Final Report

METRORAIL/COCONUT GROVE CONNECTION STUDY

PHASE II

ESTIMATE OF PATRONAGE NEEDS AND DEMAND

Technical Memorandum Number 4

ALTERNATIVE EVALUATION

Technical Memorandum Number 5

RECOMMENDATIONS

Technical Memorandum Number 6

Prepared for

Miami-Dade
Metropolitan Planning Organization

JANUARY 2007

Prepared by

Reynolds, Smith and Hills, Inc.
Architectural, Engineering, Planning and Environmental Services

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EXECUTIVE SUMMARY

This report documents the findings of a preliminary planning study to examine the feasibility of establishing an exclusive right of way transit connection between the Metrorail line and the Coconut Grove Village Center, located in Miami-Dade County, Florida. The proposed transit corridor features a direct link between the Coconut Grove Metrorail Station and the Convention Center along the alignment of SW 27 Avenue. Thereafter, the proposed transit service would connect to the Village Center following the alignment of the existing road network.

The study was commissioned by Miami-Dade County Metropolitan Planning Organization (MPO) in two phases. Phase 1 of the project involved gathering background information and technical data on various alternative transit technologies. Resulting from Phase 1 of the project, three transit technologies were identified as possible suitable candidates that should be carried forward to Phase 2 of the project where further analyses would be conducted. These technologies were:

- Bus Rapid Transit (BRT)
- Light Rail Transit (LRT)
- Automated Cableway People Mover (ACPM)

This report addresses the findings of Phase 2 of the project. A summary of the findings from Phase 2 follows:

Project Need

The preliminary study did not provide a clear and justified need for the proposed new transit system. Whereas, interviews with stakeholders indicated a general need for improvements to the existing transit service, analysis of actual transit data indicated that the existing transit system provides a reasonably adequate service for the travel demand. The analysis of transit data showed an existing travel demand of only 400 boardings for typical weekdays and buses on average operated at less than 40% capacity with 15 minute headways.

Assessment of BRT Mode

The BRT system that was assessed for the study included the following features:

- Bus operation in mixed traffic with shared lanes
- Transit priority at signalized intersections
- Low floor design vehicles with level boarding
- Frequent multi-stop service with 10 minute headways.

Cost estimates were developed for implementation of the system and operation and maintenance cost based on experience from similar systems in Los Angeles, California and Vancouver, British Columbia. The cost estimates developed for the BRT system were:

- Capital Cost = $4,320,000
- Operating and Maintenance Cost = $4,400,000 per annum

Ridership expectations for the BRT was estimated at approximately 500 boardings per day for typical weekdays. Boardings for Saturdays and Sundays were estimated at approximately 360 and 190 boardings per day respectively. The ridership expectations for the BRT mode were found to be inadequate to justify implementation.

Assessment of LRT Mode

The LRT system that was assessed for the study consisted of streetcars operating in mixed traffic with shared lanes. The LRT system would also utilize transit priority at intersections to minimize delays. The system included no grade separation. Cost estimates for the proposed LRT system were developed based on recent studies conducted for the planned streetcar system for Downtown City of Miami. The cost estimates developed for the LRT were:

- Capital Cost = $47,040,000
- Operating and Maintenance Cost = $2,130,000

Ridership expectations for the LRT was estimated at approximately 500 boardings per day for typical weekdays. Boardings for Saturdays and Sundays were estimated at approximately 360 and 190 boardings per day respectively. The ridership expectations for the LRT mode were found to be inadequate to justify implementation

Assessment of ACPM

The ACPM system that was assessed for the study consisted of a 10-passenger, detachable grip, mono-cable gondola class system. This ACPM system is popular at ski resorts throughout the world where they function as people movers transporting skiers, tourists and residents to various facilities at the resorts. The ACPM is also used throughout the world as a primary public transit service. Cost estimates developed for the ACPM system were as follows:

- Capital Cost = $29,950,000
- Operating and Maintenance Cost = $4,040,000

Ridership for the ACPM was divided into two classes – 1) direct users (regular commuter traffic) and 2) indirect users (attraction users). The ridership for direct users was estimated to be similar to the BRT and LRT systems. Indirect riders of the ACPM consist of persons who would use the ACPM because of its scenic attraction value. The viability of this mode would be dependent on its attraction value. The attraction value of this transportation mode was not determined from this study. A detailed market research is required for developing a reasonable assessment of the attraction value of this technology.

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1. INTRODUCTION

The Miami-Dade County Metropolitan Planning Organization, (MPO), commissioned a Study to investigate the feasibility of establishing an exclusive right of way transit connection between the Metrorail line and the Coconut Grove Village Center, located in Miami-Dade County, Florida. Figure 1 shows a location map for the proposed transit corridor. The proposed transit corridor features a direct link between the Coconut Grove Metrorail Station and the Convention Center along the alignment of SW 27 Avenue. Thereafter, the proposed transit service would connect to the Village Center following the alignment of the existing road network.

The Metrorail/Coconut Grove Connection Study was commissioned in two phases. Phase 1 of the project involved gathering background information and technical data on various alternative transit technologies. The findings from Phase 1 of the project are documented in Technical Memorandum Number 2 (Background Research) and Technical Memorandum Number 3 (Technical Data Development). The information gathered in Phase 1 of the project was used to make a preliminary assessment of the suitability of several alternative technologies for the Metrorail/Coconut Grove transit connection. In this preliminary assessment, three transit technologies were identified as possible suitable candidates that should be carried forward to Phase 2 of the project where further analyses would be conducted. These technologies were:

- Bus Rapid Transit (BRT)
- Light Rail Transit (LRT)
- Automated Cableway People Mover (ACPM)

This report documents the findings of Phase 2 of the project. The intent of Phase 2 of the project was to conduct a preliminary planning analysis to determine the viability of the three shortlisted technologies for the Metrorail/Coconut Grove Connector.

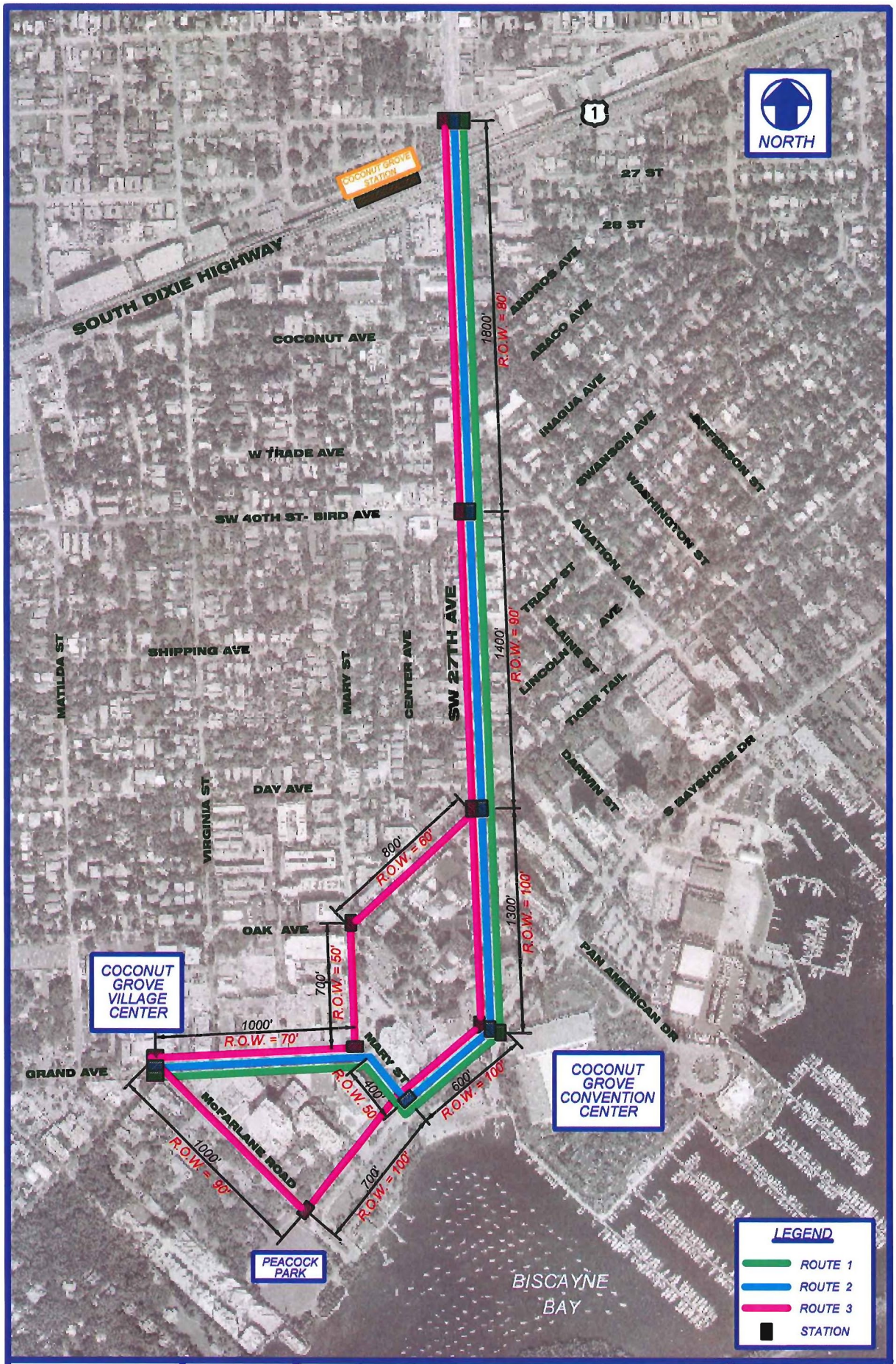
RS+H Reynolds, Smith and Hills, Inc. Architecture, Engineering and Planning	**PROJECT LOCATION MAP**	**FIGURE 1**

The report provides a description of the three prospective transit systems (BRT, LRT and ACPM) and ridership estimates. The major components of the prospective transit systems are identified as well as specific features and attributes that would be expected for the Metrorail/Coconut Grove Connector. In addition, broad cost estimates are developed for each transit mode. The cost estimates developed for this study are based on existing experience with similar transit systems and/or national data sources. These order-of-magnitude cost estimates are adequate for assessing the viability of each technology for the preliminary sketch-planning level at which this study is based. Should any of the transit technologies prove viable at this sketch planning level, then more refined cost estimates would be developed as more detailed planning for the system is undertaken in future studies.

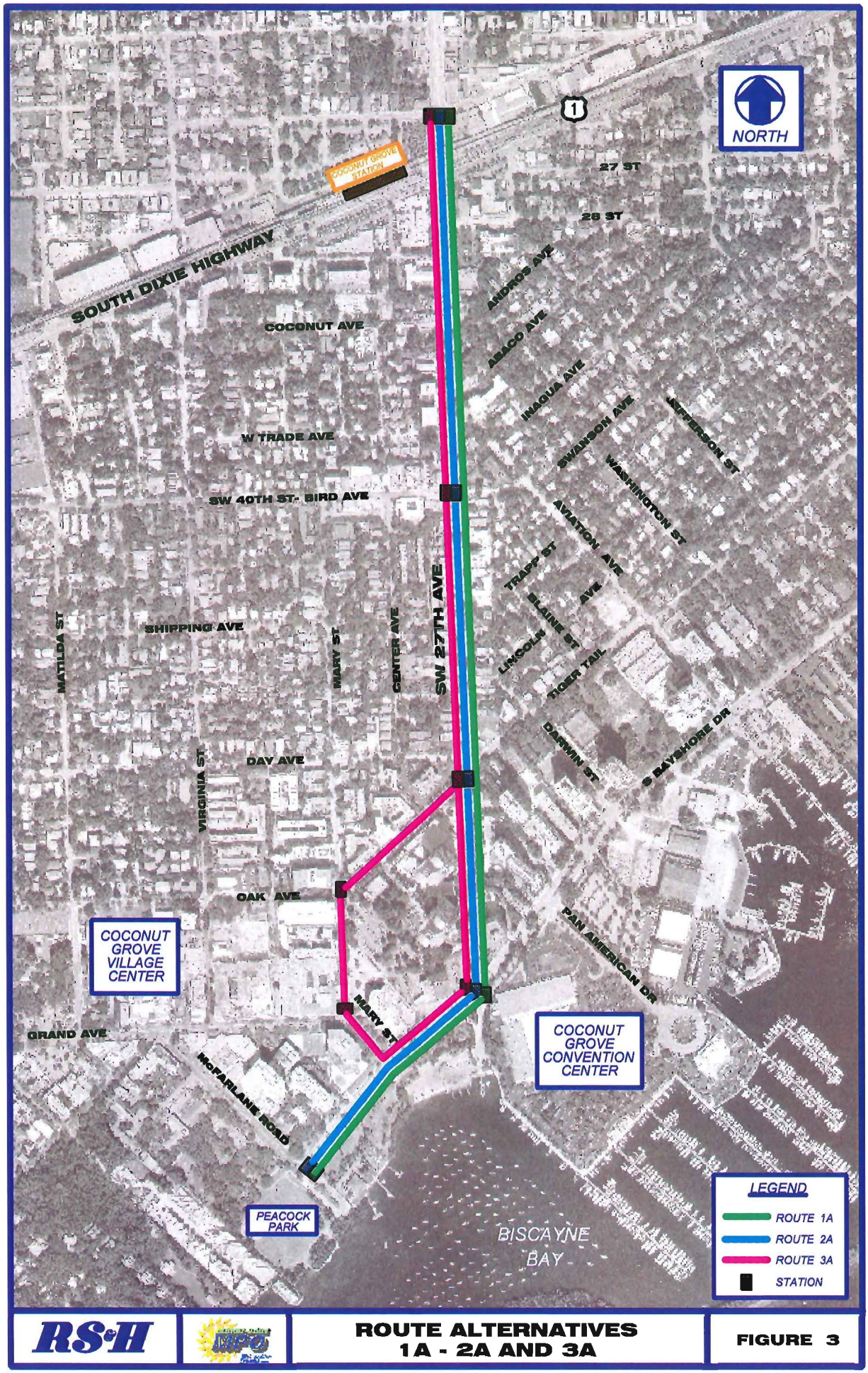
2. ALTERNATIVE ROUTE ALIGNMENTS

Six alternative route alignments were considered for the Metrorail/Coconut Grove Connector. The alternative alignments are shown in Figures 2 and 3. Table 1 summarizes the characteristics of the alternative alignments. In the analysis of each transit mode, possible route alignments were considered based on the general characteristics of the transit technology, the feasibility of implementing the required infrastructure for the system and the coverage provided for potential transit riders. The following provides a description of each alternative alignment.

Alternative 1: Direct limited stop two-way service connecting Metrorail and the Convention Center, and the Village Center, in a linear system. First, from Metrorail to the Convention Center via 27th Avenue with no stops along 27th Avenue until reaching the Convention Center. At the Convention Center, patrons would be able to ride either to Metrorail or the Village Center. Next from the Convention Center to the Village Center via Bayshore Drive, Mary Street, and Grand Avenue. The return route would follow the reverse of the outbound alignment.



RS+H | MPO | **ROUTE ALTERNATIVES 1 - 2 AND 3** | **FIGURE 2**



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MPO

ROUTE ALTERNATIVES 1A - 2A AND 3A

FIGURE 3

TABLE 1
COCONUT GROVE / METRORAIL CONNECTOR
CHARACTERISTICS OF ALTERNATIVE ROUTE ALIGNMENTS

ALT	ROUTES	STOPS	DIREC-TION	TOTAL ROUTE LENGTH	STATIONS	LENGTH BETWEEN STATIONS	ROW BETWEEN STATIONS	COMMENTS
1	MetroRail to Village Center	Limited Stop	Two Way Linear		1. MetroRail @ 27th 2. Event Center 3. Grand @ McFarlane	~ 4,500' 2,300'	~ 80 - 100' 90 - 100'	ROW @ McFarlane = 90'; Bayshore = 100'
2	MetroRail to Village Center	Multi Stop	Two Way Linear		1. MetroRail @ 27th 2. Bird @ 27th 3. Tigertail @ 27th 4. Event Center 5. Bayshore @ Mary 6. Grand @ McFarlane	~ 1,800' 1,400 1,300 600' 1,700'	~ 80 90 100 100 90 - 100	ROW @ McFarlane = 90'; Bayshore = 100'
3	MetroRail to Village Center	Multi Stop	One Way Loop		1. MetroRail @ 27th 2. Bird @ 27th 3. Tigertail @ 27th 4. Event Center 5. Peacock Park 6. Grand @ McFarlane 7. Grand @ Mary 8. Tigertail @ Mary Return Loop to Metro	~ 1,800' 1,400 1,300 1,300 1,000 1,000' 700' 3,200	~ 80 90 100 100 90 70 50 80 - 90	ROW for For 27 Ave.: Tiger Trail to Bird = 90'; Bird to MetroRail = 80'
1A	MetroRail to Peacock Park	Limited Stop	Two Way Linear		1. MetroRail @ 27th 2. Event Center 3. Peacock Park	~ 4,500 1,300	~ 80 - 100 100	1A proposed due to difficulties in locating station at Grand Avenue/McFarlane Road - station shifted to Peacock Park area.
2A	MetroRail to Peacock Park	Multi Stop	Two Way Linear		1. MetroRail @ 27th 2. Bird @ 27th 3. Tigertail @ 27th 4. Event Center 5. Bayshore @ Mary 6. Bayshore@ McFarlane	~ 1,800 1,400 1,300 600 700	~ 80 90 100 100 100	2A proposed due to difficulties in locating station at Grand Avenue/McFarlane Road - station shifted to Peacock Park area.
3A	MetroRail to East Village	Multi Stop	One Way Loop		1. MetroRail @ 27th 2. Bird @ 27th 3. Tigertail @ 27th 4. Event Center 5. Bayshore @ Mary 6. Grand @ Mary 7. Tigertail @ Mary Return Loop to Metro	~ 1,800' 1,400 1,300 600 400 700 3,200	~ 80 90 100 100 40 50 80 - 90	3A proposed due to difficulties in locating station at Grand Avenue/McFarlane Road - station shifted to east side of village at Grand and Mary Streets.

Alternative 2: Direct multi-stop two-way service between Metrorail and the Convention Center, and the Convention Center and the Village Center, in a linear system. First, from Metrorail to the Convention Center via 27th Avenue with stops at 27th Avenue and Bird Road, and 27th Avenue and Tigertail, to the Convention Center stop. Next, from the Convention Center to the Village Center, via Bayshore Drive, Mary Street, and Grand Avenue, with a stop at Mary and Bayshore and at the Village Center, approximately at Main, Grand, and McFarlane. The return route would follow the reverse of the outbound alignment.. Except for the terminal stations, patrons would be able to board and ride in either direction from any station.

Alternative 3: Unidirectional loop (classic 'Loop and Lollipop' configuration) service from Metrorail to Village Center and back. First, from Metrorail to the Convention Center via 27th Avenue with stops at 27th Avenue and Bird Road, 27th Avenue and Tigertail, to the Convention Center. Next from the Convention Center to the Village Center via Bayshore Drive and McFarlane Road, with stops at Peacock Park and the Village Center at Main & Grand. Next, from the Village Center to SW 27th Avenue via Grand, Mary, and Tigertail with stops at Grand and Mary, at Tigertail and Mary, and again at 27th and Tigertail. Last, from 27th back to the Grove Metrorail Station via US 1 with a stop at Bird Road, along the same path as the outbound routing.

Alternative 1A: Direct limited stop two-way service between Metrorail and the Convention Center, the Convention Center and Peacock Park, in a linear system. First, from Metrorail to the Convention Center via 27th Avenue with no stops along 27th Avenue until reaching the Convention Center. At the Convention Center, patrons would be able to ride either to Metrorail or to Peacock Park. Next from the Convention Center to Peacock Park via Bayshore Drive. The return route would follow the reverse of the outbound alignment.

Alternative 2A: Direct multi-stop two-way service between Metrorail, the Convention Center and Peacock Park, in a linear system. First, from Metrorail to the Convention Center via 27th Avenue with stops at 27th Avenue and Bird Road, and 27th Avenue and

Tigertail, to the Convention Center stop. Next, from the Convention Center to Peacock Park, via Bayshore Drive. The return route would follow the reverse of the outbound alignment. Except for the terminal stations, patrons would be able to board and ride in either direction from any station.

Alternative 3A: Unidirectional loop (classic 'Loop and Lollipop' configuration) service from Metrorail to East Village (Mary St. and Grand Ave.) and back. First, from Metrorail to the Convention Center via 27th Avenue with stops at 27th Avenue and Bird Road, 27th Avenue and Tigertail, to the Convention Center. Next from the Convention Center to East Village via Bayshore Drive and Mary Street. Next, from East Village to SW 27th Avenue via Mary, and Tigertail with stops at Tigertail and Mary, and again at 27th and Tigertail. Last, from 27th back to the Grove Metrorail Station via US 1 with a stop at Bird Road, along the same path as the outbound routing.

Alternative alignments 1, 2 and 3 have end stations located at the Coconut Grove Metrorail Station and at the Village Center near the intersection of Grand Avenue and McFarlane Road. Locating a transit station near the Grand Avenue/McFarlane Road intersection would present several challenges due to the irregular geometry of the intersection, surrounding developments in the area and the intensity of vehicular and pedestrian activity at the intersection. These conditions would be particularly restrictive for the ACPM mode. In alternatives 1A, 2A and 3A, the end stations are removed from the Grand Avenue/McFarlane Road intersection. Alternatives 1A, 2A and 3A would therefore be more accommodating, particularly for the ACPM mode.

3. BUS RAPID TRANSIT (BRT) MODE ANALYSIS

3.1 Description of BRT

Bus Rapid Transit (BRT) may be described as a flexible, rubber-tired form of rapid transit that combines stations, vehicles, services, running ways and ITS elements into an integrated system with a strong identity[1]. In many respects, BRT is similar to a rubber-tired light rail transit (LRT), but with greater operating flexibility and potentially lower costs. The major elements of BRT systems along with related features and attributes are shown in Table 2. The table also shows the BRT features and attributes that are assumed in this study for the prospective Metrorail/Coconut Grove Connector. Notable features of the prospective BRT system are as follows.

Runway Elements: The prospective BRT is expected to operate in mixed traffic using shared lanes. Given that the transit system will operate in a highly developed built-out area, no exclusive bus lanes or grade separation facilities are expected for the proposed BRT system. The proposed shared lane operation would minimize construction cost and right-of-way needs. However, the shared lane operation would be subject to general traffic operating conditions along the route.

Vehicles: The proposed BRT would utilize standard 40-foot buses and/or articulated buses consistent with the existing Miami-Dade Transit (MDT) fleet. Low floor design buses would be used to facilitate speedy boarding and alighting from the buses. It is also expected that the buses would utilize special colors and/or logo to distinguish BRT vehicles from ordinary MDT vehicles.

1 Bus Rapid Transit - Implementation Guidelines, TCRP Report 90 – Volume II

Table 2: Major Elements of BRT System, Features and Attributes

BRT Element	Typical Features and Attributes of BRT Systems	Features and Attributes of Prospective Metrorail/Coconut Grove Connector
Running Way	▪ Shared lane ▪ Exclusive lane – in street ▪ Exclusive lane – separate ROW ▪ Curb-guidance lanes ▪ Reversible single lane ▪ Contra flow bus lanes	▪ Bus operation in mixed traffic with shared lanes ▪ No grade separation ▪ Exclusive Lane for Special Events
Vehicles	▪ Standard 40-foot bus ▪ 60-foot articulated bus ▪ Low floor buses – floor heights 12 to 15 inches ▪ Doors on both sides ▪ Electric – trolley or wireless ▪ Conventional diesel buses ▪ Compressed natural gas (CNG) ▪ Dual mode trolley/diesel propulsion	▪ Standard or articulated buses ▪ Low floor design for level boarding ▪ CNG or diesel propulsion ▪ Distinctive color and/or logo
Stops and Stations	▪ Ordinary Bus Stops ▪ Stations (super stops) ▪ Passing lanes at stations	▪ Ordinary bus stops with canopies ▪ Passing in general traffic lanes
Fare Collection	▪ In vehicle collection ▪ In station collection	▪ On-vehicle fare collection
Intelligent Transportation Systems (ITS)	▪ Automatic Vehicle Location (AVL) Systems ▪ Traffic Signal Priority Systems ▪ Automatic Passenger Counters ▪ Electronic Fare Collection ▪ Bus Guidance Technologies ▪ Real-Time information at stations	▪ Automatic vehicle location system ▪ Traffic signal priority
Service and Operation	▪ Express (or limited stop) ▪ Basic all-stop service	▪ Frequent all-stop service ▪ 10 minute headways ▪ Service: Monday through Saturday - 16 hours; Sunday -12 hours.

Intelligent Transportation Systems: The proposed BRT is expected to be equipped with automatic vehicle location (AVL) systems and signal priority at the intersections. These systems will facilitate bus scheduling and minimize delays at signalized intersections.

Bus Stops and Stations: Bus stops are expected to be ordinary curb-side stops with canopies for weather protection. The bus stops are however expected to have distinctive coloring such that the BRT locations are readily recognizable by the public. Traveler information is expected to be displayed at the bus stops.

Service and Operation: The prospective BRT is expected to have frequent extended service with short headways. The following service operations are assumed for the purposes of this study:

- Service on Mondays through Saturdays – 16 hours
- Service on Sundays – 12 hours
- Headways for all service hours – 10 minutes

3.2 BRT Route Alignment

Among the alternative route alignments that were discussed in Section 2 of the report, Alternative 3 was considered most favorable for BRT operations. Alternative 3 would require no significant changes in the network geometry to facilitate BRT operations. Alternative 3 also provides the best coverage for prospective transit patrons. The proposed BRT alignment (Route 3) is approximately 2.4 miles in length (round trip). The proposed BRT would have stations located at: 1) Coconut Grove Metrorail Station; 2) SW 27 Avenue at Bird Road (two stations – one NB + one SB); 3) SW 27 Avenue at Tiger Trail (two stations – one NB + one SB); 4) SW 27 Avenue at Bayshore Drive; 5) Grand Avenue at McFarlane Road; 6) Grand Avenue at Mary Street and 7) Mary Street at Tiger Tail.

3.3 BRT Cost Analysis

Cost estimates for the prospective BRT system were developed by identifying the anticipated major elements that would constitute the Metrorail/Coconut Grove Connector and using existing experience from similar systems to develop a broad cost estimate for the system. For the BRT system proposed for the Metrorail/Coconut Grove connector, the following existing systems were identified as having similar general characteristics as the prospective BRT for the Metrorail/Coconut Grove Connector.

- Los Angeles, California – Wilshire/Whittier and Ventura Corridors
- Vancouver, British Columbia – Broadway and Richmond Corridors

The capital and operating + maintenance cost associated with the above existing systems were used to develop cost estimates for the proposed BRT system. Cost information for these existing systems was extracted from the following references:

- TCRP Report 90 – Bus Rapid Transit Volume 1: Case Studies in Bus Rapid Transit
- Transit Cooperative Research Program (TCRP), Report 90, Bus Rapid Transit Volume 2: Implementation Guidelines.

Based on data provided in the above references, the following costs estimates were developed for the prospective BRT system:

<u>BRT Capital Cost</u>

Capital Cost per mile = M$1.8/mile (average 3 existing systems, Los Angeles, Vancouver- Broadway, Richmond)

Length of proposed BRT system (round trip) = 2.4 route miles

Estimated capital cost for proposed BRT system = 2.4 x M$1.8 = $4, 320,000

BRT Operating and Maintenance Cost

Operating and maintenance cost per route mile per annum = M$1.835 (Los Angeles data)

Total annual operating and maintenance cost for BRT = 2.4 miles x M$1.835 = $4,400,000 per annum.

It is assumed that existing MDT facilities would be used for storage and maintenance operations – no property acquisition would be required.

3.4 BRT Ridership Analysis

Ridership estimates were developed for the proposed BRT system based on changes in transit ridership that have been realized from existing similar BRT systems. The procedure adopted involved first evaluating the existing ridership characteristics along the study route and then applying an applicable growth factor based on actual ridership gains that have been realized following the introduction of similar existing BRT systems. The anticipated change in transit ridership represent a cumulative response to improvements in the transit service that would be expected following the introduction of the proposed BRT system. These changes in transit service include the following:

- Response to Service Frequency Changes
- Response to Reliability Changes
- Response to Service Coverage Changes
- Response to Fare Changes

For the proposed BRT system, the primary user benefits are expected from improvements in service frequency and reliability. The existing transit service includes a free-of-charge service that is provided on MDT Route #249 (discussed in Section 3.4.1). No gain in transit ridership is therefore expected due to fare changes. The existing transit service also provides a good coverage of the study corridor.

The following sections provide an assessment of the existing transit characteristics along the study corridor and the expected change in transit ridership that would follow from a new BRT system.

3.4.1 Assessment of Existing Transit Characteristics

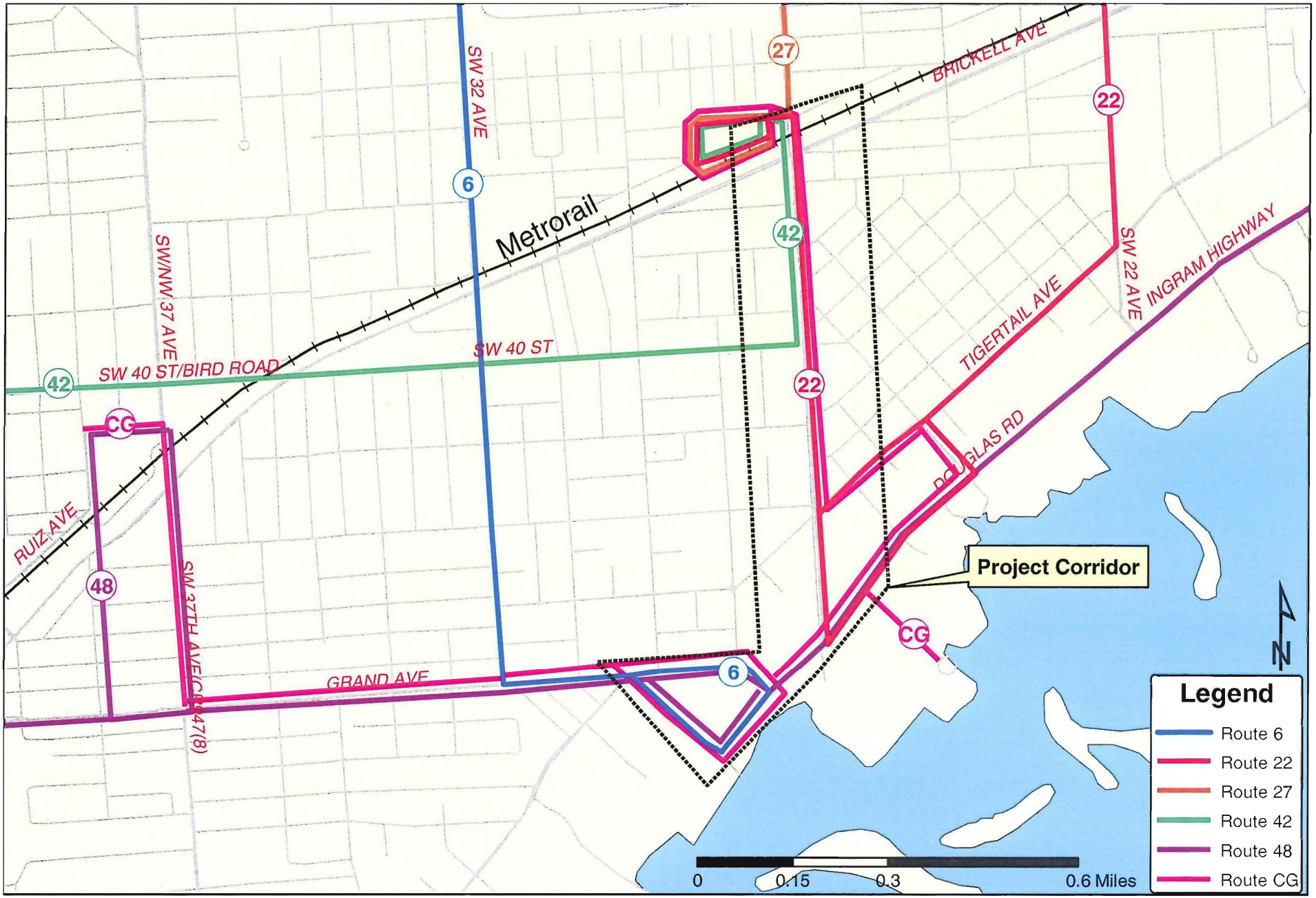
Information on current transit services were obtained from a review of the existing bus routes serving the study area and data contained in the Comprehensive Bus Operations Analysis (CBOA) Report, MDT, November 2004. Figure 4 shows the existing MDT transit bus routes within the Coconut Grove Area. In regards to the specific corridor of interest for this study, the characteristics on the following existing routes were considered relevant to the study:

- Route 249 – Coconut Grove Circulator (CG) -This is a free service – Monday through Saturday.
- Route 22

Route 249 (Coconut Grove Circulator) is the primary transit service for the study corridor. Route 22 provides a secondary service for the segment of the corridor between the Metrorail Station and Coconut Grove Convention Center. Figures 2 and 3 show the routes serviced by Route 249 and Route 22. Appendix A contains detailed operating characteristics for Route 249 and Route 22. As shown in Appendix A, the Comprehensive Bus Operations Analysis Report provides transit characteristics for various segments along each bus route. The transit characteristics for the study corridor were assessed by extracting information for the segments of the existing routes that overlapped the study corridor. Data was extracted for the following segments of the existing routes:

- Route 249 – Segment between McFarlane Road/Grand Avenue and Coconut Grove Station.
- Route 22 – Segment between Coconut Grove Station and SW 22Avenue/SW 24 Terrace.

Estimating the existing ridership along the corridor also involved applying factors to convert the peak hour boarding information for each segment to daily boarding estimates. Appendix B shows detailed calculations for the existing ridership estimates. Table 3 summarizes the existing ridership estimates for the study corridor. Tables 4 through 6 summarize other pertinent transit operating characteristics for the study corridor.



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Metropolitan Planning Organization

EXISTING MIAMI-DADE TRANSIT BUS ROUTES

Figure 4

Table 3: Existing Ridership – Metrorail/Coconut Grove Corridor

Day of Week	Average Daily Boardings		
	Route 249[1]	Route 22[2]	Total
Weekday	204	191	395
Saturday	154	135	289
Sunday	135	47	152

Notes:
1. Boardings along segment of Route 249 between McFarlene Road/Grand Avenue and Coconut Grove Station.
2. Boardings along segment of Route 22 Between Coconut Grove Station and SW 22 Avenue/SW 24 Terrace.

Table 4: Existing Transit Service Frequency – Metrorail/Coconut Grove Corridor

Day – Peak Period	Service Frequency – Headways (minutes)	
	Route 249	Route 22
Weekday – AM Peak Period	15	30
Weekday – Mid-day	15	60
Weekday – PM Peak Period	15	30
Weekday - Night	15	60
Saturday – AM Peak Period	15	60
Saturday – Mid-day	15	60
Saturday – PM Peak Period	15	60
Saturday - Night	15	60
Sunday – AM Peak Period	15	60
Sunday – Mid-day	15	60
Sunday – PM Peak Period	15	60
Sunday - Night	15	60

Table 5: Productivity and Maximum Loads – Route 249
Segment Between McFarlane Road/Grand Avenue and Coconut Grove Station

Transit Characteristic	Unit	Weekday	Saturday	Sunday
Highest Productivity Eastbound	boardings/hr	30 (PM peak period)	14 (daytime period)	15 (daytime period)
Highest Productivity Westbound	boardings/hr	69 (PM peak period)	44 (daytime period)	33 (daytime period)
Highest Maximum Load Eastbound	passengers	6 (24% capacity)	3 (11% capacity)	4 (17% capacity)
Highest Maximum Load Westbound	passengers	10 (38% capacity)	5 (20% capacity)	3 (10% capacity)

Table 6: Productivity and Maximum Loads – Route 22
Segment Between Coconut Grove Station and SW 22 Avenue/SW 24 Terrace

Transit Characteristic	Unit	Weekday	Saturday	Sunday
Highest Productivity Northbound	boardings/hr	60 (off-peak period)	57 (nighttime period)	23 (daytime period)
Highest Productivity Southbound	boardings/hr	8 (AM peak period)	1.2 (daytime period)	1.6 (nighttime period)
Highest Maximum Load Northbound	passengers	10 (25% capacity)	7 (18% capacity)	3 (7% capacity)
Highest Maximum Load Southbound	passengers	20 (50% capacity)	7 (20% capacity)	12 (30% capacity)

As shown in Table 3, the analysis of the transit operations indicate that existing ridership along the Coconut Grove/Metrorail Corridor is approximately 395 boardings per day, during typical weekday conditions. The ridership during Saturdays and Sundays was estimated at approximately 289 and 182 boardings per day respectively.

The data in Tables 3 and 4 indicate that the existing transit service along the Metrorail/Coconut Grove Corridor is adequate to support current transit travel demand. In all time periods, the highest maximum load is substantially below capacity – the highest recorded load was only 50% of capacity (Route 22). The Coconut Grove Circulator (Route 249), which uses 25-seater minibuses, reported a maximum loading of only 10 passengers – 38% of capacity. In addition, bus operator surveys conducted along the routes indicate no significant problems with regards to overcrowding along the study corridor (see Appendix A). The bus operator surveys also showed no significant scheduling problems along the segment of Route 22 within the limits of the study corridor. Some scheduling issues were identified along Route 249 in the bus operator surveys. Notwithstanding, the findings from the COBA study generally indicate that good transit operating conditions are experienced along the study corridor during typical weekday and weekend conditions.

3.4.2 Assessment of Change in Ridership in Response to New BRT Service

The findings in the preceding analysis do not demonstrate a need for improving the capacity or frequency of the transit service along the Metrorail/Coconut Grove Corridor. The results of the assessment indicate that the existing transit service is reasonably adequate for the service demands. However, it is expected that the new BRT service would generate an increase in transit ridership. The increase in transit ridership should follow from anticipated reductions in travel times that would result from BRT signal priority and the faster boarding and alighting of vehicles. Given the adequacy of the existing transit system, it is expected that the change in transit ridership would be in the lower range when compared to existing systems. Analyses of BRT systems that have been introduced in the Los Angeles showed an increase in transit ridership ranging from

26% to 33% (ref: TCRP Report 90, Volume 1). Based on these findings, a change in ridership of +26% was assumed for the proposed BRT system serving the Metrorail/Coconut Grove Corridor. Table 6 shows the expected increase in daily boardings resulting from the proposed BRT system. The estimated riderships for the new BRT system are approximately 500 boarding per day for weekdays, 360 boardings per day for Saturdays and 190 boardings per day for Sundays.

Table 7: BRT Ridership Estimate

Ridership Statistic	Daily Boardings			Annual Boardings
	Weekday	Saturday	Sunday	
Existing Ridership	395	289	152	126,027
Change in Response to New BRT (26%)	103	75	40	32,863
Total Ridership for New BRT	498	364	192	158,890

3.4.3 Ridership Analysis for Special Events

An assessment was made of the potential ridership for the Metrorail/Coconut Grove Connector during special events hosted in the Coconut Grove Area. A schedule of annual events hosted in the Coconut Grove area was obtained from the Grater Miami Convention and Visitors Bureau (GMCVB). Estimated patronage at each event was subsequently obtained from various sources including: (1) event organizers; (2) Coconut Grove Convention Center; (3) City of Miami, Special Events and (4) Coconut Grove Chamber of Commerce. Potential transit riders for each event were then estimated by applying a 3% factor to the total estimated daily patrons. The 3% factor provides a conservative estimate of potential transit users based on typical mode splits experienced in Mimai-Dade County. Table 8 shows the estimated ridership associated with special events hosted in the Coconut Grove Area.

Table 8: Estimated Ridership for Special Events

Special Event	Date	Day(s) of Week	Total Patrons	Patrons/Day	Daily Event Transit Riders	Daily Boardings for Event*	Annual Boardings For Event
Coconut Grove Arts Festival	2/18/2006 - 2/20/2006	Saturday, Sunday, Monday	250,000	83,300	2,499	4,998	14,944
Arteamericas 2006	3/3/2006 - 3/6/2006	Friday, Saturday, Sunday, Monday	5,000	1,250	38	76	304
Barnacle Under Moonlight	1/13/2006	Friday	250	250	8	16	16
Great Taste of the Grove	1/29/2006	Sunday	2,000	2,000	60	120	120
Old Time Dance	1/29/2006	Sunday	60	60	2	4	4
Barnacle Under Moonlight	2/12/2006	Sunday	250	250	8	16	16
Washington's Birthday Regatta	2/25/2006	Saturday	100	100	3	6	6
Barnacle Under Moonlight	3/12/2006	Sunday	250	250	8	16	16
Comodore's Birthday	4/9/2006	Sunday	200	200	6	12	12
Barnacle Under Moonlight	4/15/2006	Saturday	250	250	8	16	16
Old Time Dance	4/29/2006	Saturday	60	60	2	4	4
Barnacle Under Moonlight	5/13/2006	Saturday	250	250	8	16	16
Coconut Grove July 4 Bedraces	7/4/2006	Tuesday	5,000	5,000	150	300	300
Coconut Grove Home and Remodeling Show	2/10/2006 - 2/15/2006	Friday, Saturday, Sunday, Monday, Tuesday, Wednesday	20,000	3,330	100	200	1200
Goombay	6/3/2006 - 6/4/2006	Saturday, Sunday	20,000	10,000	300	600	1200
King Mango Strut	12/31/2006	Sunday	10,000	10,000	300	600	600
Halloween	10/31/2006	Tuesday	10,000	10,000	300	600	600
Shakespeare in the Park	1/13/2006 - 1/15/2006	Friday, Saturday, Sunday	1,800	600	18	36	108
Coconut Grove Block Party	5/20/2006	Saturday	2,500	2,500	75	150	150
						Total Annual Boardings for Special Events	19,682

* Two boardings assumed for each event transit user – one getting to the event and one when leaving the event.

As shown in Table 8, the Coconut Grove Arts festival is the single biggest special event attractor in the Coconut Grove Area. This event attracts approximately 250,000 patrons over a three day period. Potential daily transit riders for this event was estimated at approximately 2500. This would generate approximately 5000 boardings per day – assuming each user would use the transit system for two boardings – one boarding for getting to the event and one boarding when leaving the event. Other special events in the Coconut Grove area are expected to generate relatively low transit ridership. Transit ridership for the Goombay Festival, Halloween and King Mango Strut was estimated at approximately 600 boardings per day. All other special events are expected to attract less than 300 transit boardings per day. These findings suggest that the potential transit ridership associated with special events would be inadequate to support a major transit investment.

3.5 BRT Fatal Flaw Assessment

A critical element for evaluating the viability of a BRT system is the adequacy of the forecasted ridership to support the high service frequencies that are characteristic of rapid transit systems. TCRB Report 90 provides guidance on the level of transit ridership required to support new BRT systems. TCRP Report 90 suggests that a minimum ridership in the order of 5000 boardings per day is required for a successful BRT service. For conditions where the BRT operates on the same roads as other local services, TCRP Report 90 suggests that daily ridership should exceed 10,000 or more. The report states further that if the existing local bus route does not have at least 6000 to 8000 daily trips on it, BRT may not be justified in the short term. The expected average daily ridership along the Coconut Grove study corridor is approximately 490 boardings per day (special events included). This anticipated ridership is substantially below the minimum threshold requirements specified in TCRP Report 90. It may therefore be concluded that the expected ridership along the study corridor would be inadequate to support a successful BRT system. The low ridership expectations therefore represent a fatal flaw for a prospective BRT system along the Metrorail/Coconut Grove Corridor.

4. LIGHT RAIL TRANSIT (LRT) MODE ANALYSIS

4.1 Description of LRT

Light Trail Transit systems consist of electrically powered vehicles operating on fixed steel rails. Guidance is provided by the railroad rails and propulsion is provided by electric traction motors with overhead power collectors. It is expected that a prospective LRT system for the Metrorail/Coconut Grove Connector would be similar to the streetcar system that is planned for City of Miami. The streetcar type system would operate in mixed traffic and utilize relatively smaller vehicles when compared with traditional LRT systems. The major elements of the prospective LRT system are as follows.

- Vehicles: Relatively small streetcar type vehicles, electrically powered, 65 – 130 feet in length, maximum speeds 30 – 40 mph, low floor design for level boarding, reversible cars with provision for driver at each end.
- Right-of-way: Mixed traffic operation using shared lanes for LRT vehicles and general traffic.
- Guidance: Steel rail tracks installed within roadway.
- Intelligent Transportation Systems: Signal priority at intersections, automatic vehicle locator capabilities, real time information at stations.
- Service and operation: Frequent all-stop service, 10-minute headways, Mondays through Saturdays 16 hours service, Sundays 12 hours service.

4.2 LRT Route Alignment

Similar to the BRT system, route Alternative 3 is considered to be most favorable for the streetcar type LRT system that is being evaluated for this study. The maneuverability of

the streetcar system allows for construction of the necessary infrastructure to take place along the alignment of the existing roadway. This allows the street car the flexibility of operating along the route that would offer the most user benefits. As was previously discussed, Alternative 3 provides the best coverage of the study corridor and would likely be most beneficial to potential users. Hence, for the purpose of this study, Alignment 3 was assumed for the prospective LRT system.

4.3 LRT Cost Analysis

Capital and Operating Cost for LRT System

Preliminary cost estimates for a prospective LRT system can be based on estimates that have been developed for the Miami Streetcar System[2]. Based on this reference, the following preliminary cost were developed for the prospective LRT System for the Metrorail/Coconut Grove Connector:

Capital Cost Calculations

Capital Cost per mile = $19,600,000 per mile (includes: tracks, stations and maintenance facilities)

Length of proposed LRT System = 2.4 miles (round trip)

Total Estimated Capital Cost = $47,040,000

Operating and Maintenance Cost Calculations

Cost per Revenue Vehicle Hour (RVH) = $110.00 per RVH

Annual RVH per vehicle = 5,616 (16 hours Monday to Friday, 12 hours Sunday)

Total Annual RVH = 16,848 (3 vehicles assumed)

Annual Operating and Maintenance Cost using RVH = $1,850,000

Miscellaneous Operating and Maintenance Cost = $280,000 (15% RVH cost)

Total Estimated Annual Operating and Maintenance Cost = $2,130,000

2 City of Miami Initial Streetcar Corridor Feasibility Study – Final Report, April 2005.

4.4 LRT Ridership Analysis

Given the similarities of BRT operations and LRT operations it is expected that the proposed LRT system will have ridership characteristics similar to a BRT system. The ridership characteristics developed on Section 3 of the report for the prospective BRT system were therefore considered applicable to the prospective LRT system. Hence, the expected daily riderships for the prospective LRT system are:

- Weekdays = approximately 500 boardings per day
- Saturdays = approximately 360 boardings per day
- Sundays = approximately 190 boardings per day
- Special Events – Maximum of approximately 2,500 event riders (5,000 boardings) per day for the Coconut Grove Arts Festival. For all other events, transit riders are not expected to exceed 300 event riders (600 boardings) per day.

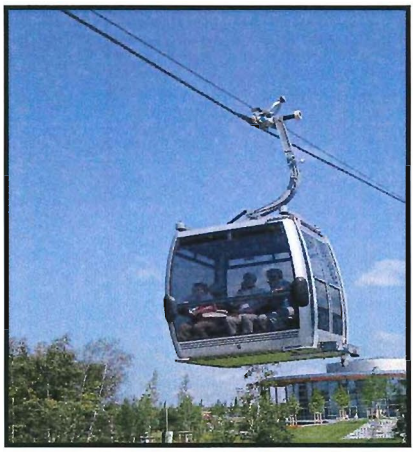
In total, the LRT system is expected to generate approximately 178,600 annual boardings (special events included). This translates to approximately, 490 average daily boardings.

4.5 LRT Mode Fatal Flaw Assessment

The proposed LRT system would have similar operating characteristics as for the BRT system that was discussed in Section 3 of the Report. However, given the higher costs associated with the LRT system, higher ridership levels would be required to support a LRT system when compared with the BRT system. As shown in the previous sections, the BRT and LRT systems are expected to have ridership levels within the same range. The forecasted ridership was found to be inadequate to support a BRT system. It therefore follows that the forecasted ridership would also be inadequate to support a LRT system. The low ridership expectations therefore represent a fatal flaw for a prospective LRT system along the Metrorail/Coconut Grove Corridor.

5. AERIAL CABLEWAY PEOPLE MOVER (ACPM) MODE ANALYSIS

5.1 Description of Prospective ACPM



An aerial cableway people mover (ACPM) is a fully automated, driverless system. These suspended cable transit systems consist of passenger vehicles supported by one or more suspension and propulsion cables. The ACPM system that has been selected for consideration in this study is the Mono-cable Gondola Class system with detachable grip. The Mono-Cable Gondola class of aerial cableway is the most widely used form of aerial passenger transport in the world ranging from ski lifts, to attraction rides, to people movers. The basic technology has been in existence for over 50 years with upgrades and new generations of the mode evolving every 5 to 10 years. Typical technical data related to the Mono-cable Gondola Class System and vehicles are shown in Tables 9 and 10. Pertinent attributes and features of the ACPM mono-cable, detachable grip gondolas are as follows:

- ACPM Systems are fully automated with redundant drives and fail safe control systems.
- Cabin size ranges from 4 to 12 passengers (10 passenger cabin assumed for this study)
- Cabins are not grouped – they are equally spaced along the length of the cable.
- Cabins are attached to the cable by detachable grips and can be automatically removed from the cable and kept in storage in adverse weather or off-peak times.
- System carrying capacity can be easily controlled by adjusting the number of cabins on-line versus the number of vehicles in storage.
- Passenger carrying capacities in the range of 1,000 to 3,000 passengers per hour.

- The carrying capacity of the system is not dependent on the route length and/or the number of stations. Route lengths of up to 5 miles are possible.
- Cable speed ranges from 1,000 to 1300 feet/minute on line; cabin speed is the same as the cable speed on line, since the cabins are attached to the cable, but in the stations, the cabin speed is 50 to 65 feet/minute (10 to 12 inches per second), as cabins automatically detach from the cable and are transferred to a slow moving conveyor system.
- Cabins detach and attach to the cable in the stations and do not pass around the bullwheel attached to the cable; instead, they go around the rear contour of the station on a conveyor device at end stations; or they pass through the stations on conveyors and interconnect with the next launching system in the case of intermediate stations.
- The ACPM passenger cabins are fully ADA compliant with level platforms, minimum 32 inch wide door openings and minimum 48 inches of clear, open floor space; this allows for the easy loading and unloading of wheelchairs and assisted walkers.
- The ticketing process is automated, with vending machines for tokens and/or magnetic cards, so there is normally no requirement for ticket sellers and checkers.
- Maintenance and cabin storage functions are normally carried out in the same facility for aerial cableway ACPM's. In general, the space requirement for these facilities is approximately 90 - 100 square feet per stored cabin for storage and maintenance functions together.
- The maximum pathway width required is approximately 43 feet for a 10 passenger gondola ACPM system.
- Typical spacing of line towers ranges from 300 to 500 feet.
- The width of ground space required for the installation of line towers, with protective traffic barriers, ranges form 5 feet (for 36" diameter towers) to 7 feet (for 60" diameter towers). Pylons for over-the-road station require widths of 6 to 8 feet.

Table 9: ACPM System Technical Data - Typical

MONO-CABLE GONDOLA 10 – GENERAL SYSTEM TECHNICAL DATA		
DESCRIPTION	RANGES	UNITS
System Type	Gondola Cableway	mono-cable
Vehicle Type	Gondola Cabin	10 Passenger
System Lengths	1,000 – 25,000	feet
System Vertical Rises	0 – 3,000	feet
System Heights AGL	25 – 150	feet
System Angle Capability	0 – 90	degrees
System Pathway Width	40 – 45	feet
Maximum Grades	0 – 100	percent
Passenger Carrying Capacity	1,000 – 3,000	per hour / pd
Operating Speeds	10 – 15	miles per hour
Boarding/De-boarding Speeds	0 – 12	in. per second
Vehicle Headways	10 – 60	seconds
Vehicle Spacing on line	200 – 1200	feet
Vehicle Spacing in Station	8 – 46	feet
Vehicle Storage	0 – 100	Percent
Transport Cable Diameters	1.5 – 2.5	inch
Cable Spans Between Towers	200 – 1,000	feet
Tower Heights	30 – 150	feet
Tower Placement	Centerline or Offset	roadways
Tower Diameters	24 – 60	inch
Sheave Trains	4 – 16	sheaves
High Voltage Electric Supply	440 – 480	volt / 3 phase

Table 10: ACPM Vehicle Technical Data - Typical

MONO-CABLE GONDOLA 10 – GENERAL VEHICLE TECHNICAL DATA		
DESCRIPTION	TYPE	UNITS
Vehicle Type	Gondola Cabin	
Vehicle Capacity	10 Passengers	
Grip Type	Single Detachable Grip	
Hanger Type	Articulated	
Vehicle Construction	Steel / Aluminum / FG	
Door Opening / Closing	Automatic / Mechanical	
Door Widths	30 – 33	inches
Door Heights	74 – 84	inches
Cabin Seating	Perimeter	8 seats
Cabin Floor	Level with Platform	
Cabin Floor Area	15 – 21	sq. feet
Cabin Width	70 – 81	inches
Cabin Length	72 – 74	inches
Cabin Height	79 – 87	inches
Cabin Height With Hanger	160 - 170	inches
Weight – Empty	1600 – 1800	pounds
Weight - Full	2900 – 3200	pounds
ADA Compliant	Yes	
Wheelchairs	Yes	
Baby Strollers	Yes	
Communications	Optional	
Lighting	Yes – Low voltage	
Ventilation	Yes	
Heating	Optional	
Air Conditioning	Optional	

5.2 ACPM Route Alignment

As mentioned in Section 2 of the report, installation of an elevated station circa the intersection of Grand Avenue and McFarlane Road would present a challenge for the ACPM mode. Hence, alternative alignments 1A, 2A and 3A would be more favorable for a new ACPM system. Among these alternatives, Alternative 1A would be most favorable for implementation since it minimizes the number of stations along the route. Alternative 1A would also be the most cost feasible solution. For the purposes of this study Alternative 1A is considered as the preferred for comparing the ACPM mode against the other competing transit modes – BRT and LRT.

The ACPM system would consists of two types of station designs – end stations and intermediate stations. For the preferred alignment, Alternative 1A, end stations would be located at the Metrorail Station and at Peacock Park Station. An intermediate station would be located at the Coconut Grove Convention Center.

The end stations would consists of outboard and end platforms, where cabins arrive on the incoming side of the cable loop, make a 180 degree turn at the end of the terminal and depart on the outgoing side of the cable loop. Passengers de-board on the incoming side platform and board on the end platform and outgoing side platform; passengers are free to move in any direction at the back of the end platform to board available cabins. End stations would include the following ACPM equipment and structures:

- two sets of overhead accel / decel / conveyor mechanisms and drive machinery
- operator control rooms
- cabin storage and maintenance
- passenger platform, queuing and ticketing area

- passenger horizontal and/or vertical access (walkways, stairs, ramps, elevators, etc.)
- weather protection enclosure (roofing, walls, windows, etc.)

The Metrorail end station would also house a storage and maintenance area for the System's cabins when they are not in service; the area required for this function is approximately 90 - 100 square feet per cabin. The ground or floor area required for an end station's platform, queuing and ticketing area ranges from 2,500 to 4,000 square feet, depending on whether the design is for a full platform or partial platform station.

The Convention Center intermediate angle station would consists of outboard platforms only (no end platforms), where cabins arrive and depart on each side of the cable loop for the direction they are traveling. Passengers de-board and board on each directional side platform in a linear manner – the incoming cabins de-board on the incoming end of the platform and are conveyed to the outgoing end of the platform where outgoing passengers can board. Passengers cannot cross from one directional side platform of the ACPM to the other directional side platform at platform level; they must cross the ACPM line a level above or below the platforms. The intermediate station would consists of the following ACPM equipment and structures:

- two sets of overhead accel / decel / conveyor mechanisms
- operator control rooms on each platform side
- passenger platforms, queuing and ticketing areas
- passenger horizontal and /or vertical access (walkways, stairs, ramps, elevators, etc.)
- weather protection enclosure (roofing, walls, windows, etc.)

The floor area required for an intermediate angle station's platform, queuing and ticketing area ranges from 4,000 to 9,000 square feet, depending on whether the design is for a full platform or partial platform station.

5.3 ACPM Cost Analysis

ACPM Capital Costs

The capital costs of an ACPM can be broken down into 2 distinct supplies: the Operating Equipment and the Fixed Facilities.

The Operating Equipments for ACPM's are proprietary designs that must be procured as complete packages. The operating equipment includes all the ACPM gondola equipment, including:

- Gondola cabins, hangers and detachable grips
- Steel transport cables
- Communication / fiberoptic cables and line monitoring sensors
- Guideway support towers, anchor bolts, crossarms, sheave trains, ladders and catwalks
- Drive, intermediate and return terminals' structural members and anchor bolts
- Drive, intermediate and return terminals' electro-mechanical equipment
- Terminals' mechanical rooms with enclosures and operator control rooms with enclosures
- Cabin storage/maintenance supports, rails, sensors and electro-mechanical equipment
- Automated ticketing

The Fixed Facilities provide civil works and support facilities for the ACPM Operating Equipment. The fixed facilities includes the cable way stations which, for the purposes of this study, are all assumed to be of the elevated platform type. The fixed facilities assessed for capital cost estimates include:

- All civil works for the guideway towers, ACPM stations, station platforms, and buildings.
- At-grade plaza stations and elevated stations including building structures, passenger platforms, queuing areas, railings, stairs, ramps, walkways, elevators, escalators, lighting, weather protection, climate control and landscaping.

- Facilities and equipment required for ticketing and lobby area, restrooms, security, access / egress, fire protection, concessions, etc.
- Cabin storage / maintenance buildings and civil works.

Table 11 shows the estimated capital cost associated with each alternative route alignment for the proposed ACPM. As shown in the table, capital cost estimates range from a low of approximately $25,700,000 for Alternative 1-A to a high of approximately $36,700,000 for Alternative 3-A. The cost estimates excludes right-of-way cost. However, it is expected that some property acquisition would be required for storage and maintenance facilities. The cost of cabin rescue equipment or machinery is also not included in the capital cost estimates.

Table 11: ACPM Capital Cost Estimate

CAPITAL COST DATA				ALT 1	ALT 2	ALT 3	ALT 1-A	ALT 2-A	ALT 3-A
ACPM EQUIPMENT									
Tramway Engineering				1,000,000	1,500,000	1,500,000	1,000,000	1,500,000	1,500,000
Tramway Equipment				15,500,000	20,000,000	18,500,000	12,500,000	16,000,000	16,500,000
Tramway Ticketing Equip				400,000	500,000	500,000	400,000	500,000	500,000
Tramway Equip Installation				2,300,000	3,000,000	2,900,000	1,500,000	2,300,000	2,500,000
Tramway Equip Civil Works				1,200,000	1,400,000	1,300,000	800,000	1,200,000	1,200,000
Subtotal - Equipment				**20,400,000**	**26,400,000**	**24,700,000**	**16,200,000**	**21,500,000**	**22,200,000**
ACPM FIXED FACILITIES	Area (sf)	Cost ($ / sf)	Estimated Cost						
27 @ MetroRail Station									
End Station - at grade	2,750	200	550,000						
End Station - elevated	2,750	1,000	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000	2,750,000
27 @ Bird Station									
In-line Station - elevated	3,200	700	2,240,000		2,240,000	2,240,000		2,240,000	2,240,000
27 @ Tigertail Station									
In-line Station - elevated	3,200	700	2,240,000		2,240,000			2,240,000	
Angle Station - elevated	4,100	700	2,870,000			2,870,000			2,870,000
Event Center Station									
Angle Station - at grade	4,100	200	820,000						
Angle Station - elevated	4,100	700	2,870,000	2,870,000	2,870,000		2,870,000	2,870,000	
One Way Station-elevated	2,200	700	1,540,000			1,540,000			1,540,000
Mary @ Bayshore Station									
Angle Station - at grade	4,100	200	820,000						
Angle Station - elevated	4,100	700	2,870,000		2,870,000				
Peacock Park Station									
End Station - at grade	2,750	200	550,000						
End Station - elevated	2,750	700	1,925,000				1,925,000	1,925,000	
One Way Station-elevated	2,200	700	1,540,000			1,540,000			
Village Center Station									
End Station - elevated	2,750	700	1,925,000	1,925,000	1,925,000				
One Way Station-elevated	2,200	700	1,540,000			1,540,000			
Mary @ Grand Station									
Angle Station - elevated	4,100	700	2,870,000						
One Way Station elevated	2,200	700	1,540,000			1,540,000			1,540,000
Mary @ Tigertail Station									
One Way Station elevated	2,200	700	1,540,000			1,540,000			1,540,000
Storage / Maint. Facility									
At Grade	10,000	200	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Elevated	10,000	500	5,000,000						
ROW Acquisition				0	0	0	0	0	0
Subtotal-Fixed Facilities				**9,545,000**	**16,895,000**	**17,560,000**	**9,545,000**	**14,025,000**	**14,480,000**
TOTAL ACPM COSTS				**29,945,000**	**43,295,000**	**42,260,000**	**25,745,000**	**35,525,000**	**36,680,000**

ACPM Operating and Maintenance Cost

For the purposes of this study, operating and maintenance expenses were estimated for a stand alone ACPM people mover system. If the ACPM were integrated into the "fleet" of a public transit authority, there would be cost efficiencies realized from shared administrative expenses, shared insurance expenses, shared advertising, etc. The following sections present the estimated operating and maintenance expenses for the alternative alignments 1A and 2. These two alternatives are representative of the low end expenses (Alternative 1A) and high end expenses (Alternative 2). The estimates for operating and maintenance costs assume the following:

- Weekday service = 16 hours
- Saturday service = 16 hours
- Sunday service = 12 hours

Tables 12 through 16 show a detailed breakdown of the estimated operating and maintenance costs associated with the ACPM for Alternative 1A and Alternative 2. As shown in Table 16 the estimated annual operating and maintenance cost for the ACPM ranges from approximately $4,000,000 (Alternative 1A) to $5,700,000 (Alternative 2).

Table 12: ACPM Operating Expense – Alternative 1A

General Expenses			Budget	Allocate Tramway	Tramway Expense	
Tram Management Fees			150,000	100%	$150,000	
Security Services			100,000	100%	$100,000	
Insurance-Prop/Liab			300,000	100%	$300,000	
Advertising/Promo			250,000	100%	$250,000	
Legal/Professional			200,000	100%	$200,000	
Licenses/Permits			25,000	100%	$25,000	
Office-Expenses			20,000	100%	$20,000	
Office- Rent/Utilities			40,000	100%	$40,000	
Office-Supplies			20,000	100%	$20,000	
Telephone			20,000	100%	$20,000	
Miscellaneous			20,000	100%	$20,000	
General Exp. Subtotal						**$1,145,000**
Operations Payroll	Salaries	Per/Shift	Adj. Hours	Hrs/Year	Annual Cost	
Manager (per year)	$80,000	1	1	5,616	$80,000	
Asst.Manager (per year)	$50,000	1	1	5,616	$50,000	
Admin Staff (per year)	$12.00	4	1	22,464	$269,568	
Supervisor (per hour)	$12.00	1	2	11,232	$134,784	
Operators (per hour)	$15.00	1	2	11,232	$168,480	
Attendants (per hour)	$9.00	6	2	67,392	$606,528	
Housekeeping (per hour)	$8.00	2	1	11,232	$89,856	
Subtotal					$1,399,216	
Taxes/Benefits				25%	$349,804	
Ops. Payroll Subtotal		16				**$1,749,020**
Other Expenses						
	Cost	Staff				
Uniforms	$100	90				$9,000
Electric Usage	Cost/KWH	KW	Sections	Adjustment	Hrs/Units	
KW Hour + Demand	$0.10	375	1	0.5	6,032	$113,100
	Cost/Hr	Sections	Adjustment	Hrs/Units		
Tramway Fuel	$20	1	0.05	6,032		$6,032
Tramway Supplies	$10,000		6.0			$60,000
TOTAL OPER. EXPENSES						**$3,082,152**

Table 13: ACPM Operating Expense – Alternative 2

General Expenses			Budget	Allocate Tramway	Tramway Expense	
Tram Management Fees			200,000	100%	$200,000	
Security Services			150,000	100%	$150,000	
Insurance-Prop/Liab			300,000	100%	$300,000	
Advertising/Promo			250,000	100%	$250,000	
Legal/Professional			250,000	100%	$250,000	
Licenses/Permits			25,000	100%	$25,000	
Office-Expenses			25,000	100%	$25,000	
Office- Rent/Utilities			50,000	100%	$50,000	
Office-Supplies			25,000	100%	$25,000	
Telephone			25,000	100%	$25,000	
Miscellaneous			25,000	100%	$25,000	
General Exp. Subtotal						**$1,325,000**
Operations Payroll	Salaries	Per/Shift	Adj. Hours	Hrs/Year	Annual Cost	
Manager (per year)	$80,000	1	1	5,616	$80,000	
Asst.Manager (per year)	$50,000	1	1	5,616	$50,000	
Admin Staff (per year)	$12.00	4	1	22,464	$269,568	
Supervisor (per hour)	$12.00	2	2	22,464	$269,568	
Operators (per hour)	$15.00	1	2	11,232	$168,480	
Attendants (per hour)	$9.00	12	2	134,784	$1,213,056	
Housekeeping (per hour)	$8.00	3	1	16,848	$134,784	
Subtotal					$2,185,456	
Taxes/Benefits				25%	$546,364	
Ops. Payroll Subtotal		24				**$2,731,820**
Other Expenses						
	Cost	Staff				
Uniforms	$100	143				$14,300
Electric Usage	Cost/KWH	KW	Sections	Adjustment	Hrs/Units	
KW Hour + Demand	$0.10	450	1	0.5	6,032	$135,720
	Cost/Hr	Sections	Adjustment	Hrs/Units		
Tramway Fuel	$20	1	0.05	6,032		$6,032
Tramway Supplies	$10,000		6.0			$60,000
TOTAL OPER. EXPENSES						**$4,272,872**

Table 14: ACPM Maintenance Expenses – Alternative 1A

Maintenance Payroll	Salaries	Per/shift	Adj. Hours	Hrs/Year	Annual Cost	
Chief Mechanic (per hour)	$20.00	1	1	5,616	$112,320	
Mechanic (per hour)	$16.00	2	2	22,464	$359,424	
Electrician (per hour)	$22.00	1	1	5,616	$123,552	
Subtotal					$595,296	
Taxes/Benefits				25%	$148,824	
Maint. Payroll Subtotal		4				**$744,120**
Total Payroll Subtotal	Staff/shift	20	Tot.Hrs/Yr	180,000		
	Total Staff	90	Hrs./Empl.	2,000		
Maintenance Expenses			Cost/Event	Events/20 years	Total/ 20 years	
Contract Labor			39,962	20	$799,240	
Manufacturer Parts			39,756	20	$795,120	
OEM Parts/Supplies			66,261	20	$1,325,220	
Cable Inspection			2,000	20	$40,000	
Lubrication			In- House			
Oil Change # 1			1500	1	$1,500	
Oil Changes years # 5,9,13&17			1,500	7	$10,500	
Annual Inspection			5,000	20	$100,000	
Original re-splicing			2,500	1	$2,500	
Re-splicing			2,500	4	$10,000	
Daily & Other inspections			In- House			
Cabin Cleaning			In- House			
OEM Cabin parts			34,400	20	$688,000	
System upgrades			25,000	20	$500,000	
Parts and service					$4,272,080	
Maintenance/Yr Subtotal						**$213,604**
TOTAL MAINT. EXPENSES						**$957,724**

Table 15: ACPM Maintenance Expense – Alternative 2

Maintenance Payroll	Salaries	Per/shift	Adj. Hours	Hrs/Year	Annual Cost	
Chief Mechanic (per hour)	$20.00	1	1	5,616	$112,320	
Mechanic (per hour)	$16.00	3	2	33,696	$539,136	
Electrician (per hour)	$22.00	1	1.5	8,424	$185,328	
Subtotal					$836,784	
Taxes/Benefits				25%	$209,196	
Maint. Payroll Subtotal		5				**$1,045,980**
Total Payroll Subtotal	Staff/shift	29	Tot.Hrs/Yr	286,000		
	Total Staff	143	Hrs./Empl.	2,000		
Maintenance Expenses			Cost/Event	Events/20 years	Total/ 20 years	
Contract Labor			56,173	20	$1,123,460	
Manufacturer Parts			81,569	20	$1,631,380	
OEM Parts/Supplies			135,948	20	$2,718,960	
Cable Inspection			2,000	20	$40,000	
Lubrication			In- House			
Oil Change # 1			1500	1	$1,500	
Oil Changes years # 5,9,13&17			1,500	7	$10,500	
Annual Inspection			5,000	20	$100,000	
Original re-splicing			2,500	1	$2,500	
Re-splicing			2,500	4	$10,000	
Daily & Other inspections			In- House			
Cabin Cleaning			In- House			
OEM Cabin parts			51,600	20	$1,032,000	
System upgrades			25,000	20	$500,000	
Parts and service					$7,170,300	
Maintenance/Yr Subtotal						**$358,515**
TOTAL MAINT. EXPENSES						**$1,404,495**

Table 16: ACPM Summary of Operating and Maintenance Costs

Route Alignment Alternative	ANNUAL COSTS		Total Annual O&M Costs
	Operating Costs	Maintenance Costs	
Alternative 1A	$3,082,152	$957,724	$4,039,876
Alternative 2	$4,272,872	$1,404,495	$5,677,367

5.4 ACPM Ridership Analysis

Unlike the BRT and LRT modes data regarding the operation of similar existing systems is not readily available for assessing expected readership in response to implementation of new ACPM systems. Experience with the use of these systems for providing public transportation services is very limited, especially in North America. Indeed, only one somewhat similar use in North America was identified from the research conducted for this study. Nonetheless, it is expected that ridership for this mode will consist of two types of users: direct users (regular commuters) and indirect users (attraction users). The ridership for direct users is expected to be similar to estimates derived for BRT and LRT uses. Ridership for regular commuters on the ACPM is therefore expected to be approximately 500 boardings per day for typical weekdays. Ridership for Saturdays and Sundays is expected to be approximately 360 boardings epr day and 190 boardings per day respectively. Ridership during special events is also expeted to be similar to BRT and LRT services – approximately 5000 boardings per day for the Coconut Grove Arts Festival and other events averaging no more than 600 boardings per day.

The indirect passenger classification is unique to Cableways and other similar premium people movers, such as monorails, that add excitement and views to the transit experience. Indirect ridership are persons who will ride the Cableway more as an attraction than pure public transit because "they" are in Miami and "it" is in Miami. This ridership would generally be the non-commuter population of South Florida and the annual visitors to South Florida that are not considered to be direct ridership. For

example the indirect ridership would consist of Coconut Grove convention goers who are riding it for pleasure and not using the ACPM to go back and forth to their hotels, hotel guests in Miami, whose hotels are not in close proximity to the ACPM, people parking in the lots and parking structures for the attraction value of the Cableway, patrons of the Grove's retail shopping and entertainment attractions that ride the ACPM as an additional attraction activity, rather than getting from point to point, many of the residents of South Florida, as a family outing with the kids, and many of the remaining 25 million annual visitors to South Florida who will take the ride for the excitement factor and the Biscayne Bay and Miami City views.

It is evident that the attraction value of the ACPM system could generate considerable ridership for the transit service. The attraction value of the ACPM could indeed stimulate the necessary ridership to cover the cost of development and operating and maintenance expenses for the transit service. Due to the limited use of this technology for rapid transit service as proposed for this study, data is not readily available for assessing the attraction value of the ACPM mode in this environment. A detailed market research may be required to develop a reasonable assessment of the attraction value associated with the ACPM mode. This could be conducted in further continuing studies for this project.

5.5 ACPM Fatal Flaw Assessment

The ACPM represents a non-conventional technology in use for rapid transit systems. This technology has traditionally been deployed in specialty markets such as ski lifts at mountain resorts. Therefore, several concerns have being expressed regarding the use of this technology as a viable rapid transit service. The following sections present a discussion on various aspects of this technology and how each aspect may impact the viability of an ACPM system for use on the Metrorail/Coconut Grove Corridor.

Ridership

The installation of an ACPM will generate more ridership than a surface mode of transportation for the connector route due to the scenic and "attraction value" of the technology. The uniqueness of the transit mode, which is already widely accepted in many mountain communities, will encourage resident and tourist ridership. The local Coconut Grove workforce and populace will be encouraged to adopt a more public transit friendly attitude, and a lifestyle will be encouraged that emphasizes public transportation alternatives for getting back and forth between short haul destinations. The attraction value of the ACPM is expected to have a significant positive impact on the viability of this technology for the Metroral/Coconut Grove Connector.

Effectiveness of Technology

Most Aerial Cableway Systems around the world today perform either as people movers to deliver skiers to the ski lifts at mountain resorts, people movers between villages in the mountains, or tourist attractions to take passengers to scenic overlooks, shopping and restaurants. However, increasingly, aerial cableway systems with enclosed passenger cabins are being studied and implemented for use in urban environments as

cost-effective and environmentally friendly public transportation systems for short haul applications.

Aerial cable lifts have a history of transporting passengers reliably and safely for over 100 years with carrying capacities ranging from 100 persons per hour to over 4,000 persons per hour for single systems and up to 8,000 passengers per hour for double systems. They range in length from one half of a mile to 5 miles in distance and they can have one station at either end, or can have multiple stations along the route when operated as people movers. The size of the passenger cabins range from 6 persons per cabin to 200 persons per cabin, depending upon the type of system, carrying capacity and application.

Out of the over 20,000 aerial cableways and other lift types in operation worldwide, there are approximately 1,000 aerial passenger cableway tramways and gondolas of the enclosed cabin type. The aggregate of all the aerial cableways and other lifts in active operation today represents a total passenger carrying capacity of over 20 million passengers per hour; this figure exceeds the total passenger carrying capacity worldwide for all of the airlines and railroads combined. Existing aerial cableways with enclosed vehicles, employing the exact technology examined in this Study, represent a passenger carrying capacity of over 10 million people per day, worldwide.

Maintainability

The maintainability of a monocable, detachable grip ACPM system is straightforward, predictable and affordable as transit systems go; it is a function of the hours of operation of the system, the passenger carrying capacity, the operating speeds, and the environment that the system operates in. An ACPM system can operate 365 days per year, just as other transit systems, with maintenance being performed during the daily non-operating hours. Normally, the only times that the ACPM would have to be out of service for 1 to 2 days would be to replace and splice the haul cable, which is generally a once in 10 to 15 year event. Other times that the system might be out of service for several days, would involve a major equipment modification or system upgrade, or if

there were a major unpredicted equipment breakdown. Unpredicted breakdowns are generally avoided through the monitoring and trending analysis of equipment status with heat, vibration and geometric sensors.

Contemporary gondola ACPM structural, mechanical and electrical equipment is provided as a total system by only 3 or 4 system manufacturers worldwide, so there are really no cases of mix and match system integration or one-off, custom designed systems that run the risk of being orphaned, which could create future spare parts and maintenance problems. All ACPM spare parts are, for the most part, standardized, off the shelf and readily available from the ACPM manufacturers and OEM suppliers. Generally, the ACPM equipment is under warranty for a specified number of operating hours and the design of the system is guaranteed for the life of the installation.

Normal classifications of maintenance personnel are required for the ACPM operation, such as mechanics, electricians and electronics technicians. These personnel require specialized training from the manufacturers and/or outside sources for the annual and day to day maintenance and repairs of the ACPM systems. It is also possible to contract with the manufacturers and outside sources for the maintenance and/or operation of the ACPM.

As a further maintainability feature, all of the ACPM's electronic monitoring systems can be linked by modem directly to the gondola manufacturer's technical department. This means that 24 hours a day, the manufacturer would be able to remotely support the operation and maintenance of the gondola by performing diagnostics, making adjustments and performing software upgrades in real time. Also, the specifications for the ACPM could include a full package of sensors (vibration, temperature, tolerances, etc.) and monitoring equipment for trending and failure prevention.

Service Life

There are Aerial Cableways in Europe that have been in public operation for passengers for over 100 years with ongoing upgrades and system refurbishment. It is

quite common to find gondola aerial cableways in North America that have been in continuous operation for 50 years with the same types of upgrades and refurbishments. It is reasonable to project that the functional service life of an ACPM System and its alignment is 50 to 100 years.

The service life of the original design, engineering and profile of a contemporary ACPM and its foundations, line tower structures and terminal support structures can be considered to be 100 years, if the structures are properly protected against fatigue and corrosion. During the useful life of an ACPM System it is possible to make necessary upgrades and system refurbishments on an ongoing basis.

The service life of cabins and electro-mechanical components of an ACPM is more dependent on hours of service and cycles through stations than actual years of service, but considering an average of 4,000 to 5,000 annual hours of service for a public transit application; selected components can have the following average service lives with proper maintenance and upgrades:

- Cabins 25 years
- Cabin Grips 25 years
- Haul Cable 10 years
- Sheave trains 50 years
- Bullwheels 50 years
- Gearboxes 50 years
- Electric Motors 30 years
- Motor Control Centers 25 years
- Terminal mechanisms 30 years

System Speed

The line speed range of a monocable, detachable grip aerial cableway, at a maximum of 15 mph, is slower than the speeds of more expensive elevated guideway people movers at 20 to 50 mph, but for typical short "connector type" or "shuttle type" distances of 1 to 2 miles, the slower cableway speed is not a factor, since the travel time between

point A and B, for cableway passengers, is the same, or actually much less than the faster line speed systems, because the longer waiting times (headways) of other people mover systems must be added to their total trip times.

For longer people mover routes of from 3 to 5 miles, the frequent headways and no waiting times of an aerial cableway, may or may not offset the slower system speed; this must be analyzed against other transit modes, on a case by case basis, within the framework of larger Transit Corridor Studies. The compromise of slower line speeds of aerial cableways is also offset by significantly lower capital costs and operating and maintenance costs than other people mover systems.

In the case of Coconut Grove, with a very short route length of 1 to 1.5 mile, there is no need for a very fast line speed, so the ACPM speed can be limited to a maximum line speed of 13 mph.

Safety and Security

Aerial Cableway industry safety statistics exceed the safety records of most other forms of public transit, including trains, automated people movers, light rail, busses, shuttles, trolleys, ferries, and airlines. Studies conducted over the years by several independent organizations in Europe indicate an accident rate of less than 25 non-fatal injuries per 100 million passengers carried (this also includes all of the ski area aerial cableways operating in inclement mountain weather conditions with high winds, snow and ice on the boarding platforms, people walking in ski boots, etc.). Worldwide, aerial cableway systems and ski lifts have the carrying capacity to safely transport over 20 million persons per hour.

Although it is a very unlikely event that the ACPM's redundant primary drives, auxiliary drives, or evacuation drives would not be able to return the passenger cabins to the stations, provisions must be made for the emergency evacuation of the passengers out of the cabins, while the vehicles are still on the line and unable to return to the stations. These methods range from trained personnel and/or firemen going to each cabin along the line and lowering people to the ground with ropes and harnesses, to evacuation of

passengers with fire trucks and specialized cherry pickers, to specialized, self propelled vehicles that are able to retrieve people from the cabins and return them to the stations by running along the stationary tramway cables.

Only the minimum level of rescue equipment (ropes, harnesses, cable riders and fall protection) is included in the capital cost calculation of the System. Once the gondola system is designed, a detailed rescue plan will be developed and any specialized equipment will be specified and priced.

Reliability

All of the controls and safety systems of an ACPM aerial cableway people mover meet or exceed the control and safety systems of trains, light rail, trolleys and other people mover technologies - they are fully automated, redundant and fail safe. Aerial cableways, in general, have very high rates of reliability (up time vs. down time) due to their centralized drive systems, redundant electro-mechanical systems, automated controls and exclusive aerial right of ways.

In general, aerial cableways have less down time than other people mover types that employ individual drives in the vehicles and common guideways – a drive failure in one vehicle can block the guideway for the other operative vehicles. Also, due to operating in an exclusive right of way above surface transit, aerial cableways have less down time than surface mode people movers, which are subject to blockages of the surface guideways or roadways for various reasons.

Aerial cableways that are operating in extreme mountain environments have system availability rates of 97% to 99%, and ACPM's that are operating in more reasonable, urban-type environments can have system availability rates of 99% to 99.8%, including all breakdown time and weather related stoppages.

6. PUBLIC INVOLVEMENT

A limited public involvement program was conducted to gain a preliminary understanding of public perception and support for the proposed Metrorail/Coconut Grove Connector. On August 5, 2005, a presentation of the proposed project was made at a meeting of the Coconut Grove Chamber of Commerce which was attended by a wide cross-section of the local business community. Public perception and attitudes towards the project were also assessed through previous meetings of the MPO and from discussions with public officials.

At the Chamber of Commerce meeting of August 5 2005, a questionnaire was distributed for attendees to provide written comments on the proposed project (see Appendix C). Responses to the questionnaire are summarized in Table 19. The responses indicate that there is a general consensus that the existing transit service for the Coconut Grove area is inadequate. Most respondents were also of the opinion that traffic operating conditions and parking were a concern in the area. Respondents were particularly concerned with regards to transit and traffic operations during special events and on weekends. The proposed people mover was considered by most to be beneficial to the community. However, several of those in attendance at the meeting reflected that proposed improvements in transit service should consider an expanded area covering the wider Coconut Grove Community and not be confined to the limited area of this study. Others at the meeting were also skeptical of the ACPM as a mode for rapid transit service. This sentiment was also expressed in meetings of the MPO.

It should be noted that the public perception regarding the inadequacy of the existing transit service is not supported by the data that was collected for the existing bus routes (see Section 3.4 of Report).

Table 17: Summary of Response to Questionnaire

	SURVEY QUESTION		No. Of Responses		
			Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:	Weekday	9	10	1
		Weekend	1	15	1
		Special Events	0	18	1
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Weekday	8	11	1
		Weekend	4	15	1
		Special Events	1	18	1
3	Do you think public transportation is adequate in Coconut Grove for:	Weekday	3	14	2
		Weekend	1	17	1
		Special Events	0	18	2
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail ?		18	0	2
5	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Convention Center and the Metrorail?		13	2	3

7. EVALUATION OF ALTERNATIVES

Table 20 shows a comparative assessment of the three alternative transit mode for the Metrorail/Coconut Grove Connector. The following provides an extended discussion on some of the critical elements for consideration in the evaluation of the alternatives.

Ridership

In order to justify expenditure of public funds for the proposed transit service, the forecasted ridership expectations should be of the order of magnitude necessary to support the rapid transit system. The analyses conducted for this study indicate that the anticipated ridership (500 boardings per day) for BRT and LRT modes are substantially below the recommended threshold levels (5000 boardings per day) to justify implementation of such systems. Indeed, experience with recent rapid transit systems, such as Los Angeles BRT, corridors were carefully selected to include only those routes with existing high levels of transit ridership.

The ridership associated with the ACPM mode may be higher than the expected ridership BRT and LRT modes due to the attraction value of this mode. The attraction value of the ACPM mode is an area of uncertainty due to the limited available data regarding the use of this technology for rapid transit systems. However, given the low ridership volumes on the existing transit system, it seems unlikely that the proposed ACPM would attain the recommended minimum ridership levels that are associated with more conventional rapid transit systems.

Special Events

One argument that has been made to support implementation of a new transit system is the perceived need to efficiently move transit riders through the corridor particularly during special events when numerous visitors are attracted to the Coconut Grove area. The research conducted for this study indicate that only one event, The Coconut Grove Arts Festival, attracts patrons in the order of magnitude such that a special transit service (as proposed) would be significantly beneficial for the movement of people

along the corridor. This single event would not justify implanting a new transit service along the corridor.

Operations During Congested Traffic Conditions

The proposed BRT and LRT systems would operate in mixed traffic conditions. The application of transit priority at signalized intersections would provide benefits in reducing delays to transit vehicles at intersections. Notwithstanding the benefits of signal priority, the operation of BRT and LRT systems would be largely subjected to the prevailing traffic conditions along the transit route. The proposed ACPM would be advantageous in this regard in that it would operate in an exclusive aerial ROW and thus not be subjected to prevailing traffic conditions on the road network.

Public Support for Project

Public support is essential for the proposed transit project to move forward and be implemented. Preliminary assessments indicated that there is a general public perception for the need to improve transit and traffic operating conditions in the Coconut Grove Community. However, it is perceived by many that improvements in the transit service should be more comprehensive and wide spread than the limited area considered for this study. The public has also expressed skepticism regarding the viability of the ACPM for rapid transit service. In addition, the ACPM raises the issue of visual intrusion. Should the ACPM mode move forward in future stages of the project, significant effort will be required to remove public skepticism regarding the viability of the ACPM for rapid transit service.

Consistency with Long Range Transportation Plan (LRTP)

Improvements to the transit system that are under consideration for this project are not included in the current Long Range Transportation Plan (LRTP) for Miami-Dade County. An amendment to the LRTP would be required to secure the future implementation of the proposed transit improvements. This raises the issue regarding the priority of the proposed project relative to other competing projects. Indications are that transit improvements to the Metrorail/Coconut Grove corridor would be of a relatively low

priority when compared with other competing projects. In a recent study addressing transit opportunities in Miami-Dade County, 18 priority corridors were identified for future BRT services. These 18 corridors represent routes along which priority would be given for future transit improvements. In that the Metrorail/Coconut Grove Corridor was not included among these priority routes would indicate that this corridor has a relatively low priority when compared with other corridors.

Cost Considerations

The BRT system offers the most overall cost efficient system with capital cost estimated at approximately $4,320,000 and annual operating/maintenance cost of $4,400,000. The ACPM mode offers a comparable operating cost of approximately $4,040,000 but the capital cost of $29,950,000 is significantly higher than the BRT mode. The LRT mode offers the highest capital cost estimated at $47,040,000 but the annual operating and maintenance cost is relatively low at approximately $2,130,000 per annum. The LRT and ACPM modes have the additional burden of property acquisition whereas no property acquisition is anticipated for the BRT mode.

Table 18: Comparative Assessment of Alternative Transit Modes

Evaluation Criteria	Prospective Transit Mode		
	BRT	LRT	ACPM
Preferred Route Alignments	Alternative 3	Alternative 3	Alternatives 1A
Capital Cost	$4,320,000	$47,040,000	$29,950,000
Annual Operating and Maintenance Cost	$4,400,000	$2,130,000	$4,040,000
ROW Acquisition	No ROW acquisition anticipated	Property acquisition anticipated for storage and maintenance facilities	Property acquisition anticipated for storage and maintenance facilities
Ridership	Expected ridership significantly below recommended levels for successful BRT implementation	Expected ridership significantly below recommended levels for successful LRT implementation.	Ridership is unlikely to attain levels that would justify public expenditure.
Operation in Exclusive ROW	Operation in mixed traffic with shared lanes.	Operation in mixed traffic with shared lanes.	Operation in exclusive aerial ROW.
Operations During Congested Traffic Conditions	Operations impacted by prevailing traffic operating conditions. Transit signal priority would provide some reduction in delays.	Operations impacted by prevailing traffic operating conditions. Transit signal priority would provide some reduction in delays.	Operations are independent of prevailing traffic operating conditions.
Traffic Impacts	BRT is expected to impact general traffic operations.	LRT is expected to impact general traffic operations.	No anticipated traffic impacts.
Public Support	No significant objections from limited public enquiries.	No significant objections from limited public enquiries.	Viewed with skepticism as a viable mode for public transit. Visual intrusion may be a public concern.
Integration into MDT system	BRT technology is fully compatible with existing MDT systems	The proposed LRT is consistent with plans for implementing streetcars in Downtown Miami and Miami Beach.	The ACPM technology would be unique for South Florida.
Consistency with LRTP	No transit improvements recommend in current LRTP for study corridor	No transit improvements recommend in current LRTP for study corridor	No transit improvements recommend in current LRTP for study corridor
Constructability	System can be easily implemented and integrated into the existing infrastructure.	No significant constructability issues are anticipated.	No significant constructability issues are anticipated.

8. CONCLUSIONS AND RECOMMENDATIONS

Based on the research and analyses conducted for this report, two primary areas of concern were identified that could limit the continuation of studies and further development of the proposed Metrorail/Coconut Grove Connector. These two areas of concern were: (1) Project Need and (2) Ridership. A discussion on these two aspects of the project follows.

Project Need

A necessary condition to move forward with the project is that a clear and justifiable need should be demonstrated for the proposed transit system. With an established need for the project then the function of the proposed transit service can be clearly defined and the form (BRT, LRT or ACPM) that is best suited to meet the function can be assessed. The research and analyses conducted for this preliminary study have not demonstrated a clear need for implementing a new transit system along the study corridor. In limited consultations with stakeholders in the Coconut Grove Community, many individuals have expressed a desire to see improvements to the existing transit service and overall traffic circulation in the community. In contrast to these public opinions, the assessment of transit operations data indicates that the existing transit system provides reasonably adequate service for the travel demand experienced along the study corridor. The following findings lend support to the adequacy of the existing transit service:

- Transit demand along the corridor is relatively low. Daily boardings on typical weekdays average only about 400 boardings per day. Daily boardings on Saturdays and Sundays average about 290 and 150 boardings per day respectively. In contrast, national data indicates that corridors with transit systems similar to that proposed in this study, experience daily riderships in the order of 5000 boardings or more per day.
- During typical weekday periods the existing transit service (Route 249) operates at a reasonable headway (15 minutes) for the travel demand volume.

- On board surveys indicate that the existing transit service does not experience an overcrowding problem.
- The existing service provides free ridership Mondays through Saturdays (Route 249).
- The existing transit system has a long service span that averages more than 20 hours daily - weekday service from 4:55 AM to 1:33 PM, Saturday service from 5:15 AM to 1:57 AM and Sunday service from 5:30 AM to 1:53 AM (data for Route 249, see Appendix A)
- The existing service provides good area coverage for the study corridor.

In further support of the adequacy of the existing system, in the Comprehensive Bus Operations Analysis that was conducted for the MDT in 2004, no improvements were recommended to the existing service (Route 249) other than that consideration should be give to charging a fee for the service in order to offset incurred costs. It therefore follows that further project studies should include a detailed assessment to establish the need for the project and hence define the function(s) that the transit system should serve.

Ridership

The analyses conducted for this study shows that the adequacy of expected ridership is a major factor that could hinder the implementation of the proposed transit systems. Although a more detailed ridership assessment may be conducted in future studies, the preliminary analyses conducted for this report indicate that the expected ridership along the corridor is substantially below the typical levels associated with rapid transit systems. TCRP Report 90 suggests that minimum ridership levels should be in the order of about 5000 boardings per day. In contrast the anticipated ridership along the corridor is ten folds less, approximately 500 boardings per day. The expected low ridership would negate the use of BRT and LRT systems based on traditional benefit/cost assessments. In the case of the ACPM, ridership may be somewhat more than the estimated 500 boardings per day due to the perceived attraction value associated with this transit mode. The ACPM mode is expected to attract additional

ridership from the non-commuter population and from visitors to the South Florida Area due to the attraction of the ride itself. The level of additional ridership that may be attributed to the "attraction value" of the ACPM is an area of uncertainty that should be further investigated in future stages of this project. Given the low levels of regular commuter riders, the anticipated additional ridership resulting from the attraction value of the ACPM would prove critical in determining the viability of this mode.

The findings from the study indicate that it would be challenging to justify implementation of a new BRT or LRT system for the Metrorail/Coconut Grove Connector, as currently proposed. These conventional transit systems may be more attractive as part of a wider and more comprehensive transit service for the community. The MPO's Long Range Transportation Plan includes a premium transit service along the Douglas Road Corridor extending from Douglas Road metrorail station to Miami International Airport. This planned transit service for the Douglas Road Corridor would provide an opportunity for incorporating the Metrorail/Coconut Grove Connector as part of a wider and more comprehensive transit service for the community. The attraction value of the ACPM provides an added dimension to the conventional rapid transit service. The attraction value of the ACPM may be adequate to stimulate the necessary ridership to cover the development, operating and maintenance cost for this technology. The ACPM would serve a dual function: 1) providing transportation services as a people mover and 2) providing an attraction for Coconut Grove and the wider South Florida Community. The success of this mode would be more dependent on its function as an attraction rather than a people mover.

Based on the findings from this study it can be concluded that the ridership expectations for the Metrorail/Coconut Grove connector would be inadequate to support a conventional premium transit service. It is recommended that further studies of the Metrorail/Coconut Grove Connector should consider incorporating the Connector as an extension to the planned transit service for the Douglas Road Corridor.

LIST OF APPENDICES

APPENDIX A

Comprehensive Bus Operations Analysis
Routes 249 and 22

Comprehensive Bus Operations Analysis

Route 249
Coconut Grove Circulator

Route Profile, Analysis, and Improvement Recommendations

prepared for
Miami Dade Transit
November, 2004

Center for Urban Transportation Research
University of South Florida

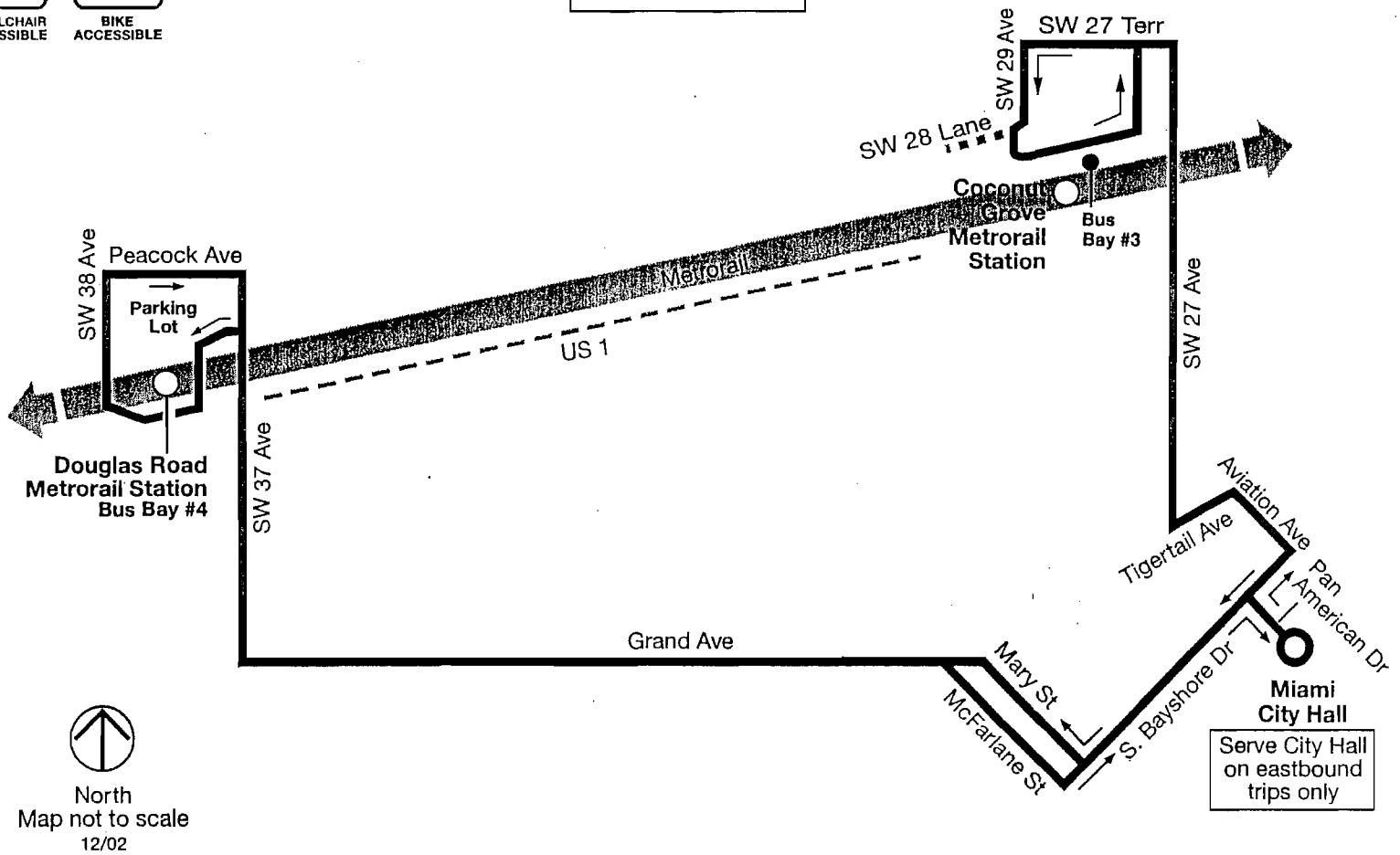
CUTR

Coconut Grove Circulator
Route 249

WHEELCHAIR ACCESSIBLE

BIKE ACCESSIBLE

Free Fare



EFFECTIVE: December 22, 2002

MDT Comprehensive Operations Analysis
Preliminary Recommendations – Route 249/Coconut Grove Circulator

Service

Route 249/Coconut Grove Circulator circulates through downtown Coconut Grove between the Douglas Road and Coconut Grove Stations.

Productivity/Maximum Loads

Highest productivity eastbound:	116 boardings per hour in the afternoon peak between Douglas Road Station and McFarlane & Grand
Highest productivity westbound:	85 boardings per hour in the afternoon peak between Coconut Grove Station and Grand & Virginia
Highest maximum load eastbound:	12 passengers (49% capacity) in the afternoon peak between Douglas Road Station and McFarlane & Grand
Highest maximum load westbound:	14 passengers (56% capacity) in the morning peak between Coconut Grove Station and Grand & Virginia

Options/Recommendations

1. Increase revenues by collecting fares on this route.

2. No service changes are recommended for this route. It serves its function of circulating through Coconut Grove.

Route 249, Coconut Grove Circulator Eastbound

	Segment Name		Weekday				Saturday		Sunday	
			AM Peak	PM Peak	Off Peak	Night	Day	Night	Day	Night
1	DOUGLAS RD STATION/3100 SW 37 AV	MCFARLANE RD/GRAND AV	0	3	0	2	0	2	0	0
2	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780 SW 27 AV	-1	0	-1	-1	0	-1	0	1
3										
4										
5										
6										
7										
8										
9										
10										
11										
		ROUTE TOTAL	-1	3	-1	1	0	1	0	1

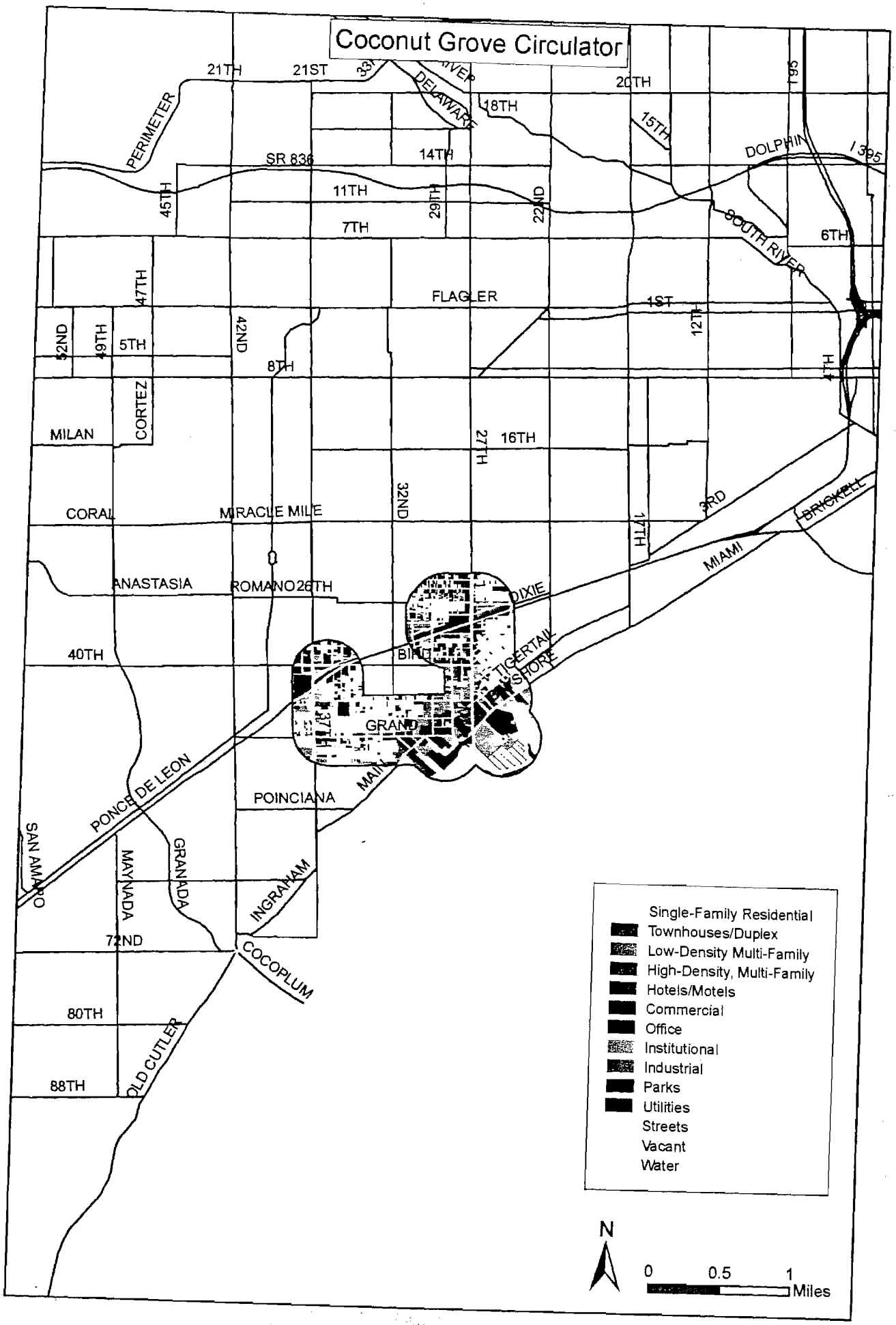
Route 249, Coconut Grove Circulator Eastbound

	Segment Name		Weekday				Saturday		Sunday	
			AM Peak	PM Peak	Off Peak	Night	Day	Night	Day	Night
1	COCONUT GROVE STA/2780 SW 27 AV	GRAND AV/VIRGINIA ST	4	0	0	1	0	2	0	-1
2	GRAND AV/VIRGINIA ST	DOUGLAS RD STATION/3100 SW 37 AV	-2	0	-2	0	-1	-2	-1	0
3										
4										
5										
6										
7										
8										
9										
10										
11										
		ROUTE TOTAL	2	0	-2	1	-1	0	-1	-1

Coconut Grove Circulator, Route 249 Operating Characteristics

Central Division

	Weekday	Saturday	Sunday	Daily Average
Daily Ridership (boardings) and Rank *(Jan. 2004 Ridership Report, Ranked Routes)*				
Interlined Route	no	no	no	not applicable
Annual Average Daily Ridership	797	711	410	729
Rank in System *(among 94 routes)*	61	44	49	57
Year's Ridership Trend *(Jan. 2003 to Jan. 2004)*	up 161%	up 203%	up 307%	144%
Month Closest to Annual Average	Apr.	Mar.	Apr.	not applicable
High Month *(with percent above average)*	Jun. +43%	Jul. +37%	Jul. +63%	not applicable
Low Month *(with percent below average)*	Nov. -69%	Nov. -44%	Nov. -65%	not applicable
Monthly Std. Dev. / Mean	39%	29%	37%	37%
Service Span				
Start Time *(24-hour clock face)*	4:55	5:15	5:30	not applicable
End Time *(24-hour clock face)*	1:33	1:57	1:53	not applicable
Total Service Span Hours *(24 hr. max.)*	20:38	20:42	20:23	20:36
Headways				
A.M. Peak Period	15	15	15	not applicable
Mid-Day	15	15	15	not applicable
P.M. Peak Period	15	15	15	not applicable
Night *(after 8 p.m.)*	15	15	15	not applicable
Distance & Speed				
Round Trip Alignment Distance *(miles)*	11.4	11.4	11.4	11
Round Trip Running Time *(hr:min)*	0:45	0:45	0:45	0:45
Round Trip Running Time *(observed hr:min)*	tbd	tbd	tbd	tbd
Schedule Average Speed *(mph)*	15.2	15.2	15.2	15.2
Observed Average Speed *(mph)*	tbd	tbd	tbd	tbd
Capacity & Equipment - Daily				
Daily Pull-Outs	8	8	8	8
AM Peak Pull Outs	3	3	3	3
PM Peak Pull Outs	3	3	3	3
Total 1-Way Trips	160	155	152	158
Equipment Type and Seats	mini bus	mini bus	mini bus	not applicable
Seats	25	25	25	0:0
Accessible	yes	yes	yes	not applicable
Bike Racks	yes	yes	yes	not applicable
Total Miles (day/trip)	1,008	983	968	998
Total Revenue Miles	912 (91%)	884 (90%)	866 (90%)	901 (90%)
Total Deadhead Miles	96 (9%)	100 (10%)	101 (10%)	97 (10%)
Seat Revenue Miles	22,800	22,088	21,660	22,535
Total Platform Hours *(hr:min)*	62:57	62:29	60:13	62:30
Revenue Hours (w/o recovery) *(hr:min)*	45:5 (72%)	43:33 (70%)	39:51 (66%)	44:7 (71%)
Scheduled Recovery Hours *(hr:min)*	12:56 (21%)	14:9 (23%)	15:32 (26%)	13:29 (22%)
Dead-Head Hours *(hr:min)*	4:56 (8%)	4:47 (8%)	4:50 (8%)	4:54 (8%)
Seat Revenue Hours	1,127	1,089	996	1,103
Boardings / Revenue Hour	**17.7**	**16.3**	**10.3**	**16.42**
Boardings / Seat Revenue Hour	**0.71**	**0.65**	**0.41**	**0.66**
Revenue & Costs *(Jan. 2004 Ridership Report)*				
Revenue per Passenger Trip	$0.00	$0.00	$0.47	$0.07
Direct Operating Cost per Passenger Trip	$4.64	$5.13	$8.61	$5.28
Direct Operating Cost per Revenue Hour	**$82.00**	**$83.72**	**$88.56**	**$83.19**
Net Cost per Passenger Trip	**$4.64**	**$5.13**	**$8.14**	**$5.21**
Direct Operating Recovery Ratio	**0.0%**	**0.0%**	**5.4%**	**0.8%**
Operating Recovery Ratio Rank in System *(1 is highest)*	92	66	61	84
Daily Pull Outs Reduction for 50% Recovery Ratio	8 of 8	8 of 8	8 of 8	24 of 24total
New Net Cost per Passenger Trip at Reduction	$0.00	$0.00	-$0.47	-$0.07
Average Daily Total Savings for Reallocation	$3,697	$3,646	$3,529	$3,666
Ridership Increase to Meet 50% Recovery Ratio	not possible	not possible	863%	123%


Coconut Grove Circulator
21TH
21ST
33
DELAWARE
20TH
18TH
15TH
PERIMETER
SR 836
14TH
DOLPHIN
I 395
I 95
45TH
11TH
29TH
22ND
7TH
SOUTH RIVER
6TH
47TH
FLAGLER
1ST
12TH
42ND
52ND
49TH
5TH
8TH
4TH
CORTEZ
MILAN
27TH
16TH
32ND
CORAL
MIRACLE MILE
17TH
3RD
BRICKELL
MIAMI
ANASTASIA
ROMANO
26TH
DIXIE
40TH
BIRD
TIGERTAIL
SHORE
37TH
GRAND
PONCE DE LEON
MAIN
POINCIANA
SAN AMARO
MAYNADA
GRANADA
INGRAHAM
72ND
COCOPLUM
80TH
OLD CUTLER
88TH
Single-Family Residential
Townhouses/Duplex
Low-Density Multi-Family
High-Density, Multi-Family
Hotels/Motels
Commercial
Office
Institutional
Industrial
Parks
Utilities
Streets
Vacant
Water
N
0
0.5
1
Miles

Coconut Grove Circulator, Route 249 Ridership Characteristics

	Weekday	Saturday	Sunday	Daily Average
Ridership (boardings) and Sample				
Annual Average *(MDT Ridership Reports Nov.02 - Oct.03)*	797	711	410	729
Sample	141	21	74	236
Percent Sample	17.7%	3.0%	18.1%	15.6%
Passenger Demographics				
Age Classification				
15 years or under	2.8%	4.8%	4.1%	3.3%
16 - 19 years	9.2%	9.5%	8.1%	9.1%
20 - 30 years	28.4%	28.6%	31.1%	28.8%
31 - 40 years	18.4%	4.8%	18.9%	16.6%
41 - 50 years	14.2%	19.0%	16.2%	15.2%
51 - 60 years	12.8%	28.6%	16.2%	15.5%
61 - 64 years	1.4%	0.0%	1.4%	1.2%
65 years or more	4.3%	4.8%	0.0%	3.7%
Percent Responding	*91.5%*	*100.0%*	*95.9%*	*93.3%*
Gender				
Female	44.7%	61.9%	37.8%	46.2%
Male	45.4%	38.1%	52.7%	45.4%
Percent Responding	*90.1%*	*100.0%*	*90.5%*	*91.6%*
Ethnic Origin				
Hispanic	41.8%	47.6%	37.8%	42.1%
African American	33.3%	33.3%	28.4%	32.6%
White / Non-Hispanic	10.6%	14.3%	23.0%	12.9%
Other	4.3%	4.8%	8.1%	4.9%
Percent Responding	*90.1%*	*100.0%*	*97.3%*	*92.5%*
Response Language	69% English, 31% Spanish, 0% Creole	62% English, 38% Spanish, 0% Creole	78% English, 22% Spanish, 0% Creole	69% English, 31% Spanish, 0% Creole
Physical Disability				
Have Disability making it difficult to use MetroBus	7.8%	4.8%	8.1%	7.4%
Percent Responding	*90.1%*	*100.0%*	*98.6%*	*92.7%*
Passenger Household Demographics				
Number in Household	2.5	2.6	2.7	2.6
Percent Responding	*92.9%*	*100.0%*	*91.9%*	*93.8%*
Number of Vehicles in Household	0.6	0.9	0.9	0.7
Percent Responding	*90.8%*	*100.0%*	*94.6%*	*92.6%*
Vehicles per Person in Household	0.25	0.33	0.35	0.28
Household Income (average)	$15,887	$20,833	$19,189	$17,065
Percent Responding	*87.2%*	*95.2%*	*87.8%*	*88.5%*

Coconut Grove Circulator, Route 249 Transit Use & Passenger Satisfaction

	Weekday	Saturday	Sunday	Daily Average
Passenger Transit Use Characteristics				
Frequency of MetroBus Use				
5 or more days per week	69.5%	57.1%	54.1%	65.5%
3 or 4 days per week	14.9%	14.3%	14.9%	14.8%
1 or 2 days per week	7.1%	14.3%	14.9%	9.2%
Less than once per week	1.4%	14.3%	14.9%	5.2%
Percent Responding	*92.9%*	*100.0%*	*98.6%*	*94.7%*
Tenure of MetroBus Use				
Less than 6 months	15.6%	19.0%	27.0%	17.7%
6 months to 1 year	17.7%	14.3%	8.1%	15.9%
1 to 2 years	15.6%	9.5%	18.9%	15.2%
More than 2 years	44.7%	57.1%	37.8%	45.5%
Percent Responding	*93.6%*	*100.0%*	*91.9%*	*94.3%*
Fare Payment				
Cash	18.4%	42.9%	27.0%	23.2%
Token	3.5%	0.0%	2.7%	2.9%
Monthly Metropass	8.5%	23.8%	10.8%	11.0%
Student Discount	2.8%	0.0%	4.1%	2.6%
Transfer	0.7%	4.8%	2.7%	1.6%
Golden Passport	5.0%	0.0%	2.7%	3.9%
Disability Discount	0.0%	0.0%	1.4%	0.2%
Other	51.8%	23.8%	41.9%	46.4%
Percent Responding	*90.8%*	*95.2%*	*93.2%*	*91.8%*
Passenger Satisfaction				
Cleanliness of Bus				
Excellent	27.7%	19.0%	20.3%	25.4%
Good	48.2%	23.8%	56.8%	46.0%
Fair	17.0%	38.1%	18.9%	20.3%
Poor	0.7%	19.0%	1.4%	3.4%
Percent Responding	*93.6%*	*100.0%*	*97.3%*	*95.1%*
Courtesy of Bus Driver				
Excellent	36.9%	38.1%	31.1%	36.2%
Good	27.7%	42.9%	37.8%	31.3%
Fair	12.8%	4.8%	6.8%	10.8%
Poor	0.7%	9.5%	0.0%	1.9%
Percent Responding	*78.0%*	*95.2%*	*75.7%*	*80.1%*

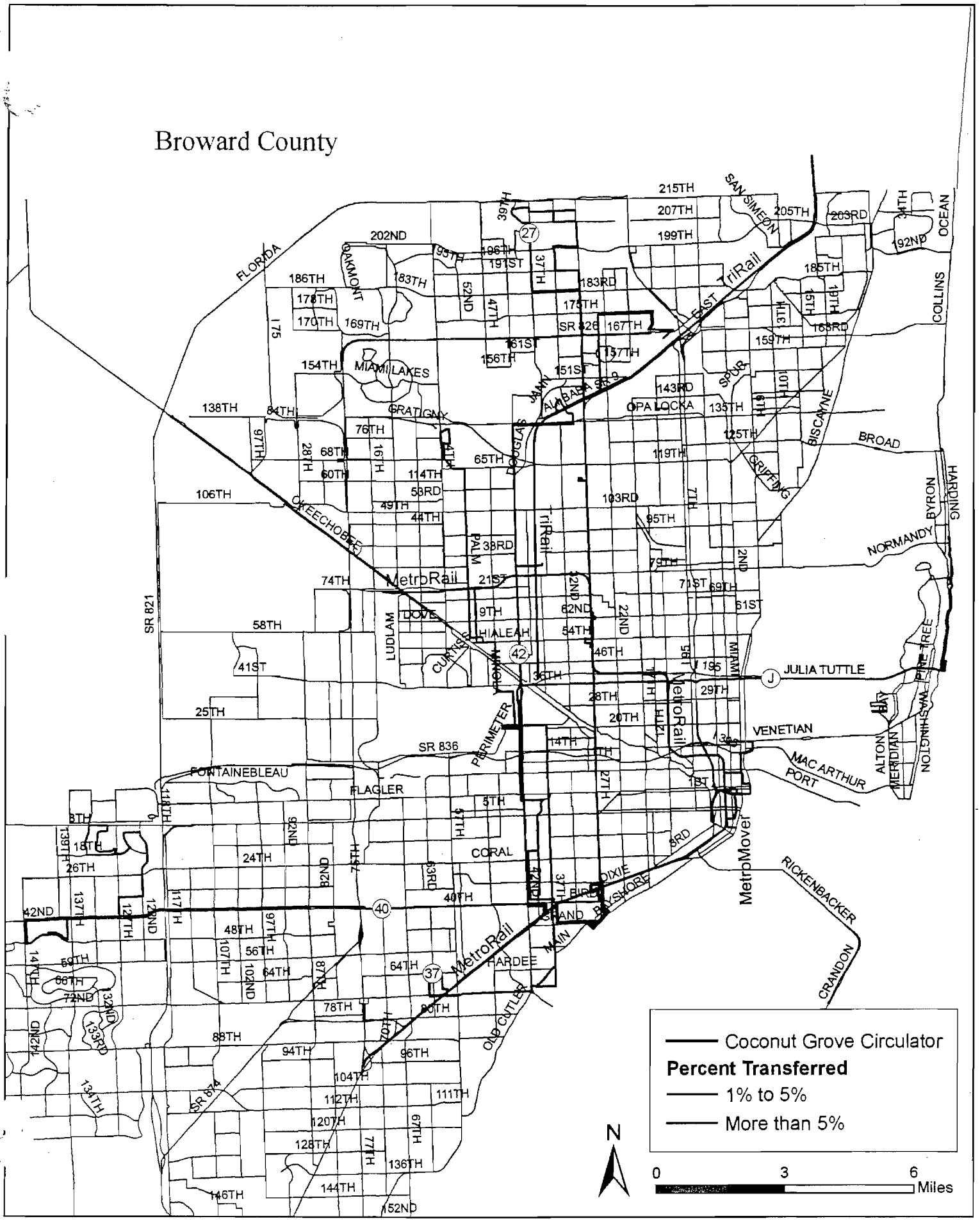
Coconut Grove Circulator, Route 249 Trip Characteristics

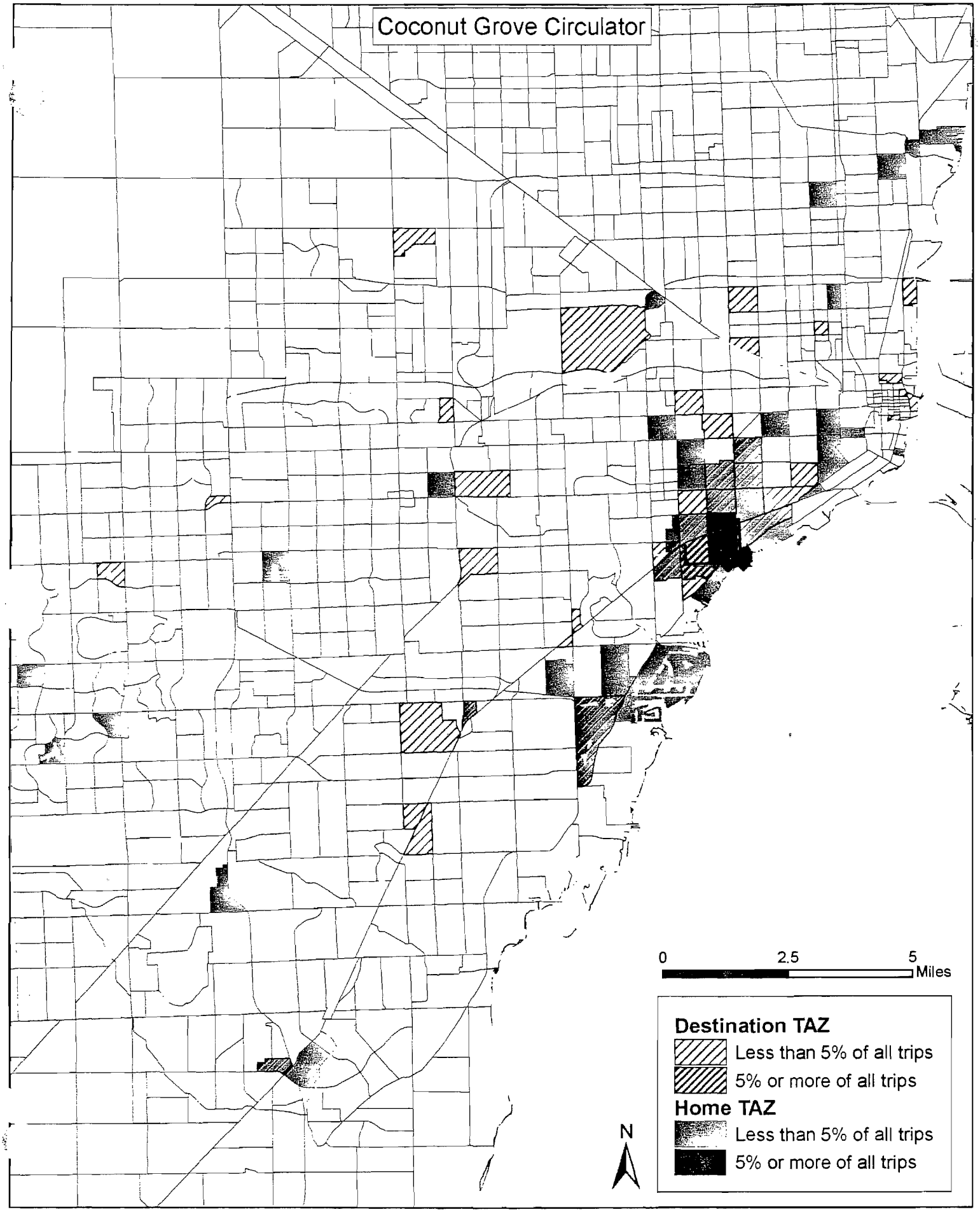
Trip Purpose	Weekday	Saturday	Sunday	Average Day
Home-Based Destination Trips				
Home-Based Work	39.7%	42.9%	20.3%	37.4%
Home-Based School	17.0%	0.0%	0.0%	12.2%
Home-Based Medical	1.4%	0.0%	1.4%	1.2%
Home-Based Shopping / Errands	3.5%	14.3%	6.8%	5.5%
Home-Based Visiting / Recreation	0.7%	0.0%	4.1%	1.1%
Home-Based Hotel	0.0%	0.0%	0.0%	0.0%
Home-Based Other	5.7%	14.3%	16.2%	8.4%
Home-Based - No Other Answer	1.4%	0.0%	2.7%	1.4%
Sum of All Home-Based Destination Trips Above	69.5%	71.4%	51.4%	67.2%
Occupation-Based (Work) Trip Chain Links				
Work-based Shopping / Errand	1.4%	0.0%	0.0%	1.0%
Work-based School	0.0%	0.0%	0.0%	0.0%
Work-based Medical	1.4%	0.0%	0.0%	1.0%
Work-based Visiting / Recreation	0.7%	0.0%	0.0%	0.5%
Work-based Hotel	0.0%	0.0%	0.0%	0.0%
Work-based Other	2.1%	9.5%	0.0%	2.9%
Work-based - No Other Answer	1.4%	0.0%	2.7%	1.4%
Sum of All Work-based Trips Above	7.1%	9.5%	2.7%	6.8%
Occupation-Based (School) Trip Chain Links				
School-based Shopping / Errand	0.0%	0.0%	0.0%	0.0%
School-based Medical	0.0%	0.0%	0.0%	0.0%
School-based Visiting / Recreation	0.0%	0.0%	0.0%	0.0%
School-based Hotel	0.0%	0.0%	0.0%	0.0%
School-based Other	1.4%	0.0%	0.0%	1.0%
School-based - No Other Answer	0.0%	0.0%	0.0%	0.0%
Sum of All School-based Trips Above	1.4%	0.0%	0.0%	1.0%
All Other Trip Purpose Pairs or Half Pairs	21.3%	19.0%	45.9%	24.5%
Percent Responding at least one answer	*99.3%*	*100.0%*	*100.0%*	*99.5%*

Coconut Grove Circulator, Route 249 Trip Characteristics

	Weekday	Saturday	Sunday	Average Day
Transportation Mode Used To and From Bus and MDT System Transfers				
Intermodal Combinations (to and from)				
Walk 0 to 3 blocks *(approx. 1/4 mile)*	48.2%	57.1%	45.9%	49.2%
Walk More than 3 blocks	12.8%	9.5%	12.2%	12.2%
Kiss-and-Ride (dropped off)	0.7%	0.0%	2.7%	0.9%
Park-and-Ride (drove self)	0.7%	0.0%	0.0%	0.5%
Bicycle	1.4%	0.0%	0.0%	1.0%
Tri-Rail	1.8%	0.0%	0.0%	1.3%
Other	1.4%	0.0%	2.0%	1.3%
MetroDade Transit System Transfers				
MetroRail	22.7%	23.8%	27.0%	23.5%
MetroBus	8.2%	9.5%	6.1%	8.1%
MetroMover	0.4%	0.0%	1.4%	0.4%
Sum of MDT System Transfers	1.8%	0.0%	2.7%	1.7%
Percent Responding	*98.2%*	*100.0%*	*97.3%*	*98.3%*
Number of MDT System Tranfers Reported				
1 Transfer	46.1%	57.1%	52.7%	48.6%
2 Transfers	7.1%	4.8%	8.1%	6.9%
3 Transfers	1.4%	0.0%	0.0%	1.0%
4 or more Transfers	0.0%	0.0%	0.0%	0.0%
Total MDT System Transfers	54.6%	61.9%	60.8%	56.5%
Percent Responding	*see above*	*see above*	*see above*	*see above*
Trnasfer Attitude				
Transfering Does Not Bother Passenger	52.5%	52.4%	55.4%	52.9%
One is Acceptable, But No More	22.7%	23.8%	28.4%	23.7%
Prefer Not to Make Any Transfers	10.6%	23.8%	9.5%	12.4%
Will Not Use Transit If Need to Transfer	3.5%	0.0%	1.4%	2.7%
Percent Responding	*89.4%*	*100.0%*	*94.6%*	*91.6%*

Coconut Grove Circulator




Coconut Grove Circulator
0
2.5
5
Miles
Destination TAZ
Less than 5% of all trips
5% or more of all trips
Home TAZ
Less than 5% of all trips
5% or more of all trips
N

ute	Pattern	Day	Time of Day	OP Hdwy
9	EB1	WkDy	Off-Peak	15

COCONUT GROVE CIRCULATOR

mi Dade Transit Comprehensive Bus Operations Analysis (
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	68	6900%	62	63	e	e	c	e
1	37	249 EB1 Seg 1 WkDy Off-Peak	DOUGLAS RD STATION/3100	MCFARLANE RD/GRAND AV	10	6	15	7	27%	3	13%	8	69	12	108
2	35	249 EB1 Seg 2 WkDy Off-Peak	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780	3	7	10	3	12%	2	8%	2	18	6	64

Percent Proxy TP for Route database 0%

ute	Pattern	Day	Time of Day	OP Hdwy
9	EB1	WkDy	AM Peak	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	68	6900%	62	63	e	e	c	e
1	8	249 EB1 Seg 1 WkDy AM Peak	DOUGLAS RD STATION/3100	MCFARLANE RD/GRAND AV	11	6	17	9	35%	4	15%	8	79	13	120
2	8	249 EB1 Seg 2 WkDy AM Peak	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780	4	9	13	1	5%	1	3%	3	25	8	79

oute	Pattern	Day	Time of Day	OP Hdwy
9	EB1	WkDy	PM Peak	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	68	6900%	62	63	e	e	c	e
1	6	249 EB1 Seg 1 WkDy PM Peak	DOUGLAS RD STATION/3100	MCFARLANE RD/GRAND AV	22	13	35	12	49%	8	30%	17	116	27	186
2	7	249 EB1 Seg 2 WkDy PM Peak	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780	6	13	19	6	24%	4	16%	4	30	12	97

oute	Pattern	Day	Time of Day	OP Hdwy
49	EB1	WkDy	Night	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	68	6900%	62	63	e	e	c	e
1	7	249 EB1 Seg 1 WkDy Night	DOUGLAS RD STATION/3100	MCFARLANE RD/GRAND AV	10	7	16	7	28%	3	12%	8	65	13	108
2	6	249 EB1 Seg 2 WkDy Night	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780	1	3	4	1	3%	1	2%	0	5	3	29

ıte	Pattern	Day	Time of Day	OP Hdwy
	EB1	Sat	Day	15

Miami Dade Transit Comprehensive Bus Operations Analysis (
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points	Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	5900%	62	63	c	c	c	c
46	249 EB1 Seg 1 Sat Day	DOUGLAS RD STATION/3100	MCFARLANE RD/GRAND AV	10	6	16	7	29%	4	16%	8	70	12	113
43	249 EB1 Seg 2 Sat Day	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780	2	6	8	3	11%	2	8%	1	14	5	56

ute	Pattern	Day	Time of Day	OP Hdwy
)	EB1	Sat	Night	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points	Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	5900%	62	63	c	c	c	c
12	249 EB1 Seg 1 Sat Night	DOUGLAS RD STATION/3100	MCFARLANE RD/GRAND AV	8	4	12	5	20%	3	11%	6	46	9	73
12	249 EB1 Seg 2 Sat Night	MCFARLANE RD/GRAND AV	COCONUT GROVE STA/2780	1	4	5	2	9%	2	8%	1	6	3	32

ute	Pattern	Day	Time of Day	OP Hdwy
9	EB1	Sun	Day	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points	Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	5900%	62	63	c	c	c	c
1	30	249 EB1 Seg 1 Sun Day	DOUGLAS RD STATION/3100 MCFARLANE RD/GRAND AV	8	4	12	6	25%	3	13%	6	56	9	86
2	29	249 EB1 Seg 2 Sun Day	MCFARLANE RD/GRAND AV COCONUT GROVE STA/2780	2	6	8	3	12%	2	9%	1	15	5	55

oute	Pattern	Day	Time of Day	OP Hdwy
9	EB1	Sun	Night	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points	Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	5900%	62	63	c	c	c	c
1	7	249 EB1 Seg 1 Sun Night	DOUGLAS RD STATION/3100 MCFARLANE RD/GRAND AV	4	1	5	4	14%	2	7%	3	31	4	36
2	7	249 EB1 Seg 2 Sun Night	MCFARLANE RD/GRAND AV COCONUT GROVE STA/2780	2	5	6	4	17%	4	14%	1	11	4	37

te	Pattern	Day	Time of Day	OP Hdwy
)	WB1	WkDy	Off-Peak	15

COCONUT GROVE CIRCULATOR

ıl Dade Transit Comprehensive Bus Operations Analysis (C
Ride Check Data Analysis Sheet - Route 249

Sample Trips		Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	66.0	69.0	62	63	c	c	c	c
37	249 WB1 Seg 1 WkDy Off-Peak	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST		8	4	12	7	26%	4	16%	7	55	10	81
36	249 WB1 Seg 2 WkDy Off-Peak	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780		4	8	12	4	16%	2	10%	2	41	8	126

Percent Proxy TP for Route database 0%

ıte	Pattern	Day	Time of Day	OP Hdwy
	WB1	WkDy	AM Peak	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Sample Trips		Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	66.0	69.0	62	63	c	c	c	c
8	249 WB1 Seg 1 WkDy AM Peak	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST		16	10	26	14	56%	9	36%	13	78	22	129
8	249 WB1 Seg 2 WkDy AM Peak	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780		5	10	16	2	10%	1	3%	3	63	10	183

ıte	Pattern	Day	Time of Day	OP Hdwy
)	WB1	WkDy	PM Peak	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Sample Trips		Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	66.0	69.0	62	63	c	c	c	c
6	249 WB1 Seg 1 WkDy PM Peak	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST		16	8	24	13	51%	10	39%	14	85	20	127
6	249 WB1 Seg 2 WkDy PM Peak	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780		9	20	29	10	38%	3	13%	6	69	18	213

ute	Pattern	Day	Time of Day	OP Hdwy
9	WB1	WkDy	Night	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Sample Trips		Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2			13	14	64	c	63	66.0	69.0	62	63	c	c	c	c
8	249 WB1 Seg 1 WkDy Night	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST		6	3	9	5	21%	3	13%	5	42	8	63
9	249 WB1 Seg 2 WkDy Night	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780		2	5	7	3	13%	2	8%	1	18	4	74

ute	Pattern	Day	Time of Day	OP Hdwy
)	WB1	Sat	Day	15

Miami Dade Transit Comprehensive Bus Operations Analysis (C
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14		64	c	63	59.0	59.0	62	63	e	c	c	e
	44	249 WB1 Seg 1 Sat Day	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST	11	9	21	8	32%	4	18%	10	50	17	92
	15	249 WB1 Seg 2 Sat Day	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780	4	10	14	5	20%	3	12%	3	44	9	152

ute	Pattern	Day	Time of Day	OP Hdwy
9	WB1	Sat	Night	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14		64	c	63	59.0	59.0	62	63	e	c	c	e
1	2	249 WB1 Seg 1 Sat Night	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST	1	0	1	1	2%	2	9%	0	3	0	3
2	2	249 WB1 Seg 2 Sat Night	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780	1	2	2	1	4%	1	3%	0	6	1	24

ute	Pattern	Day	Time of Day	OP Hdwy
9	WB1	Sun	Day	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14		64	c	63	59.0	59.0	62	63	e	c	c	e
1	29	249 WB1 Seg 1 Sun Day	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST	8	5	13	7	27%	4	18%	7	54	11	83
2	28	249 WB1 Seg 2 Sun Day	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780	3	7	10	2	10%	1	5%	2	33	6	106

oute	Pattern	Day	Time of Day	OP Hdwy
49	WB1	Sun	Night	15

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 249

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14		64	c	63	59.0	59.0	62	63	e	c	c	e
1	6	249 WB1 Seg 1 Sun Night	DOUGLAS RD STATION/3100	GRAND AV/VIRGINIA ST	6	3	9	5	19%	2	10%	5	61	7	87
2	7	249 WB1 Seg 2 Sun Night	GRAND AV/VIRGINIA ST	COCONUT GROVE STA/2780	2	6	8	3	10%	1	6%	1	18	5	79

Route 249 Coconut Grove Circulator
Summary Statistics, Spring 2004
(7 Operators)

Operator Statistics	Mentions
Regular operator	3
Occasional operator	3
Unspecified	1

Passenger Complaints	Mentions
Bus has poor transfer connections	0
Bus is late	5
Bus is overcrowded	3
Not enough bus shelters or benches	0
Other	2

Overall Rating	Mentions
Easy all of the time (1)	0
Easy most of the time (2)	1
Easy sometimes, Difficult sometimes (3)	1
Difficult most of the time (4)	2
Difficult all the time (5)	3
Average, Route 249	4.00
Average, All Routes	3.21

Operator Problems	Mentions
Poor restroom facilities	2
Not enough recovery time	0
Not enough deadhead time	2
Schedule too tight overall	5
Too much time in schedule	0
Other	5

Route 249 Coconut Grove Circulator
Summary of Bus Operator Observations, Spring 2004
(7 Operators)

	Route Segment	Stops in Segment	Scheduling Problems: Compl. per Stop	Scheduling Problems: N of Oper. Resp	Overcrowding Problems: Compl. per Stop	Overcrowding Problems: N of Oper. Resp	Shelters Inadequate or In Need of Repair: Bus Stops	Shelters Inadequate or In Need of Repair: Mentions by Operators
1	From: Douglas Rd. Station / 3100 SW 37 Av. To: McFarlane Rd. / Grand Av.	11	0.9	4	1.9	5		
2	From: McFarlane Rd. / Grand Av. To: Coconut Grove Station / 2780 SW 27 Av.	13	0.6	3	1.2	3		

APPENDIX B

Calculations for Ridership Estimates

Comprehensive Bus Operations Analysis

Route 22

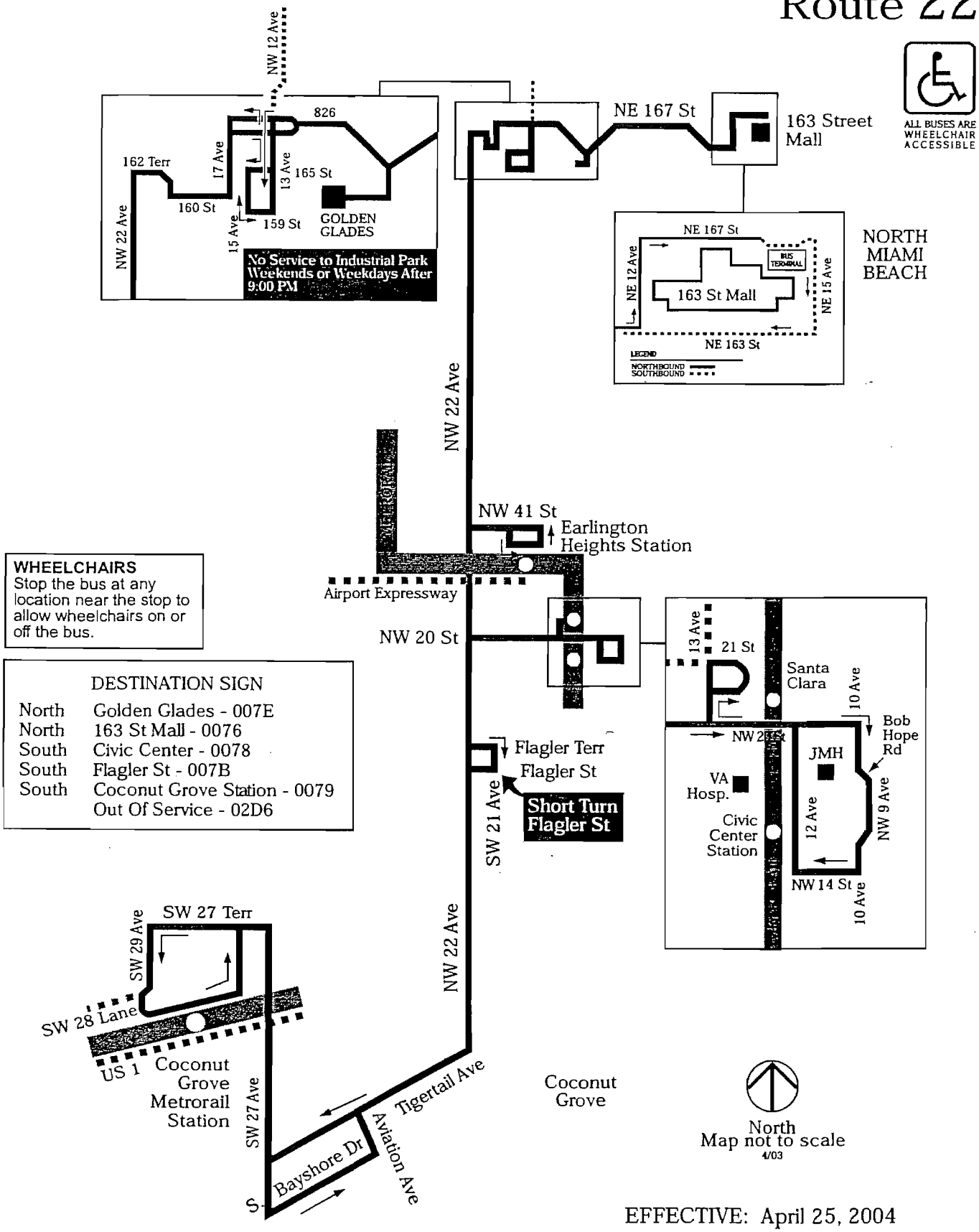
Route Profile, Analysis, and Improvement Recommendations

prepared for
Miami Dade Transit
November, 2004

Center for Urban Transportation Research
University of South Florida

CUTR

Route 22



WHEELCHAIRS
Stop the bus at any location near the stop to allow wheelchairs on or off the bus.

DESTINATION SIGN

North	Golden Glades - 007E
North	163 St Mall - 0076
South	Civic Center - 0078
South	Flagler St - 007B
South	Coconut Grove Station - 0079
	Out Of Service - 02D6

EFFECTIVE: April 25, 2004
CORRECTED:

MDT Comprehensive Operations Analysis
Preliminary Recommendations – Route 22

Service

Route 22 is a north-south route via NW/SW 22 Avenue, continuing east via NE 167 Street to the Mall at 163 Street. There are two branches to the south: the long branch continues via SW 22 Avenue to the Coconut Grove Station; the short branch serves the Civic Center area, terminating at the Santa Clara Station. There is also a deviation via NW 13 Avenue to an industrial park from NW 167 Street.

Productivity/Maximum Loads

Highest productivity northbound:	252 boardings per hour in the afternoon peak between NW 22 Avenue & NW 36 Street and Earlington Heights station (a short segment)
Highest productivity southbound:	97 boardings per hour in the morning peak between the Mall at 163 Street and Golden Glades Park & Ride
Highest maximum load northbound:	28 passengers (70% capacity) in the morning peak along NW 22 Avenue between Flagler and NW 36 Street
Highest maximum load southbound:	28 passengers (69% capacity) in the morning peak on two contiguous segments between NW 22 Avenue & NW 135 Street and Earlington Heights Station

Options/Recommendations

1. MDT is improving headways on Route 22 from 20 to 15 minutes (40 to 30 minutes on the Coconut Grove and Civic Center branches) during peak periods in its November line-up.

2. This is a complex route, but it appears to function well. No other changes are proposed.

Route 22 Northbound

	Segment Name		Weekday				Saturday		Sunday	
			AM Peak	PM Peak	Off Peak	Night	Day	Night	Day	Night
1	COCONUT GROVE STA/2780 SW 27 AV	SW 22 AV/SW 24 TE	0	1	1	2	2	0	-1	N/D
2	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	1	3	1	-1	-1	1	-1	N/D
3	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	1	-5	2	-2	0	5	-1	N/D
4	*SANTA CLARA STA/2050 NW 12 AV*	*NW 22 AV/NW 36 ST*	*0*	*0*	*3*	*0*	*3*	*0*	*-1*	N/D
5	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/2100 NW 41 ST	0	1	0	-1	1	0	0	N/D
6	EARLINGTON HGTS STA/2100 NW 41 ST	NW 22 AV/NW 78 ST	1	0	0	3	0	0	0	N/D
7	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	4	1	0	-1	1	1	0	N/D
8	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	0	1	6	0	4	0	0	N/D
9	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	12	-16	-1	-1	2	2	1	N/D
10	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	Ins.D	Ins.D	Ins.D	2	Ins.D	1	Ins.D	N/D
11										
		ROUTE TOTAL (LONG)	19	-14	12	1	12	10	-3	0
		ROUTE TOTAL (SANTA CLARA)	3	1	13	1	9	6	-4	

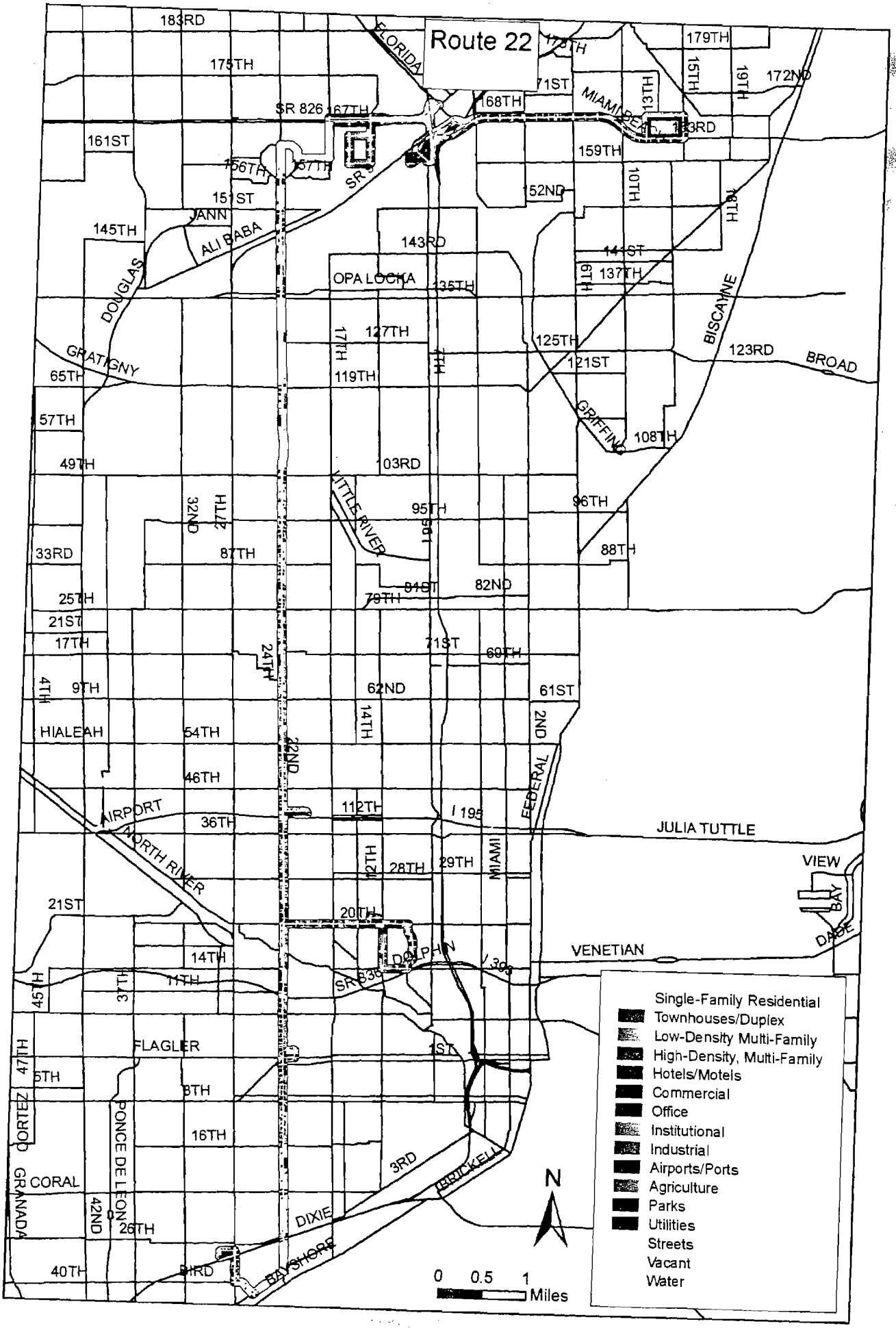
Route 22 Southbound

	Segment Name		Weekday				Saturday		Sunday	
			AM Peak	PM Peak	Off Peak	Night	Day	Night	Day	Night
1	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	6	8	2	0	3	1	2	N/D
2	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST	0	0	0	2	3	2	1	N/D
3	NW 17 AV/NW 166 ST	NW 22 AV/NW 135 ST	1	4	0	0	-1	0	0	N/D
4	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	3	-2	0	0	0	-2	0	N/D
5	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/2100 NW 41 ST	0	-2	-1	0	-4	0	-3	N/D
6	EARLINGTON HGTS STA/2100 NW 41 ST	NW 22 AV/NW 36 ST	0	-1	0	0	0	1	0	N/D
7	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	1	2	3	1	1	4	0	N/D
8	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW 12 AV*	*1*	*7*	*7*	*0*	*2*	*0*	*5*	N/D
9	NW 22 AV/W FLAGLER ST	SW 22 AV/SW 24 TE	5	1	-10	1	0	-1	0	N/D
10	SW 22 AV/SW 24 TE	COCONUT GROVE STA/2780 SW 27 AV	Ins.D	Ins.D	Ins.D	Ins.D	Ins.D	Ins.D	Ins.D	N/D
11										
		ROUTE TOTAL (LONG)	17	17	1	4	4	5	5	0
		ROUTE TOTAL (SANTA CLARA)	11	14	8	2	3	2	5	

Route 22 Operating Characteristics

Northeast Division

	Weekday	Saturday	Sunday	Daily Average
Daily Ridership (boardings) and Rank *(MBTA Ridership Report Nov.02 - Oct.03)*				
Interlined Route	no	no	no	not applicable
Annual Average Daily Ridership	3,646	2,280	1,296	3,115
Rank in System *(among 94 routes)*	22	22	24	22
Year's Ridership Trend *(Jan. 2003 to Jan. 2004)*	up 27%	up 17%	up 16%	22%
Month Closest to Annual Average	May	Feb.	Apr.	not applicable
High Month *(with percent above average)*	May +6%	Oct. +17%	Dec. +21%	not applicable
Low Month *(with percent below average)*	Aug. -7%	Jan. -15%	Nov. -30%	not applicable
Monthly Std. Dev. / Mean	4%	9%	14%	6%
Service Span				
Start Time *(24-hour clock face)*	4:38	5:08	5:05	not applicable
End Time *(24-hour clock face)*	00:33	00:01	22:51	not applicable
Total Service Span Hours *(24 hr. max.)*	19:55	18:53	17:46	19:28
Headways				
A.M. Peak Period	15/30	30/60	30/60	not applicable
Mid-Day	30/60	30/60	30/60	not applicable
P.M. Peak Period	15/30	30/60	30/60	not applicable
Night *(after 8 p.m.)*	60	60	60	not applicable
Distance & Speed				
Round Trip Alignment Distance *(miles)*	44.8	44.8	44.8	45
Round Trip Running Time *(hr:min)*	4:0	3:30	3:25	3:51
Round Trip Running Time *(observed hr:min)*	tbd	tbd	tbd	tbd
Schedule Average Speed *(mph)*	11.2	12.8	13.1	11.7
Observed Average Speed *(mph)*	tbd	tbd	tbd	tbd
Capacity & Equipment: Daily				
Daily Pull-Outs	18	14	12	17
AM Peak Pull Outs	13	6	6	11
PM Peak Pull Outs	12	6	6	10
Total 1-Way Trips	85	65	60	79
Equipment Type and Seats	full size bus	full size bus	full size bus	not applicable
Seats	40	40	40	0:0
Accessible	yes	yes	yes	not applicable
Bike Racks	yes	yes	yes	not applicable
Total Miles (day/trip)	1,896	1,390	1,331	1,743
Total Revenue Miles	1708 (90%)	1283 (92%)	1237 (93%)	1580 (91%)
Total Deadhead Miles	188 (10%)	108 (8%)	93 (7%)	163 (9%)
Seat Revenue Miles	68,324	51,304	49,496	63,203
Total Platform Hours *(hr:min)*	145:2	92:46	89:44	129:40
Revenue Hours (w/o recovery) *(hr:min)*	117:6 (81%)	71:46 (77%)	66:51 (74%)	103:27 (80%)
Scheduled Recovery Hours *(hr:min)*	19:34 (13%)	15:14 (16%)	17:49 (20%)	18:42 (14%)
Dead-Head Hours *(hr:min)*	8:19 (6%)	5:46 (6%)	5:4 (6%)	7:29 (6%)
Seat Revenue Hours	4,684	2,871	2,674	4,138
Boardings / Revenue Hour	**31.1**	**31.8**	**19.4**	**29.54**
Boardings / Seat Revenue Hour	**0.78**	**0.79**	**0.48**	**0.74**
Revenue & Costs *(Jan.2004 Ridership Report)*				
Revenue per Passenger Trip	$0.80	$0.70	$0.80	$0.79
Direct Operating Cost per Passenger Trip	$2.08	$2.38	$4.08	$2.41
Direct Operating Cost per Revenue Hour	**$64.65**	**$75.73**	**$79.06**	**$68.29**
Net Cost per Passenger Trip	**$1.27**	**$1.68**	**$3.28**	**$1.62**
Direct Operating Recovery Ratio	**38.7%**	**29.5%**	**19.5%**	**34.6%**
Operating Recovery Ratio Rank in System *(1 is highest)*	25	24	31	26
Daily Pull Outs Reduction for 50% Recovery Ratio	5 of 18	6 of 14	8 of 12	19 of 44total
New Net Cost per Passenger Trip at Reduction	$0.70	$0.66	$0.56	$0.67
Average Daily Total Savings for Reallocation	$2,103	$2,329	$3,523	$2,338
Ridership Increase to Meet 50% Recovery Ratio	29%	136%	267%	79%


Route 22
183RD
175TH
SR 826
167TH
161ST
156TH
151ST
145TH
143RD
OPA LOCKA
135TH
127TH
119TH
103RD
95TH
87TH
79TH
71ST
62ND
54TH
46TH
36TH
28TH
20TH
14TH
8TH
1ST
3RD
26TH
40TH
179TH
172ND
168TH
159TH
152ND
141ST
137TH
125TH
121ST
108TH
96TH
88TH
82ND
60TH
61ST
JULIA TUTTLE
VENETIAN
FLAGLER
CORAL
BRICKELL
DIXIE
BAYSHORE
BIRD
FLORIDA
MIAMI BEACH
SR 7
JANN
ALI BABA
DOUGLAS
GRATIGNY
LITTLE RIVER
GRIFFING
BISCAYNE
BROAD
AIRPORT
NORTH RIVER
FEDERAL
MIAMI
DOLPHIN
SR 836
I 195
I 395
VIEW
BAY
DADE
HIALEAH
PONCE DE LEON
GRANADA
CORTEZ
Single-Family Residential
Townhouses/Duplex
Low-Density Multi-Family
High-Density, Multi-Family
Hotels/Motels
Commercial
Office
Institutional
Industrial
Airports/Ports
Agriculture
Parks
Utilities
Streets
Vacant
Water
N
0 0.5 1
Miles

Route 22 Ridership Characteristics

	Weekday	Saturday	Sunday	Daily Average
Ridership (boardings) and Sample				
Annual Average *(MDT Ridership Reports Nov.02 - Oct.03)*	3,646	2,280	1,296	3,115
Sample	342	185	57	584
Percent Sample	9.4%	8.1%	4.4%	8.5%
Passenger Demographics				
Age Classification				
15 years or under	10.5%	2.7%	3.5%	8.4%
16 - 19 years	19.3%	13.0%	10.5%	17.1%
20 - 30 years	17.0%	15.1%	31.6%	18.8%
31 - 40 years	9.6%	14.6%	7.0%	10.0%
41 - 50 years	16.1%	29.7%	15.8%	18.0%
51 - 60 years	14.0%	18.9%	12.3%	14.5%
61 - 64 years	2.6%	1.1%	0.0%	2.0%
65 years or more	3.2%	2.7%	14.0%	4.7%
Percent Responding	*92.4%*	*97.8%*	*94.7%*	*93.5%*
Gender				
Female	46.8%	48.1%	50.9%	47.6%
Male	42.7%	46.5%	42.1%	43.1%
Percent Responding	*89.5%*	*94.6%*	*93.0%*	*90.7%*
Ethnic Origin				
Hispanic	25.7%	20.0%	28.1%	25.2%
African American	51.8%	65.4%	49.1%	53.3%
White / Non-Hispanic	3.5%	3.8%	5.3%	3.8%
Other	10.8%	8.1%	14.0%	10.9%
Percent Responding	*91.8%*	*97.3%*	*96.5%*	*93.3%*
Response Language	74% English, 21% Spanish, 5% Creole	81% English, 14% Spanish, 5% Creole	74% English, 26% Spanish, 0% Creole	75% English, 21% Spanish, 4% Creole
Physical Disability				
Have Disability making it difficult to use MetroBus	6.7%	3.8%	12.3%	7.1%
Percent Responding	*91.5%*	*95.1%*	*96.5%*	*92.7%*
Passenger Household Demographics				
Number in Household	3.2	3.2	2.7	3.1
Percent Responding	*91.8%*	*96.2%*	*89.5%*	*92.1%*
Number of Vehicles in Household	0.8	0.8	0.8	0.8
Percent Responding	*90.1%*	*93.0%*	*89.5%*	*90.4%*
Vehicles per Person in Household	0.27	0.24	0.29	0.27
Household Income (average)	$14,181	$11,743	$12,456	$13,587
Percent Responding	*78.1%*	*89.2%*	*71.9%*	*78.8%*

Route 22 Transit Use & Passenger Satisfaction

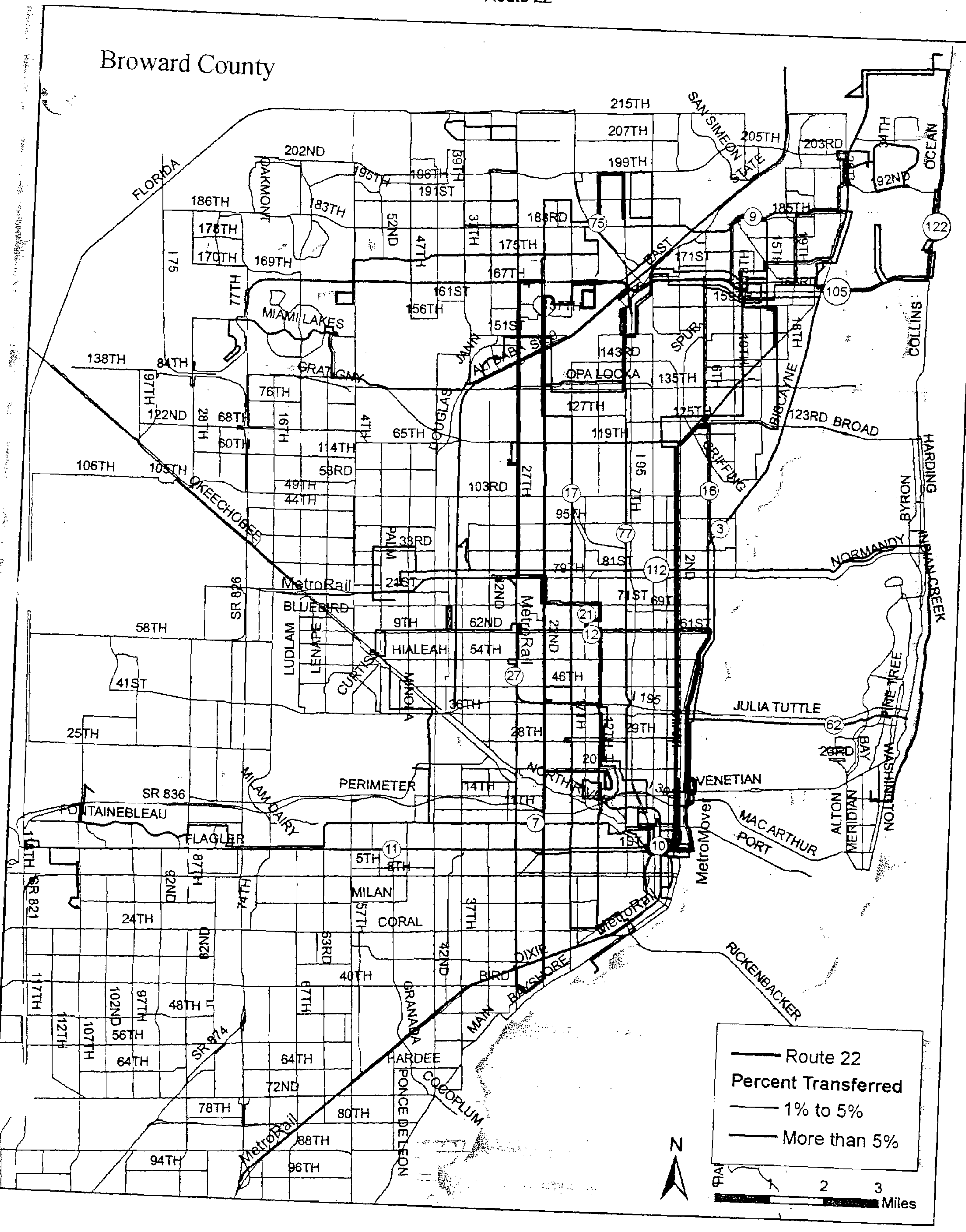
	Weekday	Saturday	Sunday	Daily Average
Passenger Transit Use Characteristics				
Frequency of MetroBus Use				
5 or more days per week	72.8%	71.9%	59.6%	70.8%
3 or 4 days per week	10.5%	10.8%	15.8%	11.3%
1 or 2 days per week	5.6%	11.9%	15.8%	7.9%
Less than once per week	5.6%	3.2%	0.0%	4.4%
Percent Responding	*94.4%*	*97.8%*	*91.2%*	*94.5%*
Tenure of MetroBus Use				
Less than 6 months	11.7%	9.2%	12.3%	11.4%
6 months to 1 year	9.1%	5.4%	3.5%	7.7%
1 to 2 years	9.4%	10.3%	15.8%	10.4%
More than 2 years	63.2%	71.4%	59.6%	63.8%
Percent Responding	*93.3%*	*96.2%*	*91.2%*	*93.4%*
Fare Payment				
Cash	30.7%	20.5%	38.6%	30.4%
Token	3.8%	4.9%	7.0%	4.4%
Monthly Metropass	28.7%	50.3%	15.8%	29.9%
Student Discount	14.6%	7.0%	1.8%	11.7%
Transfer	6.7%	10.8%	10.5%	7.9%
Golden Passport	4.4%	3.8%	12.3%	5.4%
Disability Discount	3.2%	1.1%	1.8%	2.7%
Other	2.9%	0.5%	3.5%	2.7%
Percent Responding	*95.0%*	*98.9%*	*91.2%*	*95.0%*
Passenger Satisfaction				
Cleanliness of Bus				
Excellent	7.0%	11.9%	17.5%	9.2%
Good	43.6%	63.2%	36.8%	45.4%
Fair	29.5%	15.7%	28.1%	27.3%
Poor	13.7%	7.0%	12.3%	12.6%
Percent Responding	*93.9%*	*97.8%*	*94.7%*	*94.6%*
Courtesy of Bus Driver				
Excellent	20.5%	29.7%	17.5%	21.4%
Good	40.6%	50.3%	29.8%	40.5%
Fair	14.3%	9.2%	14.0%	13.6%
Poor	5.0%	2.2%	3.5%	4.4%
Percent Responding	*80.4%*	*91.4%*	*64.9%*	*79.8%*

Route 22 Trip Characteristics

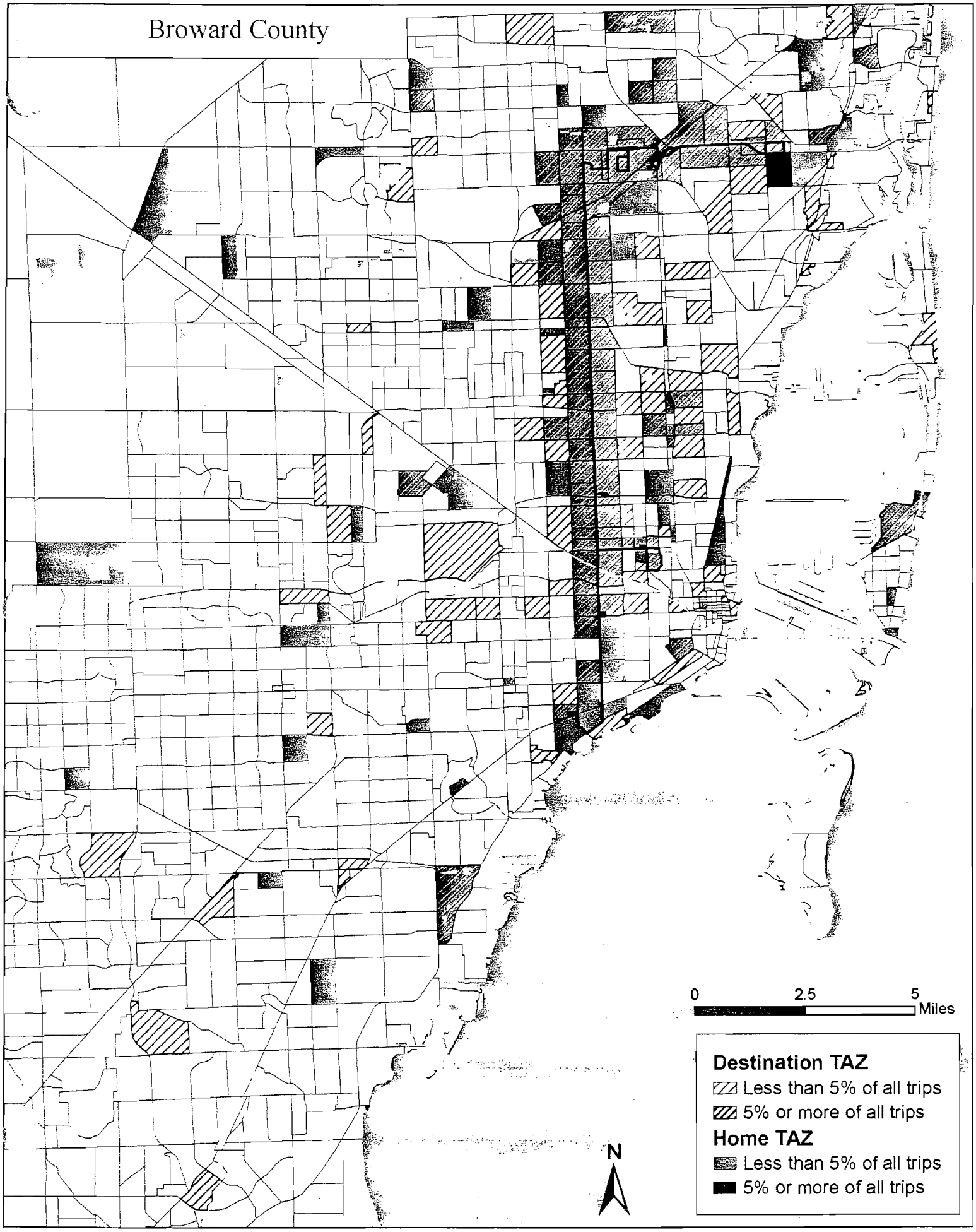
Trip Purpose	Weekday	Saturday	Sunday	Average Day
Home-Based Destination Trips				
Home-Based Work	34.5%	47.0%	22.8%	34.6%
Home-Based School	17.5%	3.2%	1.8%	13.2%
Home-Based Medical	4.4%	2.2%	3.5%	3.9%
Home-Based Shopping / Errands	6.7%	14.1%	12.3%	8.6%
Home-Based Visiting / Recreation	0.6%	0.5%	0.0%	0.5%
Home-Based Hotel	0.0%	0.0%	0.0%	0.0%
Home-Based Other	4.7%	11.4%	15.8%	7.2%
Home-Based - No Other Answer	1.8%	4.3%	7.0%	2.9%
Sum of All Home-Based Destination Trips Above	70.2%	82.7%	63.2%	71.0%
Occupation-Based (Work) Trip Chain Links				
Work-based Shopping / Errand	1.8%	1.6%	3.5%	2.0%
Work-based School	0.6%	0.0%	0.0%	0.4%
Work-based Medical	0.0%	0.0%	0.0%	0.0%
Work-based Visiting / Recreation	0.6%	0.5%	0.0%	0.5%
Work-based Hotel	0.0%	0.0%	0.0%	0.0%
Work-based Other	0.9%	1.6%	5.3%	1.6%
Work-based - No Other Answer	0.0%	1.1%	7.0%	1.2%
Sum of All Work-based Trips Above	3.8%	4.9%	15.8%	5.7%
Occupation-Based (School) Trip Chain Links				
School-based Shopping / Errand	1.5%	0.0%	0.0%	1.0%
School-based Medical	0.0%	0.0%	0.0%	0.0%
School-based Visiting / Recreation	0.0%	0.0%	0.0%	0.0%
School-based Hotel	0.0%	0.0%	0.0%	0.0%
School-based Other	1.8%	0.0%	0.0%	1.3%
School-based - No Other Answer	0.6%	0.0%	0.0%	0.4%
Sum of All School-based Trips Above	3.8%	0.0%	0.0%	2.7%
All Other Trip Purpose Pairs or Half Pairs	21.3%	11.9%	21.1%	20.0%
Percent Responding at least one answer	*99.1%*	*99.5%*	*100.0%*	*99.3%*

Route 22 Trip Characteristics

	Weekday	Saturday	Sunday	Average Day
Transportation Mode Used To and From Bus and MDT System Transfer				
Intermodal Combinations (to and from)				
Walk 0 to 3 blocks *(approx. 1/4 mile)*	56.6%	72.4%	42.1%	56.8%
Walk More than 3 blocks	15.8%	8.6%	21.1%	15.5%
Kiss-and-Ride (dropped off)	1.9%	1.1%	1.8%	1.8%
Park-and-Ride (drove self)	0.6%	0.0%	0.0%	0.4%
Bicycle	0.6%	0.3%	0.0%	0.5%
Tri-Rail	1.0%	0.3%	1.8%	1.0%
Other	2.0%	0.8%	3.5%	2.1%
MetroDade Transit System Transfers				
MetroRail	5.8%	7.6%	8.8%	6.5%
MetroBus	12.6%	8.1%	15.8%	12.4%
MetroMover	1.2%	0.0%	0.0%	0.8%
Sum of MDT System Transfers	1.9%	0.8%	5.3%	2.2%
Percent Responding	*98.1%*	*99.2%*	*94.7%*	*97.8%*
Number of MDT System Tranfers Reported				
1 Transfer	27.2%	25.9%	42.1%	29.1%
2 Transfers	6.7%	2.2%	3.5%	5.6%
3 Transfers	0.0%	0.5%	0.0%	0.1%
4 or more Transfers	0.0%	0.0%	0.0%	0.0%
Total MDT System Transfers	33.9%	28.6%	45.6%	34.8%
Percent Responding	*see above*	*see above*	*see above*	*see above*
Trnasfer Attitude				
Transfering Does Not Bother Passenger	62.0%	71.4%	52.6%	62.0%
One is Acceptable, But No More	15.5%	16.2%	10.5%	14.9%
Prefer Not to Make Any Transfers	8.2%	6.5%	19.3%	9.5%
Will Not Use Transit If Need to Transfer	4.1%	1.1%	0.0%	3.1%
Percent Responding	*89.8%*	*95.1%*	*82.5%*	*89.5%*


Broward County
Route 22
Percent Transferred
1% to 5%
More than 5%
N
1
2
3
Miles
MetroRail
MetroMover
OKEECHOBEE
BISCAYNE
JULIA TUTTLE
MAC ARTHUR
RICKENBACKER
PERIMETER
FONTAINEBLEAU
FLAGLER
CORAL
BAYSHORE
DIXIE
COCOPLUM
PONCE DE LEON
NORMANDY
HIALEAH
OPA LOCKA
VENETIAN
COLLINS
GRATIGNY
MIAMI LAKES

Route 22


Broward County
0
2.5
5
Miles
N
Destination TAZ
Less than 5% of all trips
5% or more of all trips
Home TAZ
Less than 5% of all trips
5% or more of all trips

ute	Pattern	Day	Time of Day	OP Hdwy
	NBALL	WkDy	Off-Peak	30

aml Dade Transit Comprehensive Bus Operations Analysis (C
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2	13		14	64	c	63	66	6900%	62	6300%	c	c	c	c
6	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	10	1	11	9	23%	8	19%	5	60	5	66
5	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	14	7	20	16	40%	11	27%	9	89	14	133
5	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	9	14	22	14	35%	9	21%	3	38	9	98
10	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*	*10*	*4*	*14*	*8*	*19%*	*4*	*10%*	*5*	*45*	*7*	*62*
15	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	8	2	10	13	31%	9	23%	6	201	7	253
16	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	11	8	19	18	44%	14	35%	4	59	8	106
14	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	7	12	19	17	44%	13	32%	2	32	5	88
13	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	3	6	9	11	28%	8	21%	1	19	3	52
12	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	10	4	15	15	37%	8	20%	3	59	5	83
3	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL*	*13*	*1*	*15*	*18*	*45%*	*8*	*21%*	*4*	*83*	*5*	*91*
15	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	5	23	28	16	41%	10	26%	1	11	8	67

Percent Proxy TP for Route database 0

ute	Pattern	Day	Time of Day	OP Hdwy
	NBALL	WkDy	AM Peak	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2	13		14	64	c	63	66	6900%	62	6300%	c	c	c	c
1	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	8	0	8	8	20%	7	18%	4	60	4	60
1	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	14	3	17	19	48%	13	31%	9	93	11	113
1	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	15	17	32	28	70%	21	54%	6	69	13	148
4	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*	*12*	*3*	*16*	*10*	*24%*	*4*	*10%*	*6*	*67*	*8*	*85*
5	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	5	3	9	13	32%	11	29%	4	162	6	264
5	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	15	13	28	19	49%	16	39%	6	72	11	135
7	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	15	11	26	21	53%	19	46%	4	60	7	105
6	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	5	10	15	21	52%	18	45%	2	32	5	92
5	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	13	9	22	20	51%	14	34%	4	64	7	108
0	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL direct*											
5	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	7	27	34	24	61%	16	41%	2	19	10	84

ıte	Pattern	Day	Time of Day	OP Hdwy
	NBALL	WkDy	PM Peak	30

ml Dade Transit Comprehensive Bus Operations Analysis (C
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	6900%	62	6300%	c	c	c	c
1	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	10	1	11	10	25%	6	14%	5	55	6	60
1	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	6	10	16	4	10%	2	4%	4	30	11	80
1	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	1	1	2	0	0%	0	0%	0	9	1	17
4	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*	*8*	*2*	*9*	*7*	*18%*	*3*	*8%*	*4*	*11*	*5*	*14*
5	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	12	2	14	16	39%	10	26%	9	252	10	290
5	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	9	7	16	20	51%	17	43%	4	46	6	80
5	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	8	15	23	19	47%	14	34%	2	32	6	93
5	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	3	6	9	9	23%	6	16%	1	12	3	42
4	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	11	5	17	15	38%	8	19%	4	73	5	111
1	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL*	*5*	*0*	*5*	*11*	*28%*	*7*	*17%*	*2*	*38*	*2*	*38*
5	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	4	21	25	14	36%	8	19%	1	11	7	72

ute	Pattern	Day	Time of Day	OP Hdwy
	NBALL	WkDy	Night	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	6900%	62	6300%	c	c	c	c
1	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	1	0	1	1	3%	1	3%	1	7	1	7
1	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	2	1	3	3	8%	2	5%	1	20	2	30
1	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	1	2	3	2	5%	1	3%	0	9	1	26
0	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*											
1	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	7	0	7	8	20%	5	11%	5	420	5	420
1	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	4	1	5	12	30%	11	27%	2	20	2	25
1	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	0	7	7	10	25%	6	15%	0	0	2	47
2	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	2	6	8	5	11%	2	5%	1	13	3	50
2	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	9	4	13	6	15%	2	5%	3	73	4	107
0	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL direct*											
2	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	2	13	15	7	18%	4	9%	1	9	4	64

Route	Pat	Day	Time of Day	OP Hdy
22	NBALL	Sat	Day	30

Miami Dade Transit Comprehensive Bus Operations Analys. (CBOA)
Ride Check Data Analysis Sheet - Route 22

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
	2		13	14	64	c	63	68	6900%	62	6300%	c	c	c	c
1	9	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	5	0	6	5	13%	4	9%		31		34
2	9	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	8	4	11	11	26%	7	17%		64		94
3	9	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	10	9	19	13	32%	9	23%		57		111
4	10	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*	*8*	3	*11*	*5*	*13%*	3	*6%*		*47*		*67*
5	19	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	4	2	6	10	24%	8	20%		121		160
6	19	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	8	6	14	14	34%	11	27%		55		94
7	19	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	5	6	10	13	32%	11	27%		26		57
8	19	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	4	4	9	12	31%	10	26%		29		58
9	17	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	9	3	12	17	43%	11	28%		102		130
10	2	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL*	*9*	*5*	*14*	*18*	*45%*	*14*	*36%*		*77*		*116*
11	19	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	6	22	28	18	46%	13	32%		13		66

Route	Pattern	Day	Time of Day	OP Hdwy
22	NBALL	Sat	Night	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
	2		13	14	64	c	63	68	6900%	62	6300%	c	c	c	c
1	3	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	7	0	7	7	18%	7	17%	4	57	4	60
2	3	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	1	2	3	7	17%	4	11%	1	8	2	25
3	3	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	5	7	12	4	11%	2	5%	2	26	5	58
4	1	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*	*1*	*0*	*1*	*1*	*3%*	*0*	*1%*	*1*	*12*	*1*	*12*
5	4	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	2	1	3	2	6%	2	5%	1	54	2	77
6	4	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	7	3	9	6	16%	4	11%	3	57	4	82
7	4	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	6	9	15	11	28%	8	19%	2	35	4	84
8	4	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	2	4	6	7	18%	3	7%	1	15	2	46
9	4	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	10	6	16	7	16%	4	9%	3	84	5	138
10	0	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL direct*											
11	3	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	1	14	15	7	18%	4	9%	0	5	4	68

ute	Pattern	Day	Time of Day	OP Hdwy
	NBALL	Sun	Day	30

ıml Dade Transit Comprehensive Bus Operations Analysis (C
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2	13	14		64	c	63	68	6900%	62	6300%	c	c	c	c
5	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	3	0	3	3	7%	3	7%	1	23	1	23
5	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	5	2	7	6	16%	4	11%	2	41	3	56
5	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	2	4	7	7	17%	5	12%	1	16	1	47
5	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*	*4*	*1*	*5*	*4*	*9%*	*1*	*3%*	2	*28*	*2*	*34*
11	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	3	1	3	5	13%	4	10%	1	89	1	111
11	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	5	2	7	9	23%	7	17%	2	38	2	52
10	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	3	6	9	9	23%	6	16%	1	20	2	60
10	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	3	3	6	6	16%	5	13%	1	19	1	40
3	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	5	2	7	11	28%	8	21%	2	52	2	80
7	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL*	*5*	*2*	*7*	*7*	*18%*	*4*	*10%*	*1*	*59*	*1*	*75*
10	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	3	12	15	10	24%	7	17%	0	7	3	35

ute	Pattern	Day	Time of Day	OP Hdwy
	NBALL	Sun	Night	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2	13	14		64	c	63	68	6900%	62	6300%	c	c	c	c
2	22 NB1 Seg 1 WkDy Off-Peak	COCONUT GROVE STA/2780	SW 22 AV/SW 24 TE	2	0	2	2	4%	2	4%		10		10
2	22 NB1 Seg 2 WkDy Off-Peak	SW 22 AV/SW 24 TE	NW 22 AV/W FLAGLER ST	7	3	10	6	14%	4	9%	4	46	6	67
2	22 NB1 Seg 3 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	NW 22 AV/NW 36 ST	3	4	7	5	13%	3	9%	1	18	3	46
0	22 NB1 Seg 4 WkDy Off-Peak	*SANTA CLARA STATION*	*NW 22 AV/NW 36 ST*											
2	22 NB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 36 ST	EARLINGTON HGTS STA/210	7	0	7	11	26%	7	18%	5	280	5	280
2	22 NB1 Seg 6 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 78 ST	4	2	5	13	31%	11	27%	1	28	2	40
3	22 NB1 Seg 7 WkDy Off-Peak	NW 22 AV/NW 78 ST	NW 22 AV/NW 135 ST	3	6	9	15	38%	12	30%	1	16	2	52
3	22 NB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 17 AV/NW 166 ST	2	4	6	10	24%	8	19%	1	13	2	43
2	22 NB1 Seg 9 WkDy Off-Peak	NW 17 AV/NW 166 ST	GOLDEN GLADES/TERMINAL	13	3	16	19	48%	9	23%	4	156	5	186
1	22 NB1 Seg 10 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*GOLDEN GLADES/TERMINAL*	*3*	*0*	*3*	*6*	*15%*	*4*	*10%*	*1*	*45*	*1*	*45*
3	22 NB1 Seg 11 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NE 167 ST/NE 15 AV	2	15	17	16	40%	11	27%	1	11	5	64

Route	Patt	Day	Time of Day	OP Hdw
22	SB ALL	WkDy	Off-Peak	30

Miami Dade Transit Comprehensive Bus Operations Analys A)
Ride Check Data Analysis Sheet - Route 22

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14		64	c	63	69	69	62	63	c	c	c	c
1	16	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	26	15	41	20	49%	14	35%	8	95	12	149
2	17	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	2	2	4	12	29%	10	25%	1	8	1	19
3	2	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct	1	1	1	7	16%	7	16%	0	3	0	6
4	16	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*8*	*4*	*12*	*15*	*38%*	*11*	*28%*	*3*	*43*	*4*	*63*
5	17	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	11	8	19	19	47%	15	36%	3	58	5	98
6	17	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/210	11	12	23	21	52%	16	40%	4	63	9	136
7	16	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 36 ST	0	2	2	15	37%	14	35%	1	9	4	47
8	4	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	10	12	22	18	44%	14	35%	4	42	9	93
9	12	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST	5	15	20	15	37%	11	27%	2	25	8	102
10	13	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW*	*3*	*4*	*7*	*7*	*17%*	*5*	*13%*	*3*	*18*	*6*	*38*
11	4	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	6	9	15	14	34%	10	26%	4	44	10	106
12	4	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	0.3	8.0	8.3	9.0	0.2	6.4	0.2	0.1	0.4	3.9	13.7

Percent Proxy TP for Route database 1%

Route	Pattern	Day	Time of Day	OP Hdw
22	SB ALL	WkDy	AM Peak	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Segment	Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14		64	c	63	69	69	62	63	c	c	c	c
1	4	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	32	18	50	26	66%	17	43%	9	97	15	152
2	3	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	1	8	9	15	37%	10	26%	0	6	3	43
3	0	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct											
4	4	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*12*	*3*	*14*	*16*	*39%*	*11*	*26%*	*4*	*51*	*5*	*63*
5	4	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	19	10	29	28	69%	21	52%	5	63	8	97
6	4	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/210	15	25	40	28	69%	24	60%	6	80	16	206
7	4	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 36 ST	1	1	3	16	39%	15	38%	3	25	5	50
8	1	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	22	23	45	31	78%	26	66%	9	94	18	193
9	4	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST	4	10	14	13	32%	10	25%	2	19	6	67
10	3	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW*	*1*	*2*	*4*	*4*	*10%*	*3*	*7%*	*1*	*7*	*3*	*18*
11	1	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	11	21	32	24	60%	22	54%	7	83	21	240
12	1	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	4.0	18.0	22.0	20.0	0.5	16.3	0.4	1.9	8.0	10.5	44.0

te	Pattern	Day	Time of Day	OP Hdwy
	SB ALL	WkDy	PM Peak	30

,ni Dade Transit Comprehensive Bus Operations Analysis (CB
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	59	62	63	c	c	c	c
4	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	29	12	41	20	51%	15	37%	9	79	12	110
4	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	3	2	5	19	47%	18	44%	1	15	2	24
0	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct											
4	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*11*	*9*	*21*	*22*	*55%*	*17*	*44%*	*4*	*49*	*7*	*90*
5	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	8	13	20	23	58%	20	50%	2	41	6	107
5	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/2101	9	15	24	19	47%	12	31%	4	47	10	129
6	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/2101	NW 22 AV/NW 36 ST	0	1	1	10	24%	9	23%	1	6	2	16
2	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	13	12	25	14	35%	11	27%	5	65	10	125
3	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST	8	11	19	5	13%	3	6%	3	33	7	78
3	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW*	*3*	*5*	*9*	*4*	*9%*	*2*	*6%*	*3*	*14*	*7*	*36*
2	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	3	8	11	11	26%	8	21%	2	23	7	83
2	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	0.5	7.0	7.5	6.0	0.2	4.8	0.1	0.2	1.1	3.6	16.4

te	Pattern	Day	Time of Day	OP Hdwy
	SB ALL	WkDy	Night	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	58	59	62	63	c	c	c	c
1	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	21	5	26	16	40%	12	29%	6	105	8	130
1	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	2	4	6	17	43%	16	40%	1	10	2	30
0	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct											
1	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*5*	*4*	*9*	*15*	*38%*	*14*	*34%*	*2*	*30*	*3*	*54*
1	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	4	8	12	17	43%	15	37%	1	27	3	80
1	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/2101	3	9	12	11	28%	9	24%	1	23	5	90
1	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/2101	NW 22 AV/NW 36 ST	0	1	1	4	10%	4	10%	0	0	2	30
1	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	3	5	8	5	13%	3	9%	1	22	3	60
0	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST											
0	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW 12 AV*											
1	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	1	1	2	2	5%	2	5%	1	10	1	20
1	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	0.0	1.0	1.0	2.0	0.1	1.4	0.0	0.0	0.0	0.5	3.8

ıte	Pattern	Day	Time of Day	OP Hdwy
	SB ALL	Sat	Day	30

ml Dade Transit Comprehensive Bus Operations Analysis (CL
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	53	58	59	62	63	c	c	c	c
17	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	22	13	35	17	42%	12	30%		87		138
14	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	1	2	3	9	24%	8	20%		9		26
3	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct	2	1	3	20	51%	20	49%		16		21
17	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*5*	*2*	*7*	*14*	*35%*	*11*	*27%*		*30*		*40*
18	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	8	8	16	16	40%	13	33%		48		95
18	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/2100	5	9	13	14	35%	12	30%		33		95
18	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/2100	NW 22 AV/NW 36 ST	1	1	2	9	23%	9	22%		13		44
9	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	8	9	17	14	34%	11	29%		44		95
9	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST	6	8	13	8	19%	5	13%		36		86
9	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW*	*2*	*3*	*5*	*2*	*6%*	*2*	*5%*		*13*		*36*
9	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	3	7	10	10	24%	8	19%		27		85
9	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	0.8	3.2	4.0	6.7	0.2	5.8	0.1		1.2		6.2

ıte	Pattern	Day	Time of Day	OP Hdwy
	SB ALL	Sat	Night	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	53	58	59	62	63	c	c	c	c
2	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	21	8	28	19	48%	13	33%	6	107	8	146
2	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	1	0	1	14	35%	13	33%	0	9	0	9
0	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct											
2	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*3*	*8*	*10*	*14*	*35%*	*11*	*27%*	*1*	*18*	*4*	*71*
1	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	3	5	8	14	35%	13	32%	1	22	2	60
1	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/2100	5	13	18	10	25%	8	20%	2	33	7	120
1	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/2100	NW 22 AV/NW 36 ST	0	2	2	3	8%	2	4%	0	0	4	40
1	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	1	2	3	0	0%	0	0%	0	5	1	15
0	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST											
0	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW 12 AV*											
1	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	0	5	5	0	0%	0	0%	0	0	3	75
1	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

e	Pattern	Day	Time of Day	OP Hdwy
	SB ALL	Sun	Day	30

ıl Dade Transit Comprehensive Bus Operations Analysis (CB
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	e	63	66	69	62	63	d	e	c	c
9	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	14	7	21	12	29%	8	20%		65		98
5	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	1	1	2	8	20%	7	17%		11		21
4	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct	0	1	1	8	19%	6	15%		0		11
9	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*3*	*2*	*5*	*8*	*20%*	*6*	*15%*		*18*		*33*
9	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	5	2	7	10	24%	7	18%		32		48
9	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/210	2	6	8	9	23%	8	20%		15		59
9	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 36 ST	0	1	1	4	11%	4	11%		9		23
4	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	5	7	12	9	21%	6	16%		38		86
5	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST	2	3	5	4	9%	3	7%		15		39
5	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW*	*0*	*2*	*2*	*3*	*8%*	*2*	*6%*		*2*		*12*
4	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	2	4	6	5	13%	4	11%		15		45
4	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	0.0	2.8	2.8	2.5	0.1	2.2	0.1		0.0		5.9

e	Pattern	Day	Time of Day	OP Hdwy
	SB ALL	Sun	Night	30

Miami Dade Transit Comprehensive Bus Operations Analysis (CBOA)
Ride Check Data Analysis Sheet - Route 22

Sample Trips	Segment Label	Segment Beginning and End Points		Average Segment Boardings	Average Segment Debarkings	Segment Passenger Activity	Segment Maximum Load	Seg. Max. Load % Seated Capy. (70,40,25)	Segment Average Load (over # stops)	Seg. Avg. Load % Seated Capy. (70,40,25)	Segment Productivity (Boarding / mi.)	Segment Productivity (Boarding / hr.)	Segment Activity (On&Off / mi.)	Segment Activity (On&Off / hr.)
2		13	14	64	c	63	66	69	62	63	e	c	c	c
2	22 SB1 Seg 1 WkDy Off-Peak	NE 167 ST/NE 15 AV	GOLDEN GLADES/TERMINAL	35	6	40	33	81%	18	44%		138		160
1	22 SB1 Seg 2 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST via Indu	0	6	6	13	33%	10	24%		0		36
1	22 SB1 Seg 3 WkDy Off-Peak	GOLDEN GLADES/TERMINAL	NW 17 AV/NW 166 ST direct	0	1	1	42	105%	42	105%		0		12
2	22 SB1 Seg 4 WkDy Off-Peak	*NW 17 AV/NW 166 ST*	*NW 22 AV/NW 135 ST*	*3*	*5*	*8*	*27*	*66%*	*25*	*62%*		*15*		*34*
2	22 SB1 Seg 5 WkDy Off-Peak	NW 22 AV/NW 135 ST	NW 22 AV/NW 79 ST	4	3	7	26	65%	25	62%		19		37
2	22 SB1 Seg 6 WkDy Off-Peak	NW 22 AV/NW 79 ST	EARLINGTON HGTS STA/210	1	9	10	25	61%	22	55%		7		78
2	22 SB1 Seg 7 WkDy Off-Peak	EARLINGTON HGTS STA/210	NW 22 AV/NW 36 ST	0	0	0	17	41%	17	41%		0		0
2	22 SB1 Seg 8 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 22 AV/W FLAGLER ST	0	6	6	17	41%	14	34%		0		37
0	22 SB1 Seg 9 WkDy Off-Peak	NW 22 AV/NW 36 ST	NW 9 AV/NW 17 ST											
0	22 SB1 Seg 10 WkDy Off-Peak	*NW 9 AV/NW 17 ST*	*SANTA CLARA STA/2050 NW 12 AV*											
2	22 SB1 Seg 11 WkDy Off-Peak	NW 22 AV/W FLAGLER ST	SW 22 AV/CORAL WAY	2	2	4	12	30%	11	28%		23		47
2	22 SB1 Seg 12 WkDy Off-Peak	SW 22 AV/CORAL WAY	COCONUT GROVE STA/2780	1.0	2.0	3.0	12.0	0.3	11.0	0.3		1.6		4.9

Route 22
Summary Statistics, Spring 2004
(26 Operators)

Operator Statistics	Mentions
Regular operator	14
Occasional operator	12

Passenger Complaints	Mentions
Bus has poor transfer connections	3
Bus is late	13
Bus is overcrowded	8
Not enough bus shelters or benches	6
Other	4

Overall Rating	Mentions
Easy all of the time (1)	1
Easy most of the time (2)	5
Easy sometimes, Difficult sometimes (3)	17
Difficult most of the time (4)	2
Difficult all the time (5)	1
Average, Route 22	2.88
Average, All Routes	3.21

Operator Problems	Mentions
Poor restroom facilities	17
Not enough recovery time	2
Not enough deadhead time	4
Schedule too tight overall	13
Too much time in schedule	0
Other	4

Route 22
Summary of Bus Operator Observations, Spring 2004
(26 Operators)

	Route Segment	Stops in Segment	Scheduling Problems: Compl. per Stop	Scheduling Problems: % of Oper. Resp	Overcrowding Problems: Compl. per Stop	Overcrowding Problems: % of Oper. Resp	Shelters Inadequate or In Need of Repair: Bus Stops	Shelters Inadequate or In Need of Repair: Mentions by Operators
1	From: NE 167 St. / NE 15 Av. To: Golden Glades / Terminal	15	7.2	54%	9.5	50%	NE 167 St. / NE 15 Av. Golden Glades / NW 7 Av. Golden Glades / Terminal	1 1 1
2	From: Golden Glades / Terminal To: NW 17 Av. / NW 166 St.	12	2.3	15%	4.0	15%		
3	From: NW 17 Av. / NW 166 St. To: NW 22 Av. / NW 135 St.	19	3.8	58%	5.3	31%	NW 160 St. / NW 18 Av. NW 22 Av. / NW 151 St.	1 2
4	From: NW 22 Av. / NW 135 St. To: NW 22 Av. / NW 79 St.	27	6.0	23%	7.1	35%	NW 22 Av. / NW 81 Tr.	1
5	From: NW 22 Av. / NW 79 St. To: Earlington Hgts. Sta / 2100 NW 41 St.	17	4.0	15%	7.0	27%	NW 22 Av. / NW 64 St. NW 22 Av. / NW 62 St.	1 1
6	From: Earlington Hgts. Sta / 2100 NW 41 St. To: NW 22 Av. / NW 36 St.	2	2.0	8%	3.0	12%		
7	From: NW 22 Av. / NW 36 St. To: NW 9 Av. / NW 17 St.	18	1.0	4%	0.4	4%	NW 22 Av. / NW 30 St.	1
8	From: NW 9 Av. / NW 17 St. To: Santa Clara Sta / 2050 NW 12 Av.	8	1.0	4%	0.4	4%		

Route 22
Summary of Bus Operator Observations, Spring 2004
(26 Operators)

	Route Segment	Stops in Segment	Scheduling Problems: Compl. per Stop	Scheduling Problems: % of Oper. Resp	Overcrowding Problems: Compl. per Stop	Overcrowding Problems: % of Oper. Resp	Shelters Inadequate or In Need of Repair: Bus Stops	Shelters Inadequate or In Need of Repair: Mentions by Operators
9	From: Santa Clara Sta / 2050 NW 12 Av. To: NW 22 Av. / W Flagler St.	10	0.1	4%	0.0	0%	NW 22 Av. / NW 7 St. NW 22 Av. / W Flagler St.*	1 1
10	From: NW 22 Av. / W Flagler St. To: SW 22 Av. / Coral Way	15	1.0	4%	0.0	0%		
11	From: SW 22 Av. / Coral Way To: Coconut Grove Sta / 2780 SW 27 Av.	13	1.0	4%	0.0	0%		

Calculations for Existing Ridership
Metrorail/Coconut Grove Connector

Weekday

Time Period	Route	Direction	Average Boardings for Grove Segment*	Average Boardings Route Total	Average Segment Boardings Ratio
Off-Peak	22	NB	10	100	
AM Peak	22	NB	8	109	
PM Peak	22	NB	10	77	
Night	22	NB	1	27	
Off-Peak	22	SB	0.3	83.3	
AM Peak	22	SB	4	122	
PM Peak	22	SB	0.5	87.5	
Night	22	SB	0	39	
Total Boardings Route 22			33.8	644.8	
Ratio Grove Seg Boardings/Total Route Boardings Route 22					0.05
Off-Peak	249	EB	3	13	
AM Peak	249	EB	4	15	
PM Peak	249	EB	6	28	
Night	249	EB	1	11	
Off-Peak	249	WB	4	12	
AM Peak	249	WB	5	21	
PM Peak	249	WB	9	25	
Night	249	WB	2	8	
Total Boardings Route 22			34	133	
Ratio Grove Seg Boardings/Total Route Boardings Route 22					0.26

	Total Route Average Annual Daily Ridership**	Grove Segment Average Annual Daily Ridership
Route 22	3,646	191
Route 249	797	204
Total		395

* Average segment boardings obtained from Miami-Dade Transit Comprehensive Bus Operations Analysis, November 2004
** Daily ridership obtained from Miami-Dade Transit Comprehensive Bus Operations Analysis, November 2004

Calculations for Existing Ridership
Metrorail/Coconut Grove Corridor

Saturday

Time Period	Route	Direction	Average Boardings for Grove Segment*	Average Boardings Route Total	Average Segment Boardings Ratio
Day	22	NB	5	76	
Night	22	NB	7	42	
	22	NB			
	22	NB			
Day	22	SB	0.8	63.8	
Night	22	SB	0	34	
	22	SB			
	22	SB			
Total Boardings Route 22			12.8	215.8	
Ratio Grove Seg Boardings/Total Route Boardings Route 22					0.06
Day	249	EB	2	12	
Night	249	EB	1	9	
Day	249	WB	4	14	
Night	249	WB	1	2	
Total Boardings Route 249			8	37	
Ratio Grove Seg Boardings/Total Route Boardings Route 249					0.22

	Total Route Average Annual Daily Ridership*	Grove Segment Average Annual Daily Ridership
Route 22	2,280	135
Route 249	711	154
Total	2,991	289

* Average segment boardings obtained from Miami-Dade Transit Comprehensive Bus Operations Analysis, November 2004
** Daily ridership obtained from Miami-Dade Transit Comprehensive Bus Operations Analysis, November 2004

Calculations for Existing Ridership
Metrorail/Coconut Grove Corridor

Sunday

Time Period	Route	Direction	Average Boardings for Grove Segment*	Average Boardings Route Total	Average Segment Boardings Ratio
Day	22	NB	3	41	
Night	22	NB	2	46	
Day	22	SB	0	34	
Night	22	SB	1	46	
Total Boardings Route 22			6	167	
Ratio Grove Seg Boardings/Total Route Boardings Route 22					0.04
Day	249	EB	2	10	
Night	249	EB	2	6	
Day	249	WB	3	11	
Night	249	WB	2	8	
Total Boardings Route 249			9	35	
Ratio Grove Seg Boardings/Total Route Boardings Route 249					0.26

	Total Route Average Annual Daily Ridership**	Grove Segment Average Annual Daily Ridership
Route 22	1,296	47
Route 249	410	105
Total	1,706	152

* Average segment boardings obtained from Miami-Dade Transit Comprehensive Bus Operations Analysis, November 2004

** Daily ridership obtained from Miami-Dade Transit Comprehensive Bus Operations Analysis, November 2004

APPENDIX C

Responses to Public Questionnaire

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: The Maya Hatcha

Name (Optional): Vivian Jordan

E-mail / Telephone: mayahatc@bellsouth.net

Comments:

member Citizens Association
Waterfront Property
Miami 21

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☒	☐	☐
	Weekend	☒	☐	☐
	Special Events	☒	☐	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☒	☐	☐
		☒	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☒	☐	☐
		☒	☐	☐

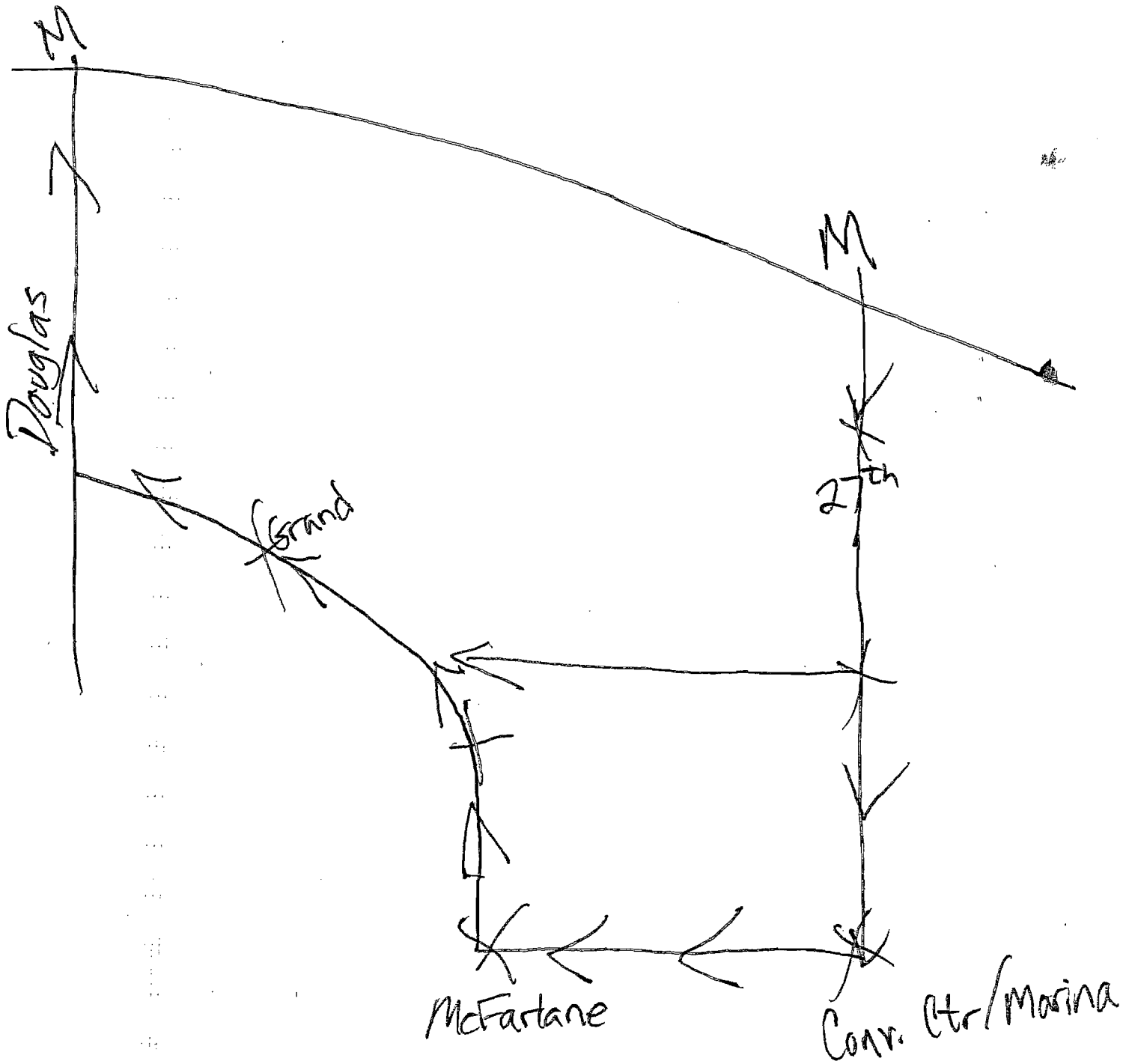
Yes but cannot be limited to Convention Ctr; Should go thru Village Center & Grand & Connect to water taxi if we get one?

Type of Business: Law Firm

Name (Optional): Michelle Niemeyer

E-mail / Telephone: mniemeyer@paymyclaim.com (305) 443-1818

Comments: ☆ You must have significant public business & residential input and consider what the Grove needs, NOT just back & forth down 27th Ave to the Convention Ctr.


N
M
Douglas
Grand
27th
McFarlane
Conv. Ctr/Marina

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☒	☐	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: Law Firm

Name (Optional): Aylsworth + Aylsworth LLP

E-mail / Telephone: VA@AylsworthLLP.com

Comments: You should provide historical information on bus connectors.

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☐	☑
	Weekend	☐	☐	☑
	Special Events	☐	☐	☑
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☐	☑
	Weekend	☐	☐	☑
	Special Events	☐	☐	☑
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☑	☐	☐
		☑	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☑	☐	☐
		☑	☐	☐

Type of Business: Service

Name (Optional): ELHAM KHARABI

E-mail / Telephone: @ Hot Mail .com

Comments: Foundation correction (streets) need to Pre Seed The Transportation mode

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☐	☐	☒
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: The UPS Store

Name (Optional):

E-mail / Telephone:

Comments: Need to have an overall plan for The Grove.

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: REAL ESTATE

Name (Optional): C. MUNOZ

E-mail / Telephone: (305) 455-9611

Comments:

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☒	☐	☐
		☒	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail? Depending on the future of the Convention Center.	Yes	No	No Opinion
		☐	☐	☒
		☐	☐	☒
		☐	☐	☒

Type of Business: Real Estate / Resident

Name (Optional): _____

E-mail / Telephone: _____

Comments: _____

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☒	☐	☐
	Weekend	☒	☐	☐
	Special Events	☐	☒	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☐	☒
	Weekend	☐	☐	☒
	Special Events	☐	☐	☒
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail? Emphatically "yes"!	Yes	No	No Opinion
		☒	☐	☐
		☒	☐	☐
		☒	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail? not necessarily if it ends at Conv. Center	Yes	No	No Opinion
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business BANKS.

Name (Optional) _____

E-mail / Telephone _____

Comments _____

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☑	☐	☐
		☑	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☑	☐	☐
		☑	☐	☐

Type of Business: Real ESTATE

Name (Optional) _____

E-mail / Telephone _____

Comments _____

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail? not attractive if it goes to the convention center	Yes	No	No Opinion
		☐	☑	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: Residential Member

Name (Optional): Lynda Smoak

E-mail / Telephone: LLSMOAK@BELLSOUTH.NET

Comments: Must not detract from look & charm of Grove

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☒	☐	☐
	Weekend	☒	☐	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☒	☐	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☒	☐	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☐	☒	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: RESTAURANT

Name (Optional): RON NELSON

E-mail / Telephone: GROVITE1@BELLSOUTH.NET

Comments:

MUST BE RAPID TRANSIT TRAFFIC IS TO BAD.

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: RE Broker Developer

Name (Optional): ANDY PARRISH

E-mail / Telephone: aparrish@windandrain.com

Comments: Look at "Whole Brave" for transit plan before doing "just 27 Ave"

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for: NO			
	Typical Weekday	☐	☐	☐
	Weekend	☐	☐	☐
	Special Events	☐	☐	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for: NO	Yes	No	No Opinion
	Typical Weekday	☐	☐	☐
	Weekend	☐	☐	☐
	Special Events	☐	☐	☐
3	Do you think public transportation is adequate in Coconut Grove for: absolutely not	Yes	No	No Opinion
	Typical Weekday	☐	☐	☐
	Weekend	☐	☐	☐
	Special Events	☐	☐	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail? Yes	Yes	No	No Opinion
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail? Yes	Yes	No	No Opinion
		☐	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: resident

Name (Optional): Sue McConnell

E-mail / Telephone: 442-9235 mcconnell28@msn.com

Comments:

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☒	☐
	Weekend	☐	☒	☐
	Special Events	☐	☒	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☒	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☐	☐	☒
		☐	☐	☐
		☐	☐	☐

Type of Business: Architectual Services

Name (Optional): _____

E-mail / Telephone: _____

Comments: _____

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	X		
	Weekend		X	
	Special Events		X	
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	X		
	Weekend	X		
	Special Events		X	
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	X		
	Weekend	X		
	Special Events		X	
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		X		
		X		
		X		
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		X		
		X		
		X		

Type of Business _____

Name (Optional) _____

E-mail / Telephone _____

Comments This plan is a waste of $!
You need to 4 lane 27 Ave.
The Coconut Grove Circulator works

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐

Type of Business: ANTIQUE SHOP – WIND + RAIN PROPERTIES REAL ESTATE

Name (Optional): SHEILA WALLACE BEEBE

E-mail / Telephone: 305-442-0990 442-0990

Comments: SHOP OWNER + REALTOR

PARKING ON STREET IS INSUFFICIENT, ESPECIALLY ON SIDE STREETS THAT CONECT TO GRAND AVE.

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☐	☐
	Weekend	☐	☐	☐
	Special Events	☐	☐	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☐	☐
	Weekend	☐	☐	☐
	Special Events	☐	☐	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☐	☐
	Weekend	☐	☐	☐
	Special Events	☐	☐	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☐	☐	☐

Type of Business _____

Name (Optional) _____

E-mail / Telephone _____

Comments _____

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☑	☐	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☐	☐	☐
		☐	☐	☐

Type of Business: PUBLICATION

Name (Optional): ELIZABETH MCGUFFIN

E-mail / Telephone: CALENDAR@MASSMEDIAMIAMI.COM

Comments:

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	X		
	Weekend			
	Special Events		X	
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	X		
	Weekend			
	Special Events		X	
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday			X
	Weekend			X
	Special Events			X
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
			X	X
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
			X	X

Type of Business: Real estate Sales

Name (Optional): _____

E-mail / Telephone: _____

Comments: Resident S. Grove

Metrorail/Coconut Grove Connection Study

Questionnaire

		Yes	No	No Opinion
1	Do you think parking is adequate in Coconut Grove for:			
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
2	Do you think traffic flow conditions are adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
3	Do you think public transportation is adequate in Coconut Grove for:	Yes	No	No Opinion
	Typical Weekday	☐	☑	☐
	Weekend	☐	☑	☐
	Special Events	☐	☑	☐
4	Do you think it would be beneficial to the community to have a people mover connector between Coconut Grove Village Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☑	☐	☐
		☑	☐	☐
5	Do you think it would be beneficial to the community to have a people mover connector between the Coconut Grove Convention Center and the Metrorail?	Yes	No	No Opinion
		☑	☐	☐
		☑	☐	☐
		☑	☐	☐

Type of Business FINANCIAL SERVICES

Name (Optional) _____

E-mail / Telephone _____

Comments _____