to the success of the proposed park and ride lot system. Marketing of the TDM's is currently funded by the Department through the services of Gold Coast Commuter Services (GCCS). GCCS has developed a marketing scheme for general multi-modal commuting through the use of the "Joe the Chameleon" advertising campaign. This program should be utilized to market the proposed West Dade MAX park and ride system. A sample of the advertising campaign is provided on Exhibit D. Other complimentary actions include the designation of Transportation Coordinators to implement and administer TDM's, the development of Transportation Management Areas and Trip Reduction Ordinances.

All of the CMP actions, recommendations and programs should be utilized to the fullest in the implementation and operation of the proposed system. The programs are a no cost item to this project.

Benefit Analysis

A revised analysis of benefits was performed based on the combined impact of the two proposed lot locations. Where the Dade County Park and Ride Lot Plan assessed all of the lots on individual merit, this analysis combines the impacts of the FIU/HEFT, SW 87th Avenue/Coral Way, Bird Road/HEFT and Bird Road/SR 826 lots. Figure 14 shows the peak hour traffic removed from the system during the AM peak period.

The analysis of traffic impacts was performed based on the volumes shown on Figure 14 and 1997 traffic conditions. The results indicate the proposal would:

Reduce Annual Vehicle Miles of Travel by:	3,380,600 miles
Reduce Annual Carbon Monoxide Emissions by:	24,600 pounds
Reduce Annual Hydrocarbon Emissions by:	2,040 pounds
Reduce Annual Nitrous Oxide Emissions by:	2,960 pounds
Reduce Annual Vehicle Hours of Travel by:	128,058 hours
Reduce Annual person Hours of Travel by;	94,706 hours

Benefits were also assessed based on financial concerns following the procedures provided in the FDOT Park and Ride Lot Manual and the Dade County Park and Ride Lot Plan the results indicate a systemwide annual benefit of \$2,228,259. A breakdown of the benefits includes:

Annual Travel Time Savings	\$379,000
Annual Vehicle Operating Costs	\$676,000
Annual Accident Savings	\$1,470,230
less: Annual User Increased Transit Cost	\$296,971
TOTAL BENEFIT	\$2,228,259

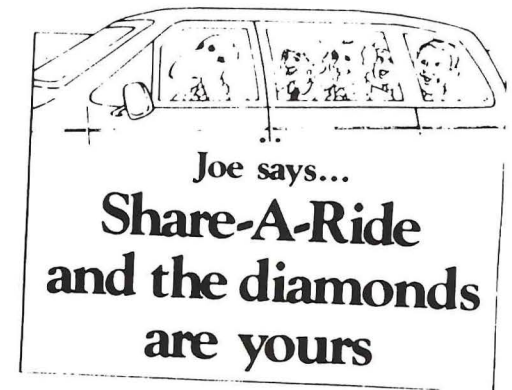
A summary of all costs described in this report is provided below. Additional costs for preliminary engineering and site maintenance are also provided.

EXHIBIT D



Gold Coast
Commuter Services

6261 N.W. 6th Way, Suite 100
Fort Lauderdale, FL 33309
Broward: 525-RIDE
Dade/Palm Beach: 1-800-234-RIDE
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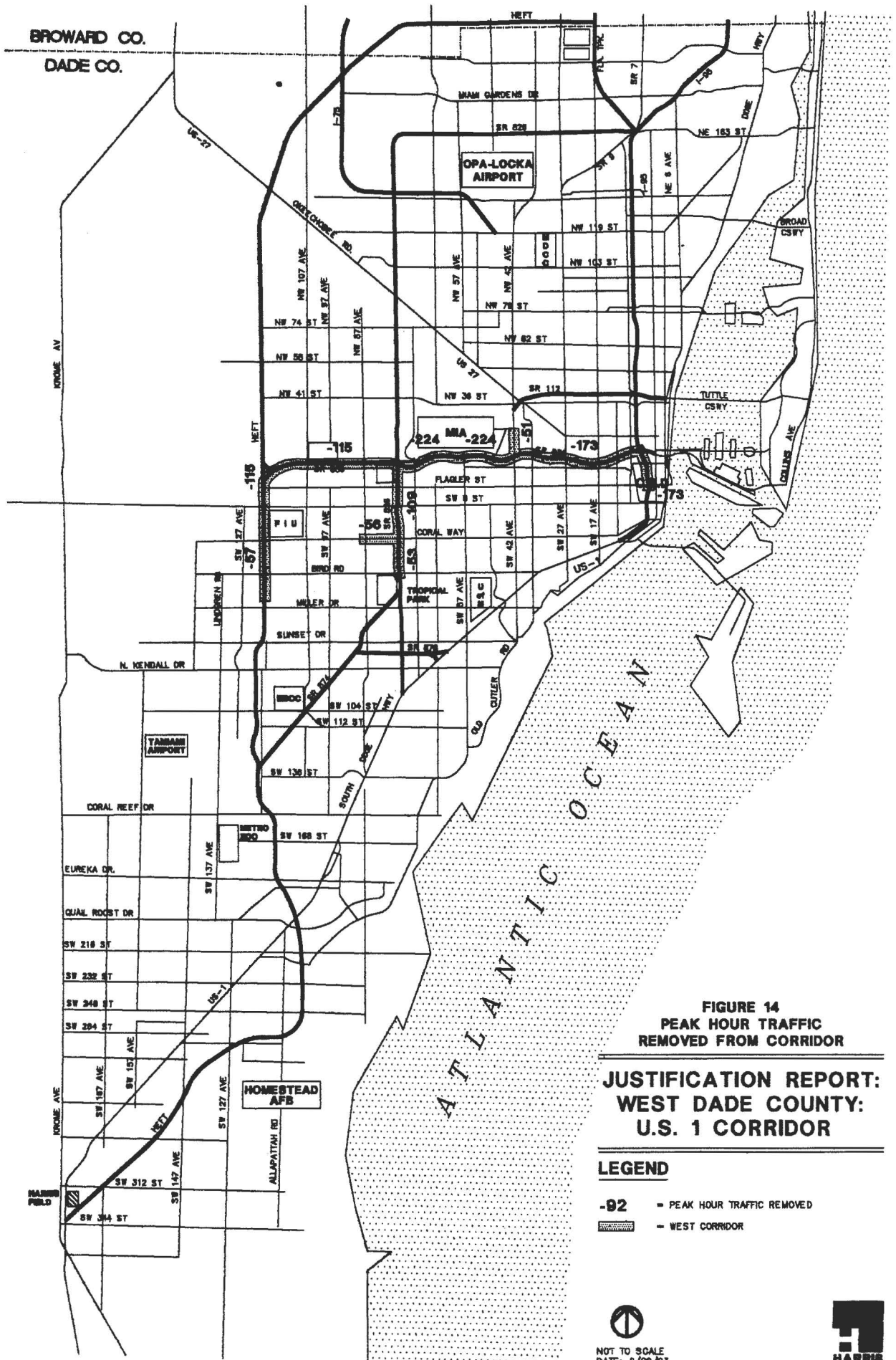
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indicate a systemwide annual benefit of \$1,214,908. A breakdown of the benefits includes:

Annual Travel Time Savings	\$187,000
Annual Vehicle Operating Costs	\$473,000
Annual Accident Savings	\$754,900
less: Annual User Increased Transit Cost	\$200,000
TOTAL BENEFIT	\$1,214,908

A summary of all costs described in this report is provided below. Additional costs for preliminary engineering and site maintenance are also provided.

Site Development	\$319,000	FIU/HEFT
	\$44,500	Westchester West
	\$56,000	Concord Plaza
	\$28,000	Tropical Park
Preliminary Eng On-site	\$89,500	
Site Maintenance	\$33,100	Annual
Lease	\$72,000	Westchester Annual
	\$96,000	Concord Plaza Annual
Security: Gates and Video	\$37,200	
Security: Guard/Veh Lease	\$61,000	Annual
Traffic Operations	\$91,520	
Preliminary Eng Off-Site	\$5,300	
Signage	\$9,200	
Transit Capital Costs	\$1,110,000	
Transit Operating Costs	\$121,000	Annual
TOTAL COST	\$2,169,900	
ANNUALS		\$383,000

Based on a 20 year life span, 7% discount rate and no residual value the Benefit/Cost Ratio is 3.16.

Revenues

Revenues include farebox revenue based on expanded Flagler MAX ridership, new ridership on the proposed express route and transfers to the Metrorail. The expected increase in 1997 transit fares is \$200,000. No income is assumed for parking at the Park & Ride lots, from advertising or concessions.

Implementation

The implementation schedule generally includes three timeframes.

- Pre-start activities
- Construction activities
- Post-start activities

The Department should discuss with Gold Coast Commuter Services promotion of the facilities. The development of brochures, surveys, signs, and radio advertisement spots. Door hangers (i.e. brochures and surveys) would be distributed to communities within the service area. Marketing and promotion should also be assisted by MDTA.

Construction activities include development of park-and-ride facilities and traffic operation improvements. It is assumed that all permit approvals and plan reviews would have been obtained during the design or bid procurement phase.

Post-start activities include a continuance of the marketing campaign; monitoring of Flager MAX and West Express Bus ridership; detection and resolution of problems; monitoring of the project's success; and planning of future expansion improvements.

Marketing

An active marketing campaign would need to continue for a minimum of 1-2 months after project start-up in order to maximize public awareness of the project. It is anticipated that subsequent to the initial marketing period, the best method of promotion would be through "word of month". Therefore, it is critical that performance standards be high and reliability be maintained – particularly during the formative stages of the project. Follow-up telephone and on-board surveys should be conducted to assess the project's success and to determine how the service could be improved or expanded.

Monitoring of Lot Usage

A continuing monitoring of MAX and express bus usage should be instituted with results summarized in a monthly report. The monthly report should be inclusive of the following information:

- Summary of project Status
- Express Bus Ridership Levels
- Vanpool Ridership Levels
- Park-and-Ride Facility Usage
- Problem Identification and Proposed Methods to Resolve Such Problems
- Schedule Adherence and Reliability
- Minutes of Meetings
- Cashflow Assessment

IV. SUMMARY

The results of the Justification Report indicate the West Dade County Park and Ride lot system is a viable Transportation Demand Management alternative in anticipation of future development of capital intensive transit improvements. The analysis indicates the system will carry as many as 210,000 new transit riders by 1997 and over 257,000 by 2010. Note, these figures are based on the development of a Park and Ride Lot system and TDM measures and do not include the development of capital intensive multi-modal projects.

The proposal includes the development of four lots, one (1) as an ancillary facility to the Flagler MAX bus route and the other three in conjunction with new express bus service. The express bus will serve the Bird Road Corridor with a northern extension to the Coral Way lot. The site will be accessed through entrance gates with video cameras recording access activities. TSM measures will be used to give priority treatment to the express bus service and for visibility. The measures include the redesignation of a general use lane to an HOV lane on SR 826.

An analysis of site costs indicates the project could be developed for approximately \$2,169,900 with annual operating and maintenance costs of \$383,000. Based on these results the project should move forward to the programming and implementation stages.

