Miami-Dade Metropolitan Planning Organization

Miami-Dade Transit Bus Service Evaluation Study

October 2011

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INTRODUCTION

In December of 2009, Miami-Dade Transit (MDT) implemented a variety of changes to its bus service, which included adjustments in headways, stops, route coverage, and other general service characteristics. Several routes were combined to reduce overlapping services, frequencies of low-ridership routes were reduced, and routes were modified to take advantage of the grid street layout. The three major objectives for this study were to analyze the impacts of the December 2009 service changes; develop an on-going monitoring program; and develop standards for the installation, relocation, and elimination of bus stops.

The study process was coordinated with the Miami-Dade Metropolitan Planning Organization (MPO) and a Study Advisory Committee, which included MDT and the Florida Department of Transportation (FDOT) to provide insight and recommendations to the study effort. Data was collected and analyzed for each route in the MDT system. Based on available data sources, performance measures were developed to evaluate service at stop, route, and system wide levels. Performance measure data was evaluated on an individual route level to identify potential operating changes by route or corridor, as well as a system wide level to analyze overall characteristics and provide recommendations for an on-going system wide monitoring program.

EXISTING TRANSIT SERVICES

As the largest transit agency within the State of Florida and the fourteenth largest in the nation, MDT offers four different modes of transit service. These services include Metrorail, a 22-station rail rapid transit system extending 22.4 miles from Kendall to Medley; Metromover, an elevated three-loop people mover spanning 4.4 miles in the Miami Central Business District; Metrobus, both local and express bus services spanning throughout the County; and Special Transportation Service (STS) which serves patrons with disabilities that prevent them from utilizing other transit facilities. A brief summary of each type of service is provided in this section.

Figure 1: Metrorail System and Vehicle

Metrorail

Metrorail is a 22-mile elevated rapid transit system that runs from south central Miami-Dade to northwest Miami-Dade County. There are 22 Metrorail passenger stations, averaging one mile apart. A connection to Broward and Palm Beach Counties is provided via Tri-Rail, an 18-station commuter rail system running a total of 70.9 miles through South Florida, at the Tri-Rail / Metrorail transfer station. An illustration of the Metrorail system is provided in **Figure 1**.

Metrorail operates between 5:00 AM and 12:45 AM every day of the week. The system currently operates on 10-minute peak period headways, 15-minute midday headways, 30-minute evening headways, and 30-minute weekend headways. Average weekday boardings on Metrorail are approximately 63,100 passengers.

Metrobus

MDT boasts an extensive Metrobus system, comprised of 93 routes, providing services from Miami Beach to West Miami-Dade and from the Middle Keys into Broward County. Metrobus feeds into three fixed guideway systems through the County, including Tri-Rail, Metrorail, and Metromover. Metrobus also connects with STS. All buses in the Metrobus fleet accept transit fares using the Easy Card/Easy Ticket system and are wheelchair accessible.

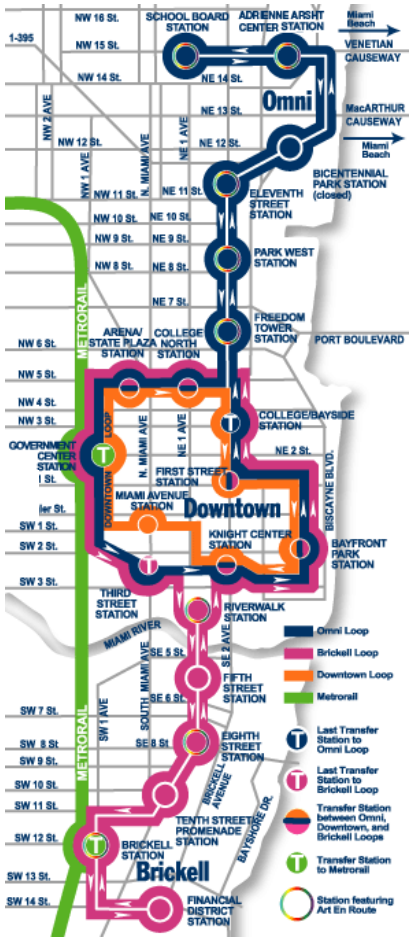
Figure 2: Metrobus Vehicles

Metrobus service is provided 365 days a year. Select routes operate 24 hours per day, while other routes operate late hours to provide night service. Routes are designed to connect major employment, commercial, and residential centers throughout the County, as well as major hospitals, schools, and recreational facilities. Metrobus service has an average of about 248,000 weekly boardings. A detailed map of Metrobus service is located in the next section, *The Metrobus Network*. **Figure 2** illustrates the different bus vehicles utilized for Metrobus service, including an articulated bus with expanded capacity.

Metromover

The Metromover is an electrically-powered, fully-automated, free transit service provided in Downtown Miami. The Metromover system includes three loops: the Omni Loop, through Downtown Miami and to the North; the Downtown Miami Loop; and the Brickell Loop, through Downtown Miami and to the South. The Metromover fleet consists of 29 automated vehicles, and there are 21 stations. Metromover services are easily accessible via Metrorail and Metrobus services. Average weekday boardings are about 29,200 passengers. **Figure 3** provides both a map of the Metromover system and an image of a Metromover vehicle at one of the stations.

Figure 3: Metromover System and Vehicle



Special Transportation Service (STS)

STS is a service available for persons with certified physical, mental, and intellectual disabilities who are unable to utilize Metrorail, Metromover, or Metrobus services. An application must be completed and submitted to MDT for a person to be eligible for this service. Cars, vans, and other equipped vehicles are privately contracted for STS that facilitate this door-to-door service for its patrons. Services are provided 24 hours a day, seven days per week. Fare is $3 per one-way trip, and reservations must be made 24 hours in advance of a trip. STS has about 5,600 average weekday boardings.

Transit Hubs

MDT has several existing and planned transit hubs. These hubs serve multiple purposes, such as providing major transfer points and route origination and destination points. Transit hubs have more amenities than a typical stop, such as shelters and a real-time arrival information screen, as well as additional capacity to handle large passenger movements. The MPO has conducted multiple transit hub evaluations, including the *Alternatives for Intermodal Improvements in Miami-Dade County* study in 1998, the *Transit Center Connection Study* in 2003, and the *Transit Hub Evaluation Study* conducted in 2009, which specifically identified existing and potential transit hubs. Connections to these transit hubs were considered when analyzing transit services, as they are often critical transfer points. A brief description of the major transit hubs is provided below.

- The Aventura Mall Transit Hub: The current Aventura Mall Transit Hub is a bus terminal located at the rear of Aventura Mall that serves a myriad of regional and premium bus routes, including MDT Routes 3, 9, 93, 95, 99, 105, 119, 120, and 183, as well as Broward County Transit Routes 1, 28, and the US-1 Breeze. The proposed enhancements to the Aventura Mall Transit Hub will replace the existing terminal and redesign to include a real-time bus arrival information system, enhanced amenities, and a layover point.
- The 163rd Street Mall Transit Hub: The current 163rd Street Mall Transit Hub is a bus terminal located near the Mall at NE 163rd Street, which currently serves 15 bus routes. The proposed enhancements to the hub include additional connections to circulator, regional, and premium bus routes within the area, as well as overall facility improvements.
- Miami Intermodal Center**:** The Miami Intermodal Center (MIC) is currently under development and slated for completion by 2013. FDOT has over $400 million programmed for the MIC. Currently, projects under development include: the Miami Central Station with bus terminal facilities and a connection to Tri-Rail facilities; a rental car center; construction of the MIC Core Roadway; intersection improvements; construction of the MIA Mover connecting to the Miami International Airport terminal building; and utilities relocation.
- Airport Link: The Airport Link is a 2.4-mile elevated Metrorail extension connecting the existing Earlington Heights Station to the MIC. The Airport Link is scheduled to open in the spring of 2012.

THE METROBUS NETWORK

According to the 2009 National Transit Database (NTD), the Metrobus system service area spans about 306 square miles in Miami-Dade, Broward, and Monroe Counties, serving a population of just over 2,402,000. The area of service ranges from West Miami-Dade County east to Miami Beach, and from Broward Boulevard and Hallandale Beach in Southern Broward County south to Key Largo in Monroe County.

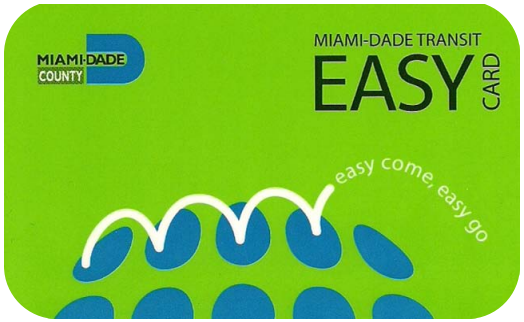
Metrobus service varies from regional express service that utilizes highways and freeways to move passengers quickly over long distances; to local service with stops along arterial and collector roadways in varying districts and neighborhoods. A map depicting all of the routes in the MDT Metrobus system is provided in **Figure 4**.

Figure 4: MDT Metrobus System Map

Service Characteristics

Annual vehicle revenue miles totaled 29.1 million in 2009 according to the National Transit Database. The system operates with over 692 buses and over 75 minibuses on 93 routes. Hours of service differ among various route types. Express services typically only run at peak hours, while many local services run continuously throughout the day. Late night service is provided by two routes within the system: Route 246 and Route 500. Headways also vary by route type and time of day, with typically lower headways in peak hours. Operating expenses for Metrobus services totaled $334,727,320 in 2009, with fare revenues totaling $78,650,396.

Figure 5: Easy Card



Metrobus collects fares using Easy Cards, durable plastic reloadable fare cards for long-term use, and Easy Tickets, paper fare cards that expire after 60-days from purchase. Patrons can purchase these cards at all Metrorail stations, as well as participating retail outlets, for fast and easy payment upon bus entry. Cash fares are also accepted on buses. A regional monthly pass is also available through the Easy Card System that provides a regional connection between Metrorail and Tri-Rail. An example Easy Card is provided in **Figure 5**. MDT has a complex fare structure that is summarized in **Table 1.**

Table 1: Current MDT Fare Structure

Service	Fare	Discount Fare**
Metrobus	$2	$1
Express Bus	$2.35	$1.15
Shuttle Bus	25¢	10¢
Bus-to-Bus Transfer	FREE*	FREE*
Bus-to-Express Bus Transfer	35¢ upgrade*	15¢ upgrade*
Bus-to-Rail Transfer	50¢*	25¢*
Rail-to-Bus Transfer	50¢*	25¢*
Shuttle Bus-to-Bus Transfer	$1.75 upgrade*	90¢ upgrade*
Shuttle Bus-to-Express Bus Transfer	$2.10 upgrade*	$1.05 upgrade*
1-Month Pass	$100	Not applicable
Discount 1-Month Pass	$50	Not applicable
1-Month Pass - Group Discount 4-99 passes	$90	Not applicable
1-Month Pass - Group Discount 100+ passes	$85	Not applicable
7-Day Pass	$26	$13
1-Day Pass	$5	$2.50
College/Adult Education Center Monthly Pass	$50	Not applicable
Golden Passport or Patriot Passport	Free	Free
Special Transportation Service (STS)	$3	No discount available
Metromover	Free	Free
Metrorail	$2	$1

* Above-listed transfer fees are for passengers using an EASY Card/EASY Ticket only. Passengers using cash must pay the full fare each time they board a bus.

**Discount fare is available for Medicare recipients, most people with disabilities, and local students in grades K-12 when using the Easy Card for discount-fare riders.

Peer Agency Service Comparison

A comprehensive comparison of MDT Metrobus services to peer systems in cities throughout the United States was performed. By reviewing MDT's operating characteristics compared to other transit agencies similar in size and population served, insights were gained with regard to methods for improving overall effectiveness and efficiency within the system.

Using available data from the NTD, the most recent system wide annual summaries, year 2009, were used to compare the MDT bus system to other transit agency systems in similarly sized metropolitan areas throughout the United States. The following five systems were selected for comparison to MDT:

- King County Department of Transportation Metro Transit Division (Seattle – Metro);
- Denver Regional Transportation District (Denver – RTD);
- Metropolitan Atlanta Rapid Transit Authority (Atlanta – MARTA);
- Massachusetts Bay Transportation Authority (Boston – MBTA); and
- Metropolitan Transit Authority of Harris County, Texas (Harris County – METRO).

A summary of the transit agencies and their respective service area and fleet information is provided in **Table 2**. Transit service areas are determined by each agency with some degree of subjectivity, typically related to service definitions from the Americans with Disabilities Act (ADA) of 1990. As a result, the service area and service area population estimates are difficult to compare from one system to another. MDT has the smallest reported service area, at 306 square miles, of the transit agencies selected for comparison. Miami's service area population ranks just 200,000 persons below the median population of 2,600,000. The number of directly operated buses also falls near the mean of the compared agencies, while the number of vehicles operated in maximum service is 716, compared to a mean of 833.

Table 2: Transit System Characteristics

System	Service Area* Square Miles	Service Area* Population	Agency Operated Buses	Purchased (Contracted) Transportation	Vehicles Operated in Max Service
Miami	306	2,402,200	716	0	716
Seattle	2,134	1,884,200	943	29	972
Denver	2,326	2,619,000	528	427	955
Atlanta	498	1,574,600	507	0	507
Boston	3,244	4,510,400	772	52	824
Houston	1,285	2,797,000	846	180	1,026
Average	**1,632**	**2,631,200**	**719**	**115**	**833**

* Service Area is defined by NTD as "A measure of access to transit service in terms of population served and area coverage (square miles). The reporting transit agency determines the service area boundaries and population for most transit services using the definitions contained in the Americans with Disabilities Act of 1990 (ADA). Transit agency reporters are required to submit service area information on the Identification form (B-10)."

Table 3 summarizes each of the transit agency operational characteristics by operating cost (Op Cost), fare revenues, passenger miles (Pass Mile), vehicle revenue miles (VRM), unlinked passenger trips (Pass Trip), and vehicle revenue hours (VRH). For most of these characteristics, the Miami system is close to the mean range, with a moderately lower number of annual unlinked passenger trips when compared to the high values of Seattle and Houston.

Table 3: Metrobus System Operational Characteristics Comparison

System	Operating Costs	Fare Revenues	Annual Pass Miles	Annual VRM	Annual Pass Trips	Annual VRH
Miami	$334,727,300	$78,650,400	391,313,200	31,547,100	75,608,000	2,629,600
Seattle	$379,735,200	$105,175,700	460,319,100	32,112,400	91,348,700	2,622,800
Denver	$295,516,500	$72,908,700	383,948,300	38,245,500	77,222,000	2,737,400
Atlanta	$206,182,900	$53,685,600	285,048,200	27,344,700	72,716,400	2,192,700
Boston	$335,962,200	$71,909,500	230,903,900	25,173,500	100,769,300	2,355,700
Houston	$321,401,200	$58,960,700	474,119,000	40,799,200	72,795,200	2,794,500
Average	**$312,254,200**	**$73,548,400**	**370,942,000**	**32,537,100**	**81,743,300**	**2,555,500**

To perform a more comprehensive comparison of these peer transit agencies, ratios comparing operational costs and unlinked passenger trips were developed to determine how the transit agency costs and revenues relate in terms of system performance. **Table 4** summarizes these ratios by transit agency, and Figures 5 through 10 illustrate the comparisons.

Table 4: Metrobus System Service Comparison

System	Op Cost/ VRM	Op Cost/ VRH	Op Cost/ Pass Mile	Op Cost/ Pass Trip	Pass Trip/ VRM	Pass Trip/ VRH
Miami	$10.61	$127.29	$0.86	$4.43	2.40	28.75
Seattle	$11.83	$144.78	$0.82	$4.16	2.84	34.83
Denver	$7.73	$107.95	$0.77	$3.83	2.02	28.21
Atlanta	$7.54	$94.03	$0.72	$2.84	2.66	33.16
Boston	$13.35	$142.62	$1.45	$3.33	4.00	42.78
Houston	$7.88	$115.01	$0.68	$4.42	1.78	26.05
Average	**$9.82**	**$121.95**	**$0.88**	**$3.84**	**2.62**	**32.30**

As illustrated in **Figure 6**, MDT's operating cost per vehicle revenue mile was slightly above the mean, while Seattle and Boston were significantly higher. Operating cost per vehicle revenue hour is shown in **Figure 7**, where Miami ranks modestly above the mean, with Seattle and Boston again ranking even higher. **Figure 8** depicts the operating cost per passenger mile, in which MDT falls close to the mean, with Boston's system substantially higher. MDT's operating cost per unlinked passenger trip is shown in **Figure 9**, with MDT being the highest of any of the agencies compared. The number of passenger trips per vehicle mile is illustrated in **Figure 10**, in which Miami falls just below the mean. Finally, in **Figure 11**, passenger trips per vehicle revenue hour are depicted with Miami somewhat below the mean.

Through this comparison to peer-transit agencies, it can be seen that MDT's operating costs tend to be at the mean or modestly above those of selected peer transit agencies. Passenger trips per vehicle revenue mile and revenue hour fall slightly below the mean of peer agencies.

Figure 6: 2009 Operating Cost per Vehicle Mile

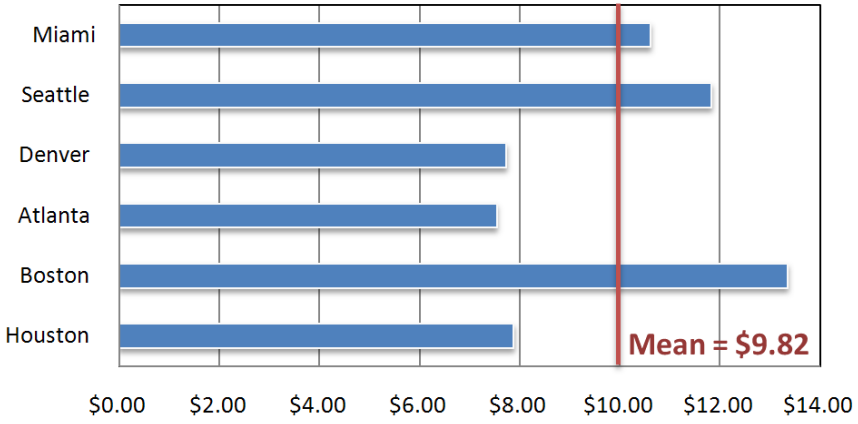


Figure 7: 2009 Operating Cost per Vehicle Revenue Hour

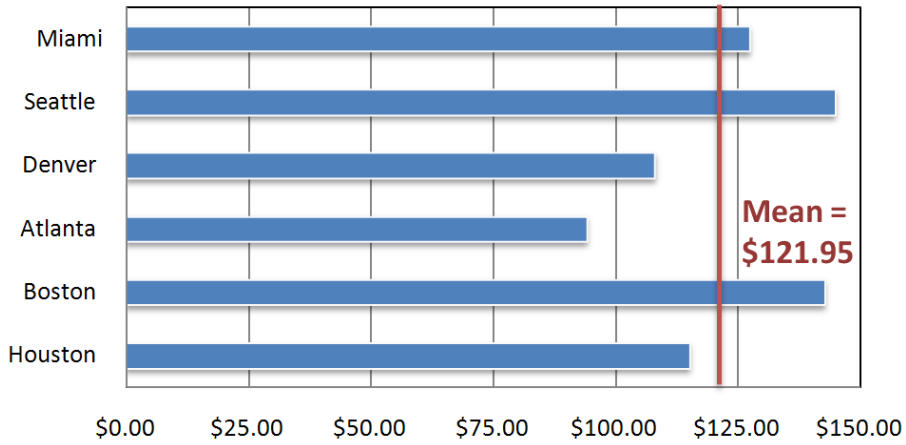


Figure 8: 2009 Operating Cost per Passenger Mile

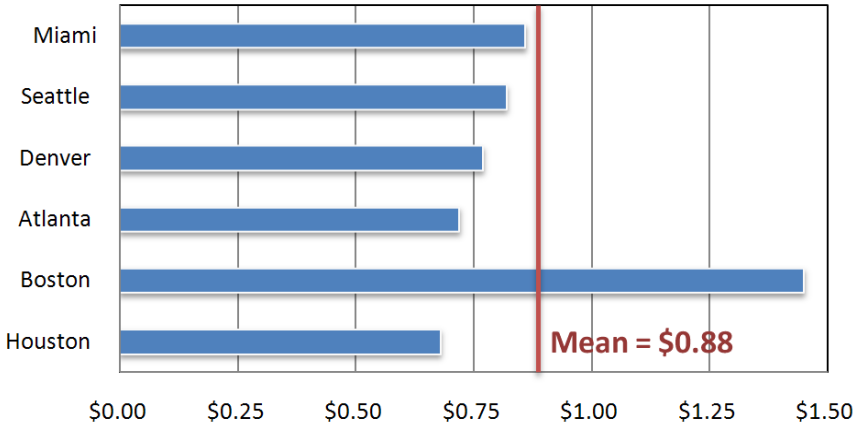


Figure 9: Operating Cost per Passenger Trip

Figure 10: 2009 Passenger Trips per Vehicle Revenue Mile

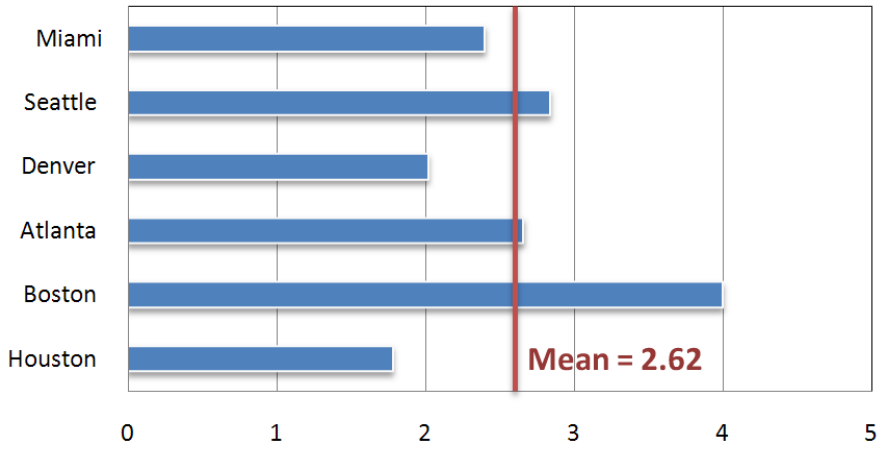
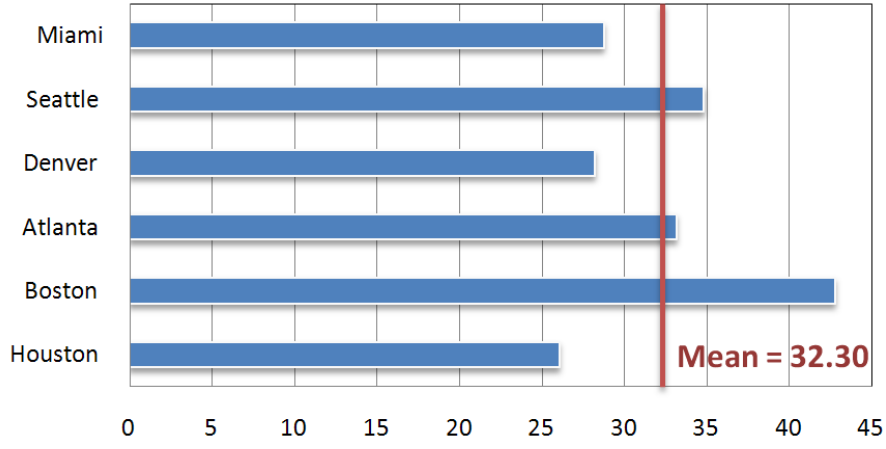


Figure 11: 2009 Passenger Trips per Vehicle Revenue Hour



BIANNUAL SERVICE CHANGES

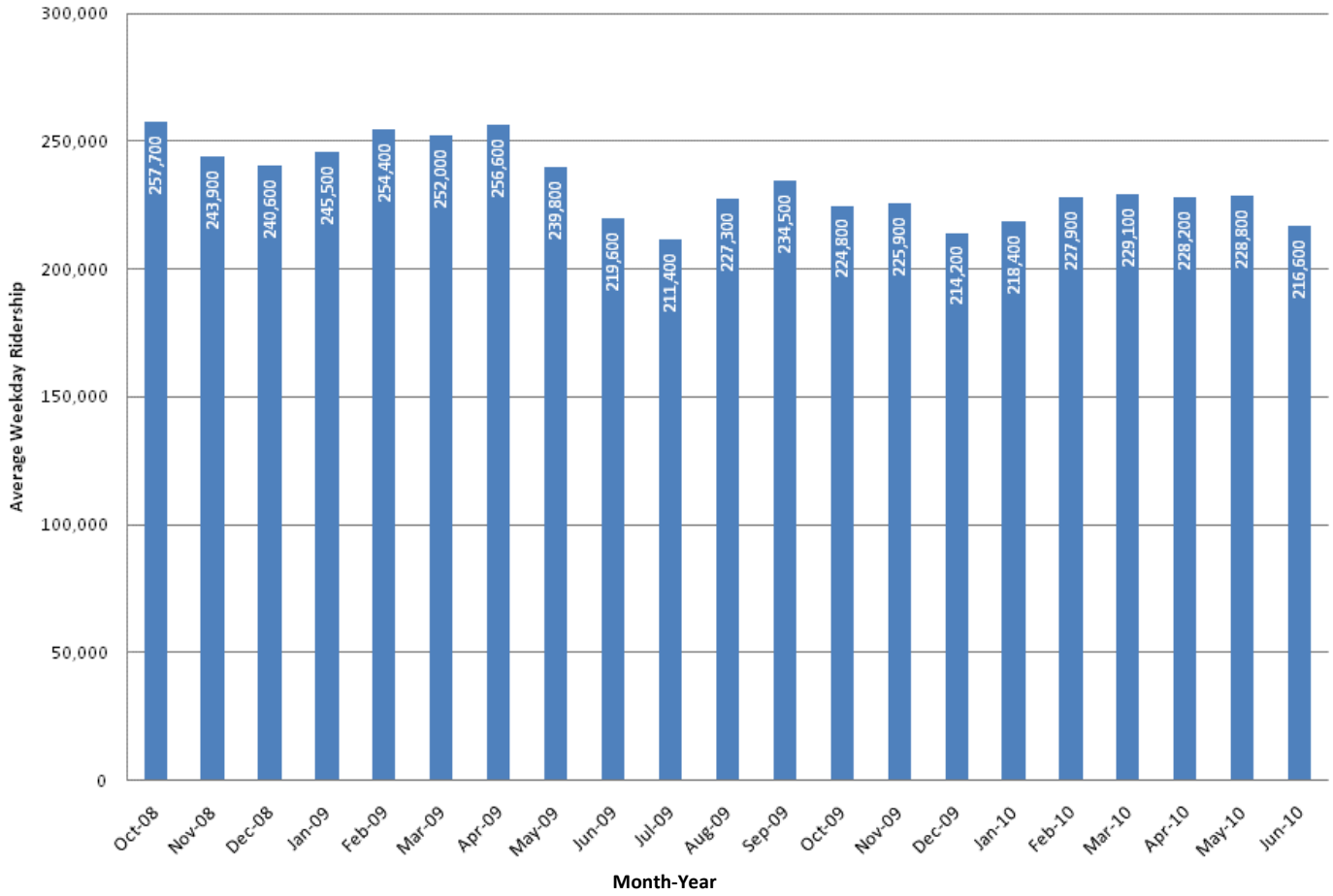
In addition to routine maintenance, MDT adjusts its Metrobus services every six months. This report focuses on differences in system performance after two service changes: June 2009 and December 2009. Through this evaluation, the variations in service effectiveness and efficiency across two different service periods can be examined to determine how service adjustments affect the overall Metrobus system. This analysis will aid MDT in reaching further to understand the impacts of service changes and improve the Metrobus system as a whole. A brief summary of changes made in the December 2009 lineup is included in **Appendix 1**. Average daily ridership by route for both the June 2009 and December 2009 lineups is included in **Appendix 2.**

DATA COLLECTION

The data collection task focused on two primary sources: publicly available data, such as MDT Monthly Ridership Reports, MDT Route Productivity Reports, and Omnibus Reports; and automated passenger count (APC) data. The publicly available information was downloaded from the MDT website between June and October 2010. The purpose of this information was to establish a baseline for data analysis. As seen in **Figure 12**, the average monthly ridership fluctuates. Between October 2008 and June 2010, ridership fluctuated by almost 20 percent. Variation in riders on Metrobus may be due in part to transit mode shift after service changes occur. Ridership fluctuation also reflects several external factors, including the effects of higher gas prices, fewer jobs, and economic downturn, as well as normal seasonal variations such as school and university sessions and tourist travel.

MDT Monthly Ridership Reports provide ridership data by service type for the entire MDT system. MDT Route Productivity Reports provide cost and revenue related data, and Omnibus reports provide data by route: Route Trip Miles; Route Scheduled Speed; Route Running Time; and Number of Trips by Time-of-Day.

Figure 12: Metrobus Average Weekday Ridership



APC data was collected for three main purposes: to develop performance measures based on available data; to compare the December 2009 lineup against the June 2009 lineup; and to analyze routes and stops. Average counts for the entire six months of the June 2009 lineup were used to represent performance. The average APC counts for the month of March 2010 were used as a representative sample of the performance of the December 2009 lineup. MDT and its consultant, Urban Transportation Associates, Inc. (UTA), provided APC datasets by route and by weekday in October 2010. The datasets were provided in Excel format, containing average counts by route and stop for both the June to December 2009 period and the March 2010 period. The data were aggregated at route level and included the following fields:

1. Route Direction
2. Trip Number
3. Block Number

4. Stop sequence (stop sequencing became less clear if a route has multiple patterns)
5. Stop Number
6. Description of Stop Location
7. Average Number of ONs
8. Average Number of OFFs
9. Average Passenger Load
10. Geographic Location in the form of Longitude and Latitude
11. Number of Samples
12. Time of Day

A unique combination of a trip number and a block number defines a trip. Stop sequencing became less clear if a route had multiple patterns, as each pattern has unique stop sequencing. Summaries were developed at the route level even if the route had multiple patterns; therefore, precise stop sequencing could not be established. Similarly, assumptions were made to calculate stop passenger loads for routes with multiple patterns. Stop longitude and latitudes were used to create stop shapefiles. The time of day information was used to identify number of boardings and alightings by peak and off-peak periods.

The collected data was used to develop a Microsoft Access database for data mining purposes, which required considerable manual effort. Recommendations related to this subject are included in the *On-Going Monitoring* section of this report.

Performance Measures

Performance measures quantitatively indicate the effectiveness and efficiency of the system and can also be used to identify the effectiveness and relative performance of individual routes. For purposes of comparison, over twenty performance measures were considered. The measures were identified based on an extensive review of the current *MDT Service Standards,* which were adopted by the Board of County Commissioners on November 4, 2009, and are a component of the County's Transit Development Plan (TDP), as well as the University of South Florida's Center for Urban Transportation Research (CUTR) report, *Best Practices in Transit Service Planning*. The performance measures established in *MDT Service Standards* are summarized in **Table 5**.

Table 5: *MDT Service Standards* – Performance Measures

System Wide	
Boardings per Hour	30 (Weekday), 25 (Saturday/Sunday)
Individual Bus Route Standards	
Passengers per revenue hour	Minimum 15
Net cost (subsidy) per passenger	$4.40
Passengers per Mile	70% of system wide average passenger vehicle mile
Passengers per Trip	Trip > hour, no less than 8 passengers. Trip < hour, no less than 5 passengers.
Cost per Passenger	Route cost divided by Ridership
Revenue per Passenger per Route	Revenue collected divided by boardings
Minimum Cost Recovery Ratio	Min. 0.15 ratio and max. of 1.0 ratio for express-type service

Several performance measures were developed for consideration based on various sources, including the *MDT Service Standards*, the CUTR *Best Practices in Transit Service Planning* report, and the data available for performance measure calculation. Some of performance measures were considered for comparing one transit system to another, while other measures from the report were considered for the comparison of route effectiveness within a particular transit system. Below is a list by category of the multitude of performance measures that were initially considered for this study:

Operational Measures

Service (Per route and per system)

- Service Area Population
- Service Area Density
- Passenger Trips
- Passenger Miles
- Average Passenger Trip Length
- Revenue Miles and Hours
- Route Miles

Vehicles

- Vehicles Available in Maximum Service
- Vehicles Operated in Maximum Service
- Revenue Miles per Vehicle in Maximum Service
- Average Age of Fleet (in years)

Effectiveness

- Vehicle Miles per Capita
- Passenger Trips per Capita
- Passenger Trips per Revenue Mile and Hour

Financial Measures

Expense and Revenue (System wide and route level)

- Operating Expenses
- Maintenance Expenses
- Local Revenue
- Local Contribution
- Passenger Fare Revenue
- Other Non-Fare Revenue
- Average Fare

Efficiency

- Operating Expense per Capita
- Operating Expense per Passenger Trip
- Operating Expense per Revenue Mile
- Operating Expense per Revenue Hour
- Maintenance Expense per Revenue Hour
- Maintenance Expense per
- Farebox Recovery

In consideration of available data and MDT performance objectives, a review of the performance measures listed above concluded in the selection of seven key performance measures for system wide comparison and route analysis:

- Passengers per Trip
- Passengers Per Revenue Hour
- Passengers Per Revenue Mile
- Farebox Recovery Ratio
- Direct Operating Cost (DOC) per Revenue Mile
- Direct Operating Cost (DOC) per Passenger
- Direct Operating Cost (DOC) per Trip

As part of the transit system evaluation process, these key performance measures were used to assess the performance of the December 2009 lineup compared to the June 2009 lineup and also to identify routes within the system that should be considered for consolidation or further improvements. Final performance measures by level of analysis are summarized in **Table 6** below.

Table 6: MDT Service Evaluation Performance Measures

Performance Measures	System	Corridor	Route	Segment	Stop
Passengers per Trip			X		
Passengers per Vehicle Mile	X	X	X	X	
Passenger per Revenue Hour	X	X	X	X	
Passenger Movement (ONs/OFFs)					X
Passenger Movement by Time of Day					X
Farebox Recovery Ratio	X	X	X	X	
Direct Operating Cost (DOC)/Revenue Mile	X	X	X	X	
DOC Per Passenger	X	X	X	X	
DOC Per Trip			X		
Bus Route Spacing (CDMP) - Guideline		X			
Stop Spacing - Guideline					X

BUS STOPS ANALYSIS

A system wide analysis of all stops was based on the sum of daily boardings and alightings at each stop, referred to as stop activity. Due to the high directional peaking of many routes, it is common to have a high number of boardings on one side of a road and a high number of alightings on the opposite side of the road. Selection of bus stop locations is an important element of bus service planning, as it involves a tradeoff between accessibility, which would be aided by frequent bus stops, and speed, which would be aided by infrequent bus stops. Current MDT policy calls for local bus route stop spacing of 3 to 5 stops per mile for low density residential to high density, respectively.

The *Miami-Dade MPO Short Term Improvement Study* published in December 2009 includes an analysis recommending a generalized bus stop spacing of approximately every quarter mile (1,312 feet). The study also recommends taking into account conditions unique to the specific route area or corridor when determining bus stop locations. In some instances the guidelines may be adjusted based on proximity to special generators, elderly housing, and other considerations. According to the NTD (Feb 2011), MDT has 8,832 stops countywide. The APC data was available for 7,993 stops in the system. On average, there are five stops per route mile.

Findings

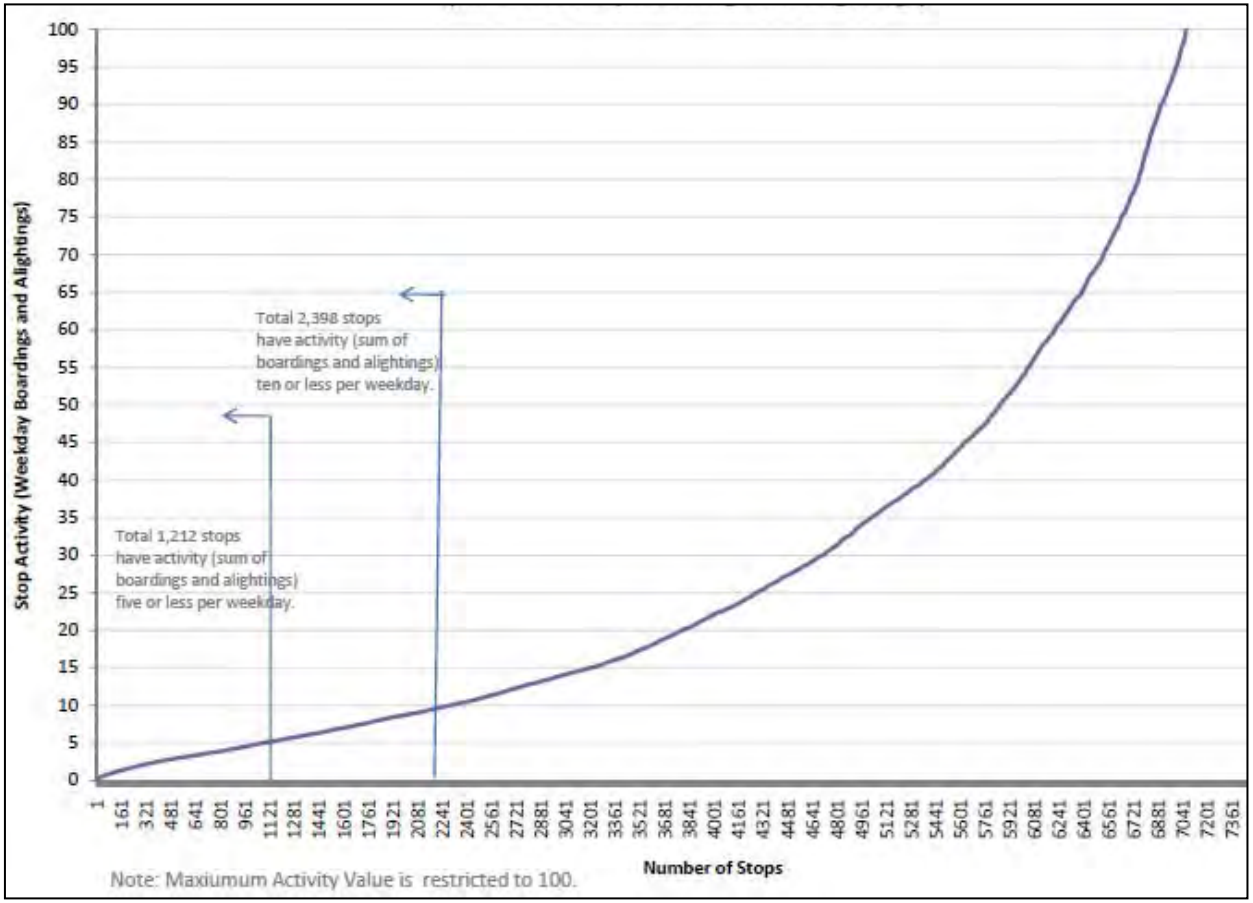
Table 7 and **Figure 13** illustrate the cumulative distribution of bus stops as a function of stop activity. As indicated, 1,212 stops (15 percent of all stops in the MDT system) have five or fewer boardings or alightings per weekday.

Table 7: Stops with Lowest Activity

Total Activity	Number of Stops	Cumulative # of Stops	Cumulative % of Stops
0	30	30	0.40%
1	160	190	2.40%
2	206	396	5.00%
3	287	683	8.50%
4	278	961	12.00%
5	251	1212	15.20%
6	270	1482	18.50%
7	236	1718	21.50%
8	214	1932	24.20%
9	242	2174	27.20%
10	224	2398	30.00%

At the other end of the spectrum, a small percentage of all stops contribute to a high percentage of daily activity. Bus stop facility and amenity improvements are recommended at stops with the highest amount of activity.

Figure 13: Stop Activity (Sum of Weekday Boardings and Alightings)



Recommendations

MDT should consider eliminating or consolidating low use stops with fewer than five boardings and alightings on a weekday. **Appendix 3** includes locations of the stops for which consolidation or elimination should be considered. It is recommended that MDT conduct field inspections of low use bus stops to determine whether special considerations, such as elderly housing, rehabilitation centers, or other unique existing conditions that would warrant maintaining a low use stop.

Table 8 summarizes MDT's bus stop spacing standards from the *MDT Service Standards.* The current MDT average of five stops per route mile fares high when compared to the overall recommendations for each area type. The *MDT Service Standards* recommend bus stop spacing at lower intervals in rural areas and higher intervals in higher density areas. The implementation of these standards will aid in eliminating a portion of the lower use MDT stops. It is recommended that MDT consider eliminating and consolidating stops with respect to their surrounding area types to meet the above standards. For example, on routes where boardings per stop are exceptionally low, several stops should be consolidated to serve the same number of patrons in a centralized location along the route.

Table 8: *MDT Service Standards* for Bus Stop Spacing*

Density	Stops per Mile
High Density, CBD, Shopping Centers, Special Needs	5
Medium Density, Fully Developed Residential Area	4
Low Density, Residential	3
Rural	2

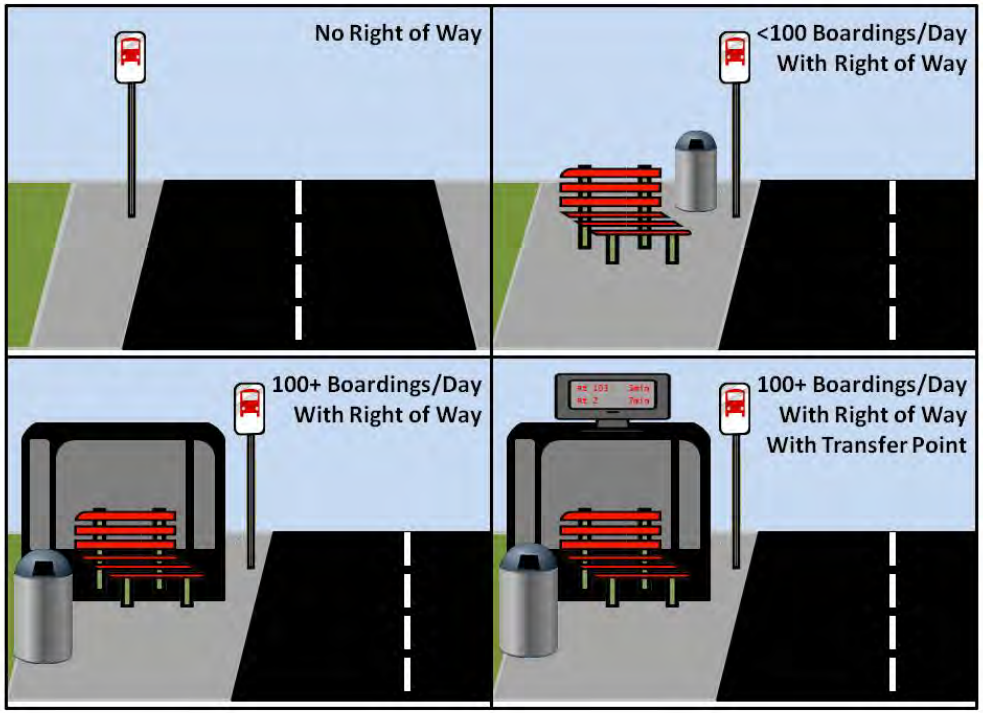
**Miami-Dade Transit Service Standards, MDT Adopted 11/4/09*

It is recommended that the *MDT Service Standards* for new bus stop amenities be used for the entire system. MDT Service Standards for stop amenities are based on available right-of-way and daily boardings. All stops must be ADA Compliant, and it is recommended that bicycle lockers be provided at all transit hubs. These amenity standards are listed in **Table 9**. A depiction of MDT Bus Stop Amenities by available right-of-way is provided in **Figure 14**. Example images from the Cleveland Healthline Bus Rapid Transit (BRT) are included in **Figure 15**, as well as both an MDT local bus stop and Busway Station.

Table 9: *MDT Service Standards* for Stop Amenities*

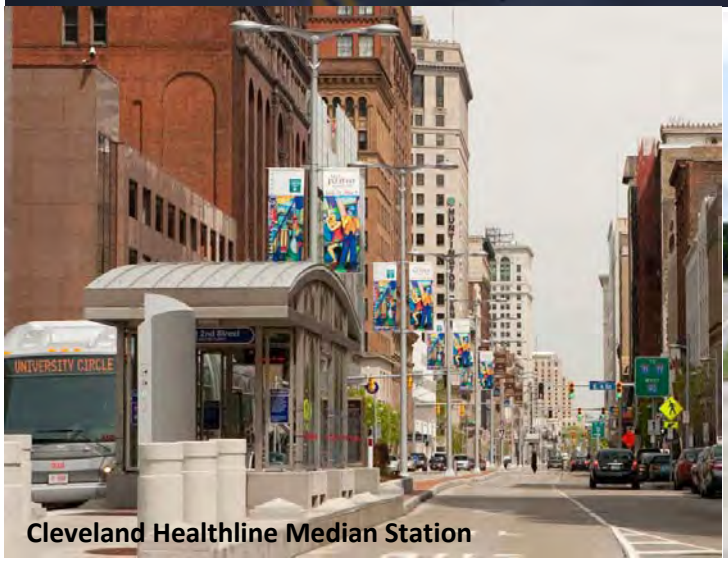
Amenity	Minimum Requirement
Future Real Time Information	More than 100 boardings per day and major transfer points
Bench	All stops without a shelter with sufficient right-of-way
Shelter	All stops with greater than 100 boardings per day with sufficient right-of-way
Litter Bins	All MDT bus stops with benches or bus shelters

Figure 14: MDT Service Standards Bus Stop Recommendations



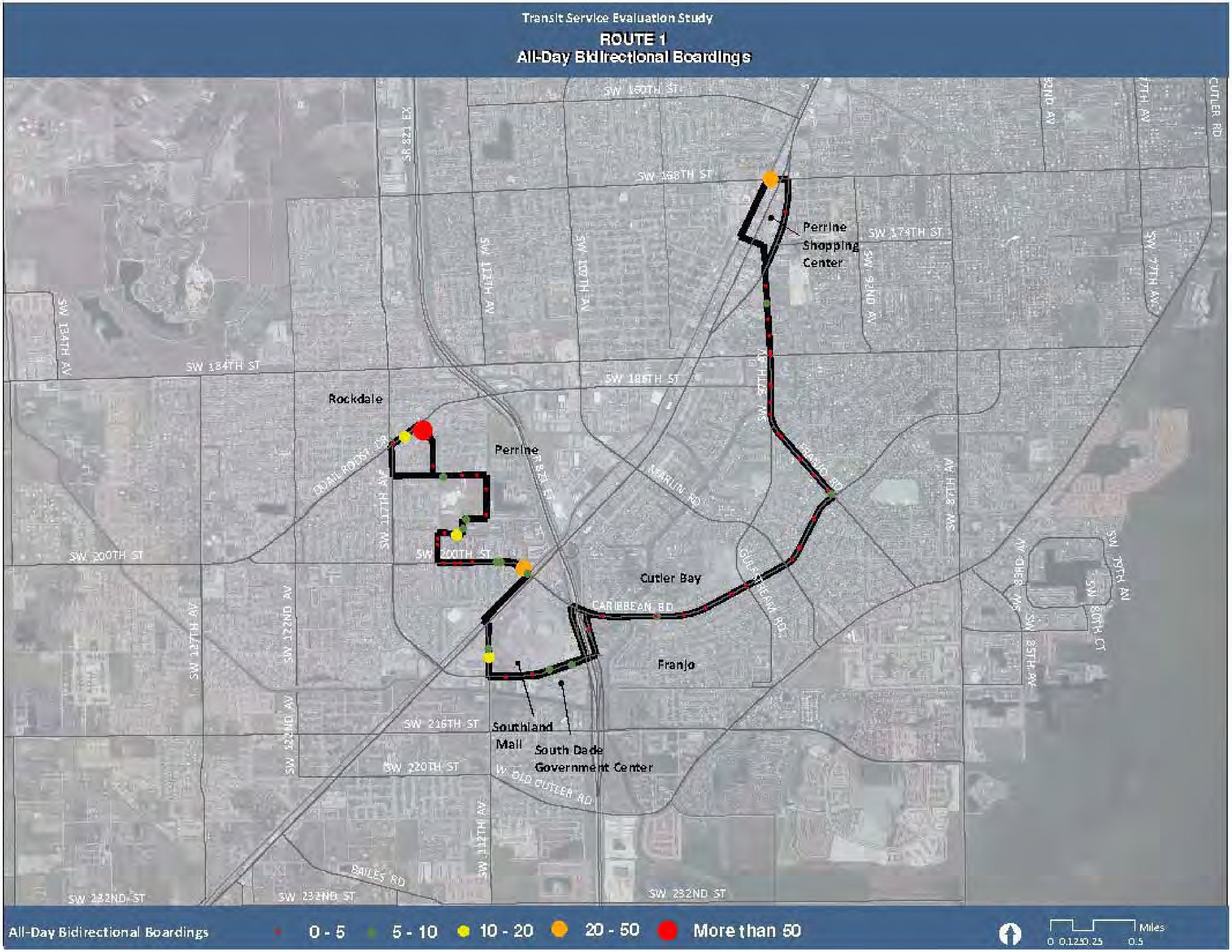
**Miami-Dade Transit Service Standards, MDT Adopted 11/4/09*

Figure 15: Transit Stop Examples – Cleveland and Miami



INDIVIDUAL ROUTE ANALYSIS

Individual route analyses were primarily based on quantifiable performance measures developed from the APC data. Results of performance measures were supplemented by stop level boardings and alightings based on the APC data. Stop level data was used to identify directionality and activity distributions for various time periods of a typical weekday. Demographic characteristics of neighborhoods and mobility needs were also considered. Peak period and average daily passenger loading graphic depictions are provided where necessary for the purpose of the route analysis. In some instances, combinations of routes serving a specific corridor were considered collectively. Such analyses allowed identification of cumulative capacity of transit services and corresponding transit demand. These summaries are located in the *Corridors* section of this report.


Transit Service Evaluation Study
ROUTE 1
All-Day Bidirectional Boardings
Perrine Shopping Center
Rockdale
Perrine
Cutler Bay
Franjo
Southland Mall
South Dade Government Center
SW 168TH ST
SW 174TH ST
SW 184TH ST
SW 186TH ST
SW 200TH ST
SW 216TH ST
SW 220TH ST
SW 232ND ST
CARIBBEAN BD
MARLIN RD
QUAIL ROOST DR
SR 821 EX
W OLD CUTLER RD
BAILES RD
CUTLER RD
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles

Route 1

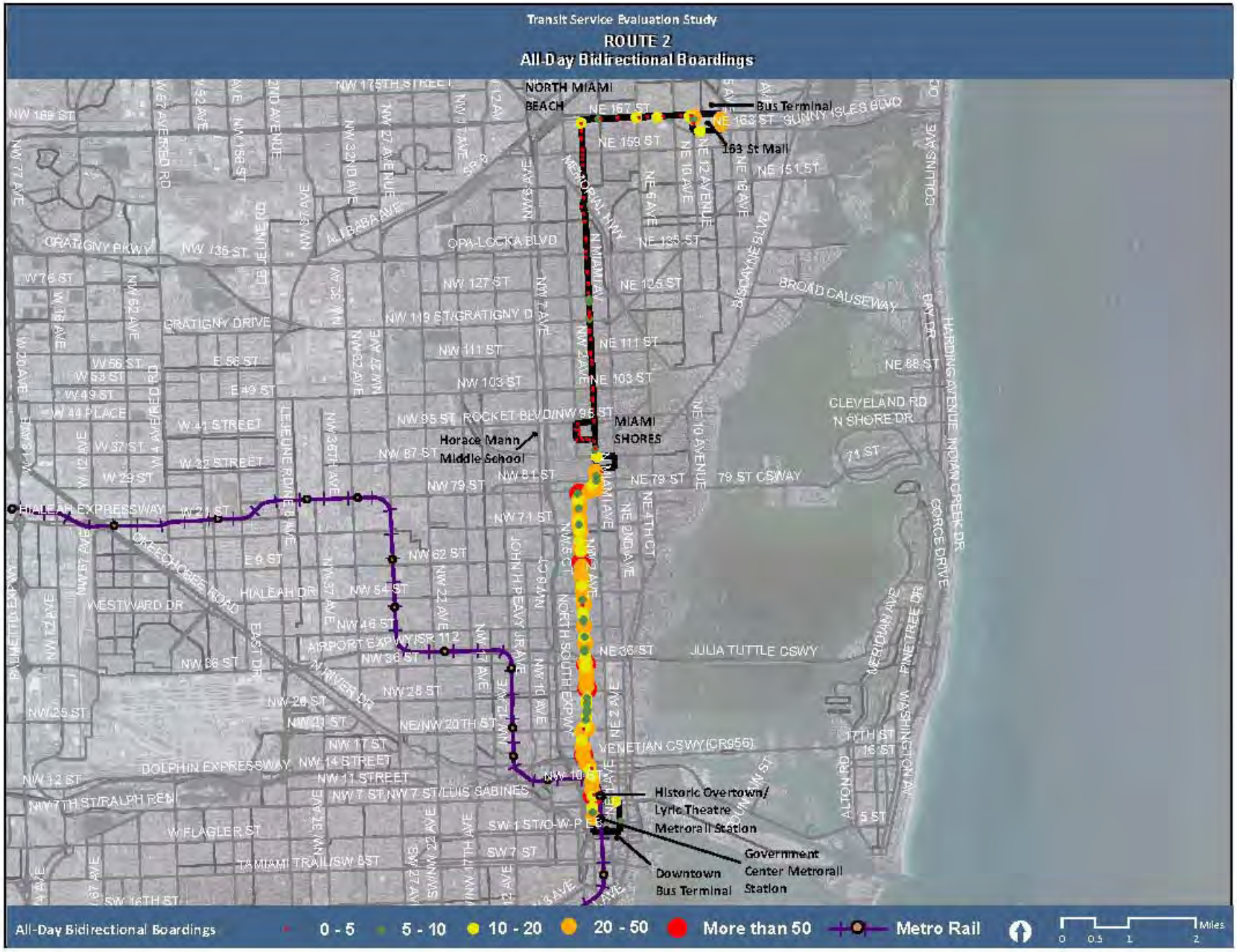
Route 1 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/40
Route Miles (Directional)	7
Number of Stops – NB/SB	36/35
Ridership	340
Route 3 Performance Measures	
Passengers per Trip	9
Passengers per Revenue Mile	0.5
Passengers per Revenue Hour	7
Farebox Ratio	.34
Direct Operating Cost per Revenue Mile	$7.6
Direct Operating Cost per Passenger	$9.0
Direct Operating Cost per Trip	$80

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 1 runs from the Perrine Shopping Center in Perrine/Cutler Bay in the North and runs south via Caribbean Boulevard and 107th Avenue to both the South Dade Government Center and Southland Mall. The route then travels across US-1 and the US-1 Busway, meeting the 168th Street Busway Station, and runs north to loop around Quail Roost Drive in Rockdale. The route does not perform well based on the performance measures.

Recommendations:

- Further evaulation of this route for consolidation with neaby routes, including Route 52 and Route 70, should be conducted.
- In the long term, this route should be incorporated into a potential BRT/EBS system along Biscayne Boulevard and combined with Route 93.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 2
All-Day Bidirectional Boardings
NORTH MIAMI BEACH
Bus Terminal
163 St Mall
MIAMI SHORES
Horace Mann Middle School
Historic Overtown/ Lyric Theatre Metrorail Station
Government Center Metrorail Station
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles

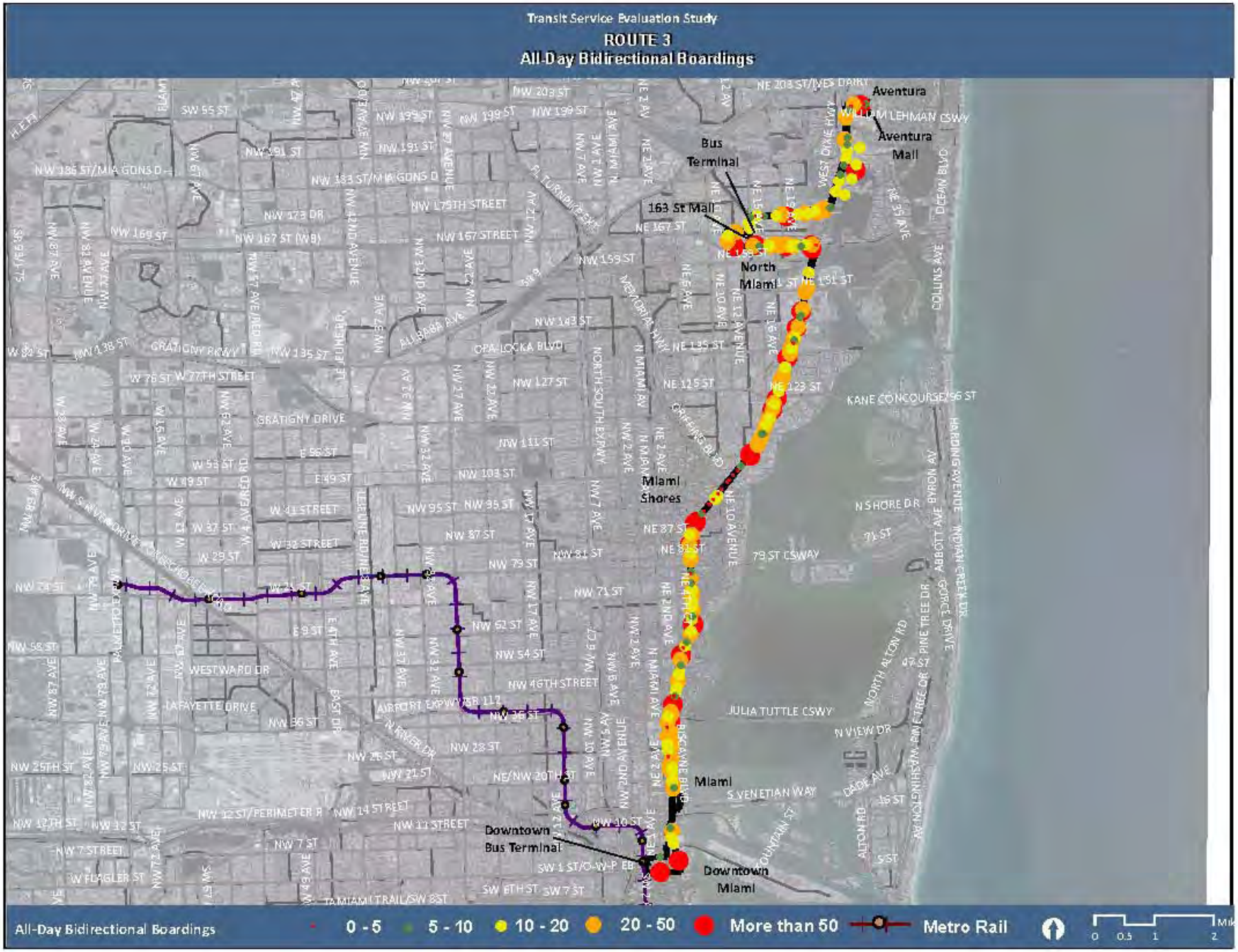
Route 2

Route 2 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/60
Route Miles (Directional)	13.5
Number of Stops – NB/SB	102/90
Ridership	3,220
Route 3 Performance Measures	
Passengers per Trip	35
Passengers per Revenue Mile	3.7
Passengers per Revenue Hour	7
Farebox Ratio	0.36
Direct Operating Cost per Revenue Mile	$9.3
Direct Operating Cost per Passenger	$2.5
Direct Operating Cost per Trip	$88

Route 2 runs from the Bus Terminal in 163rd Street Mall in North Miami Beach, West to Parkway Regional Hospital, and then south via Miami Avenue through Miami Shores to reach its southern terminus and creating a loop around the historic Overtown/Lyric Theater Metrorail Station, Government Center Metrorail Station, and Downtown Bus Terminal. The route currently operates well based on the performance measures.

Recommendations:

- Due to high activity on the southern end of the route, consider increasing service from 79th Street to Downtown Miami.
- Due to low activity at several bus stops north of NE 87th Street, bus stops with low activity in this area should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 3
All-Day Bidirectional Boardings
Aventura
Aventura Mall
Bus Terminal
163 St Mall
North Miami
Miami Shores
Miami
Downtown Bus Terminal
Downtown Miami
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail

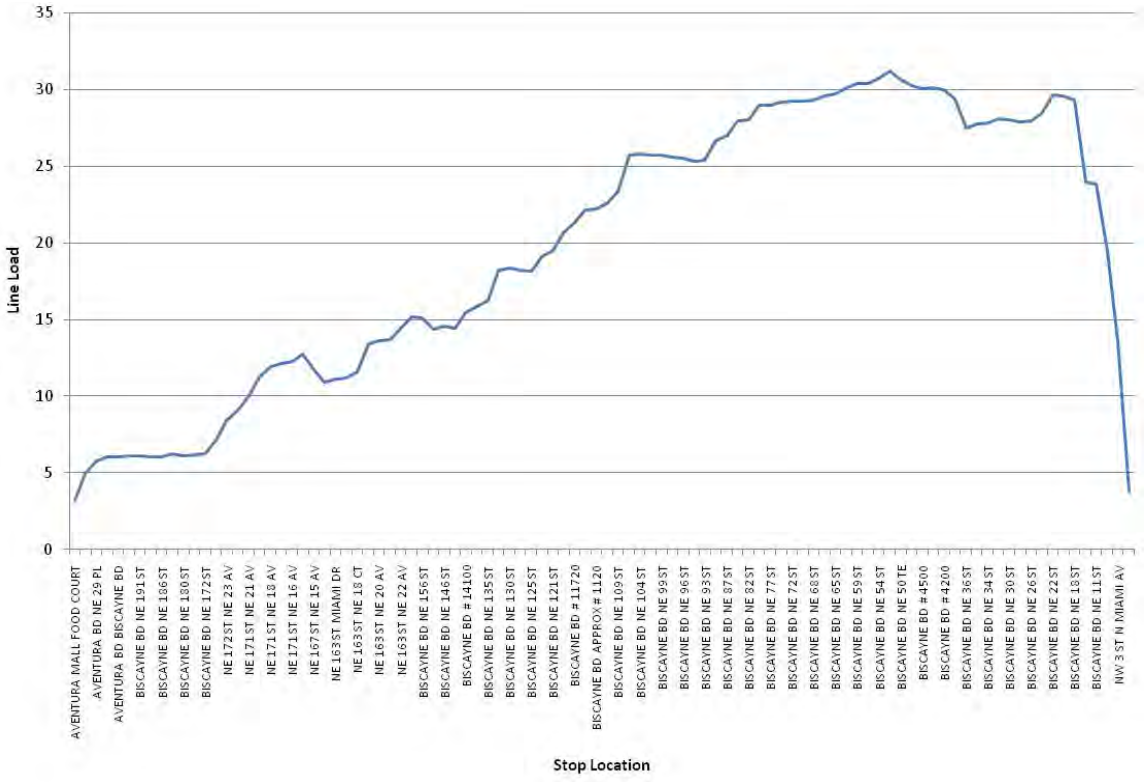
Route 3

Route 3 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/20
Route Miles (Directional)	35
Number of Stops – NB/SB	101/111
Ridership	7,580
Route 3 Performance Measures	
Passengers per Trip	68
Passengers per Revenue Mile	3.0
Passengers per Revenue Hour	35
Farebox Ratio	0.45
Direct Operating Cost per Revenue Mile	$9.3
Direct Operating Cost per Passenger	$2.6
Direct Operating Cost per Trip	$177

Route 3 is a local north-south service through the County's eastern communities. The route deviation off of Biscayne Boulevard via NE 171st Street and NE 163rd Street to serve the 163rd Street Mall Transit Hub, a major transfer location that will soon be a designated transit hub, was analyzed. This route deviation accounts for 20 to 30 minutes of run time depending on the time of day but witnesses significant passenger activity within the area; 2,096 and 1,311 boardings and alightings in northbound and southbound directions, respectively. Major attractions along this route deviation apart from the 163rd Street Mall include: Home Depot, Wal-Mart, the North Miami Beach Chamber of Commmerce, the North Miami Beach Police Department, Mavericks High School, several large apartment complexes, and a variety of banks and retail locations.

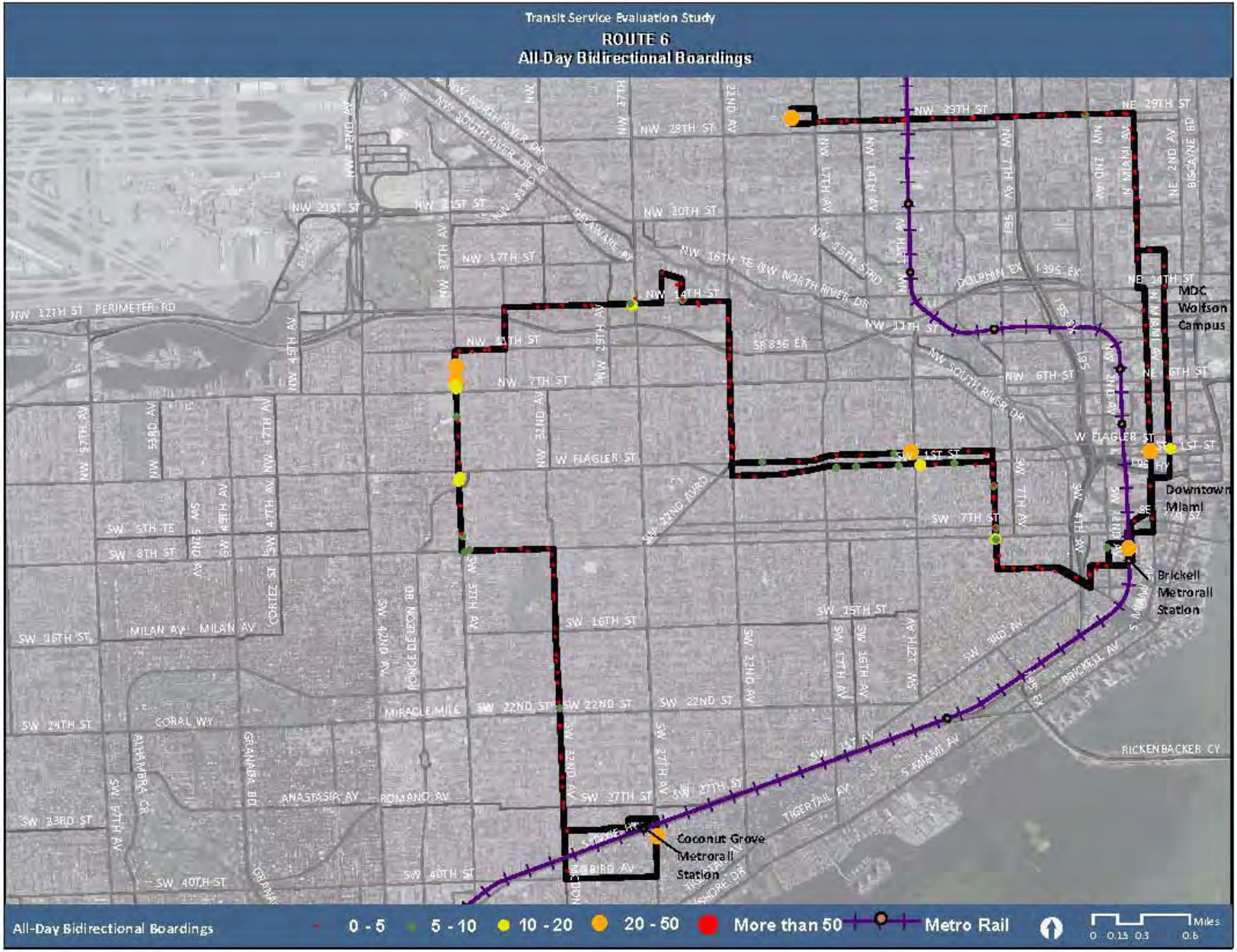
Line loads were also analyzed to identify boarding and alighting activity patterns along the route. The graph in **Figure 16** depicts that the ridership demand increases in the southern half of the route. The run time during the midday from Aventura Mall Transit Hub to the 163rd Street Mall Transit Hub is 22 minutes.

Figure 16: Route 3: Average Weekday SB AM Peak Period Line Load



Recommendations:

- The route deviation from US-1 to the 163rd Street Mall Transit Hub should be considered for further evaluation for a potential standalone feeder route given the high amount of activity and route run time.
- The northern segment of the route, from Aventura Mall Transit Hub to the 163rd Street Mall Transit Hub, should be considered for a standalone route. This feeder route can serve both Route 3 and Route 93 which is a limited-stop route.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 6
All-Day Bidirectional Boardings
MDC Wolfson Campus
Downtown Miami
Brickell Metrorail Station
Coconut Grove Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.15 0.3 0.6

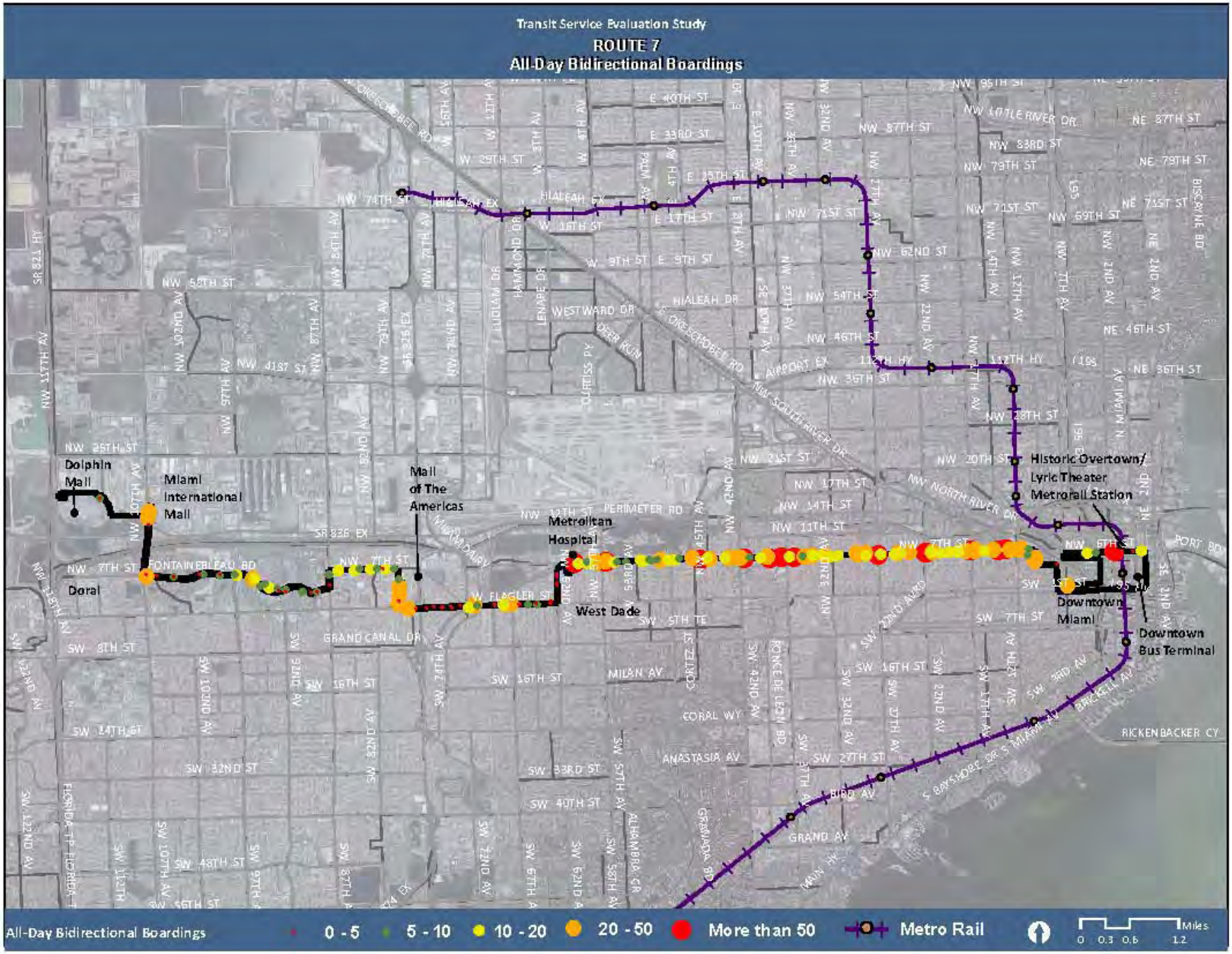
Route 6

Route 6 Statistics	
Headway in Minutes (Peak/Off-Peak)	60/60
Route Miles (Directional)	16
Number of Stops – NB/SB	108/107
Ridership	690
Route 6 Performance Measures	
Passengers per Trip	34
Passengers per Revenue Mile	2.2
Passengers per Revenue Hour	28
Farebox Ratio	0.31
Direct Operating Cost per Revenue Mile	$9.1
Direct Operating Cost per Passenger	$4.2
Direct Operating Cost per Trip	$145

Route 6 runs along a segment of Flagler Street and provides connections to the Coconut Grove Metrorail Station, Brickell Metromover Station and the Miami-Dade College Wolfson Campus. The portion of Route 6 from NW 22nd Avenue and W Flagler Street through Downtown Miami is served by other routes. Duplicate service is not provided in the other portion of Route 6, along NW 22nd Street and north of Downtown Miami. There is low ridership in the area of NW 24th Avenue, NW 16th Street, and NW 26th Avenue; therefore, the deletion of this route deviation is recommended.

Recommendations:

- Further evaluation to split the route should be considered.
- The route deviaition along NW 24th Avenue, NW 16th Street, and NW 26th Avenue should be eliminated.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 7
All-Day Bidirectional Boardings
Dolphin Mall
Miami International Mall
Mall of The Americas
Metrolitan Hospital
West Dade
Doral
Historic Overtown/ Lyric Theater Metrorail Station
Downtown Miami
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.3 0.6 1.2

Route 7

Route 7 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/20
Route Miles	16.5
Number of Stops	94/89
Ridership	4,460
Route 7 Performance Measures	
Passengers per Trip	40
Passengers per Revenue Mile	2.8
Passengers per Revenue Hour	36
Farebox Ratio	0.53
Direct Operating Cost per Revenue Mile	$9.6
Direct Operating Cost per Passenger	$2.7
Direct Operating Cost per Trip	$110

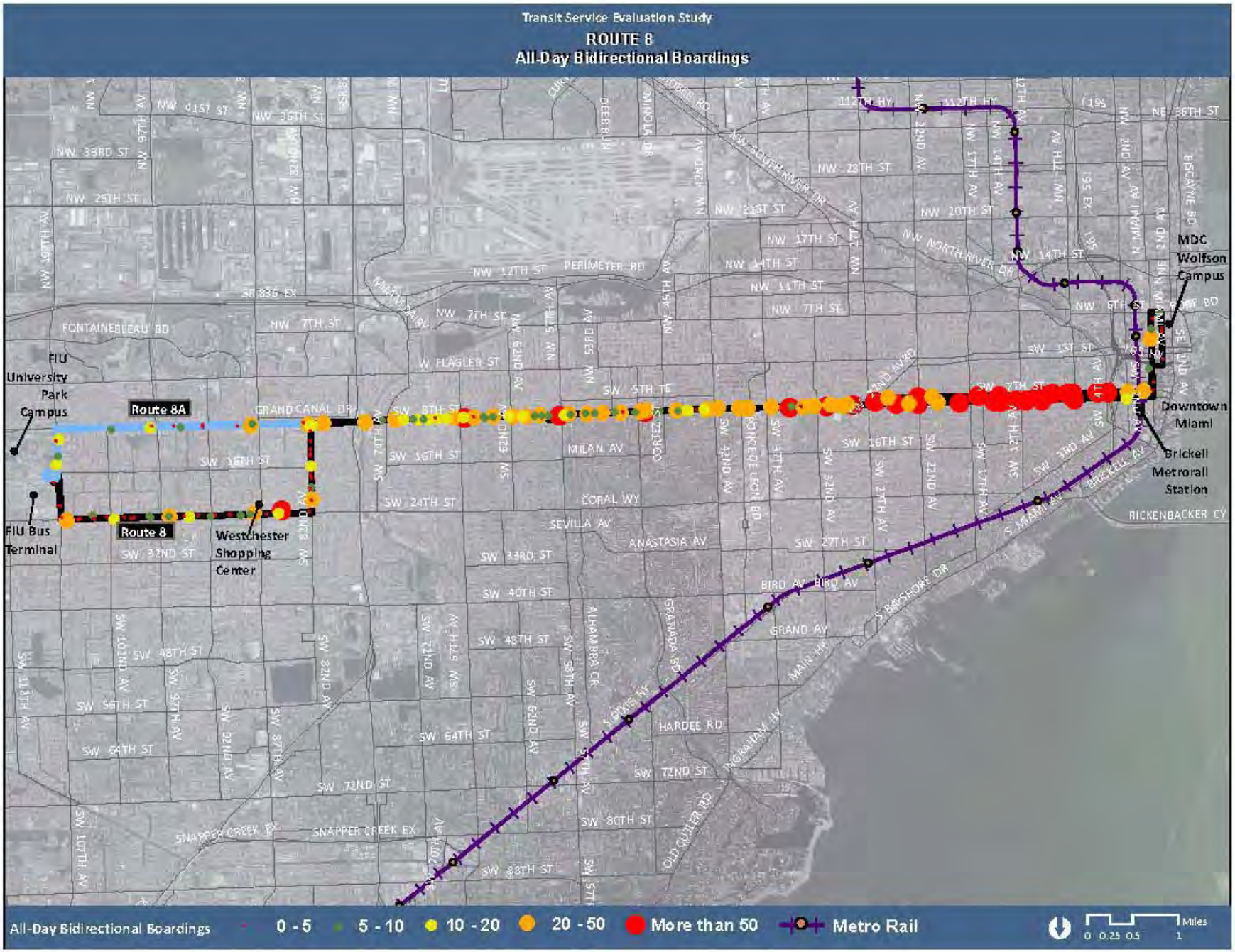
Route 7 is a local service route that connects the County's western suburbs with Downtown Miami. The route runs along NW 7th Street and connects to five major activity centers: Dolphin Mall, Miami International Mall, Mall of the Americas, Metropolitan Hospital, and Downtown Miami. The route will also serve the Miami Ballpark, the future home of the Miami Marlins, which is currently under construction.

The average weekday ridership for this route is 4,460. The ridership is spread across all time periods throughout the weekday, indicating that the route serves various trip purposes and markets.

The Downtown Miami area is also served by several other routes. Therefore, a segment analysis was conducted to identify the feasibility of providing transfer opportunities at the Mall of the Americas and eliminating the Downtown Miami portion of this route. Line loads were also analyzed to identify boarding and alighting activity patterns along the route. The results indicate that discontinuing the service to Downtown Miami will result in a high number of transfers. Trip productions and attractions points are generally spread along the entire route.

Recommendations:

- No changes to this route are recommended.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 8
All-Day Bidirectional Boardings
FIU University Park Campus
Route 8A
Route 8
FIU Bus Terminal
Westchester Shopping Center
MDC Wolfson Campus
Downtown Miami
Brickell Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 8

Route 8 Statistics	
Headway in Minutes (Peak/Off-Peak)	10/15
Route Miles	14
Number of Stops	93/95
Ridership	7,130
Route 8 Performance Measures	
Passengers per Trip	50
Passengers per Revenue Mile	3.4
Passengers per Revenue Hour	41
Farebox Ratio	0.49
Direct Operating Cost per Revenue Mile	$8.2
Direct Operating Cost per Passenger	$2.2
Direct Operating Cost per Trip	$113

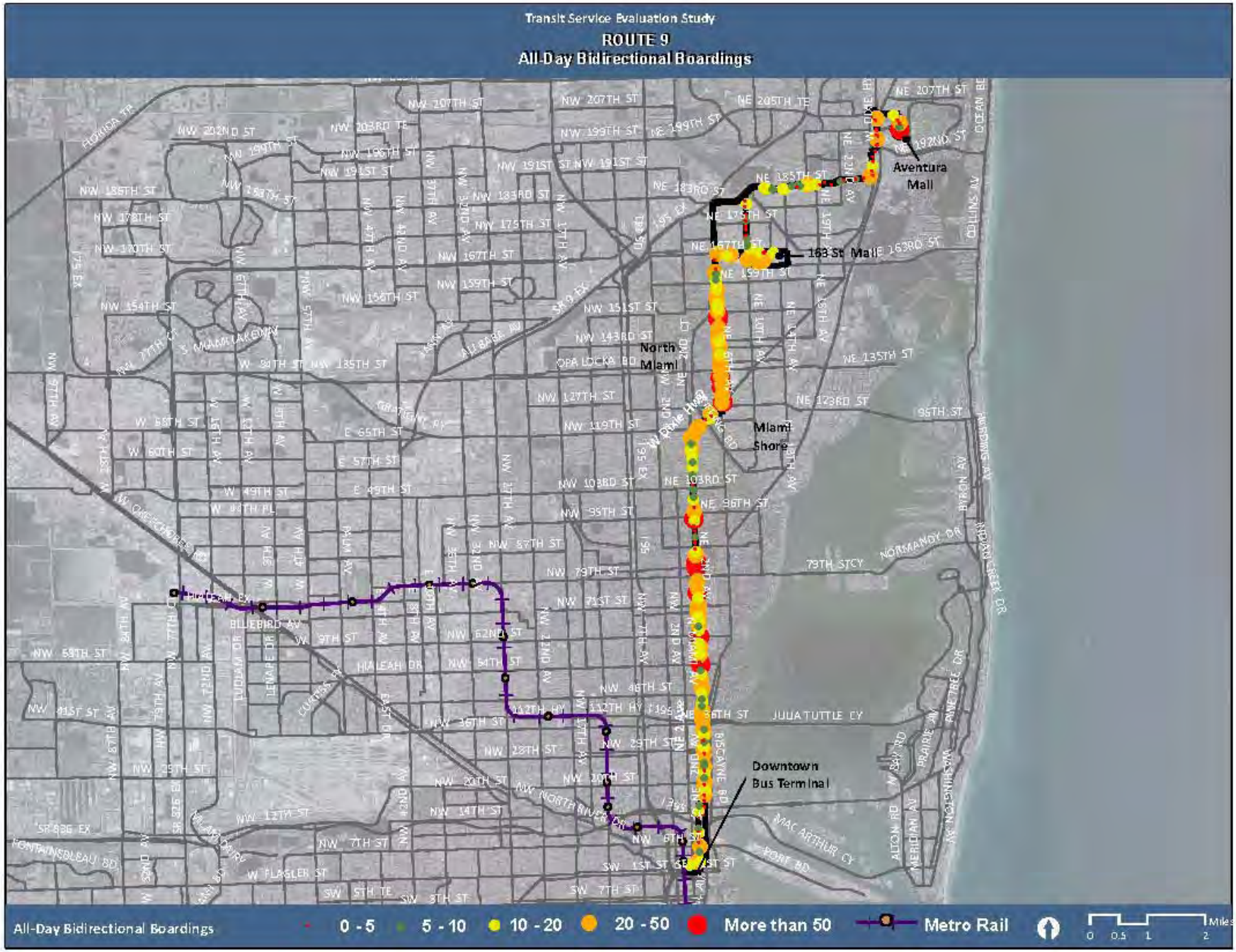
Route 8 runs along Tamiami Trail and connects FIU and the western suburban areas with Downtown Miami. Route 8A runs the same route, only it serves the FIU University Park campus via SW 8th Street between SW 82nd Avenue and SW 107th Avenue. Overall, the route is among the better performing routes in the entire system based on the performance measures. The route has an average weekday ridership of 7,130, of which about 300 riders board on the 8A segment.

An analysis of line loads indicates that the major activity is east of SW 67th Avenue. The eastbound stop at 36th Court has 357 boardings and alightings. The route has more activity at the Brickell Metrorail Station than at the Government Center Station. For example, in the morning peak period, the eastbound service shows 239 alightings at the Brickell Station compared to 132 alightings at the Government Center Station.

The segment between the Brickell Metrorail Station and the Miami-Dade Community College replicates the Metrorail service; however, it provides a single-seat ride.

Recommendations:

- No changes to this route are recommended.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 9
All-Day Bidirectional Boardings
Aventura Mall
163 St Mall
North Miami
Miami Shore
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

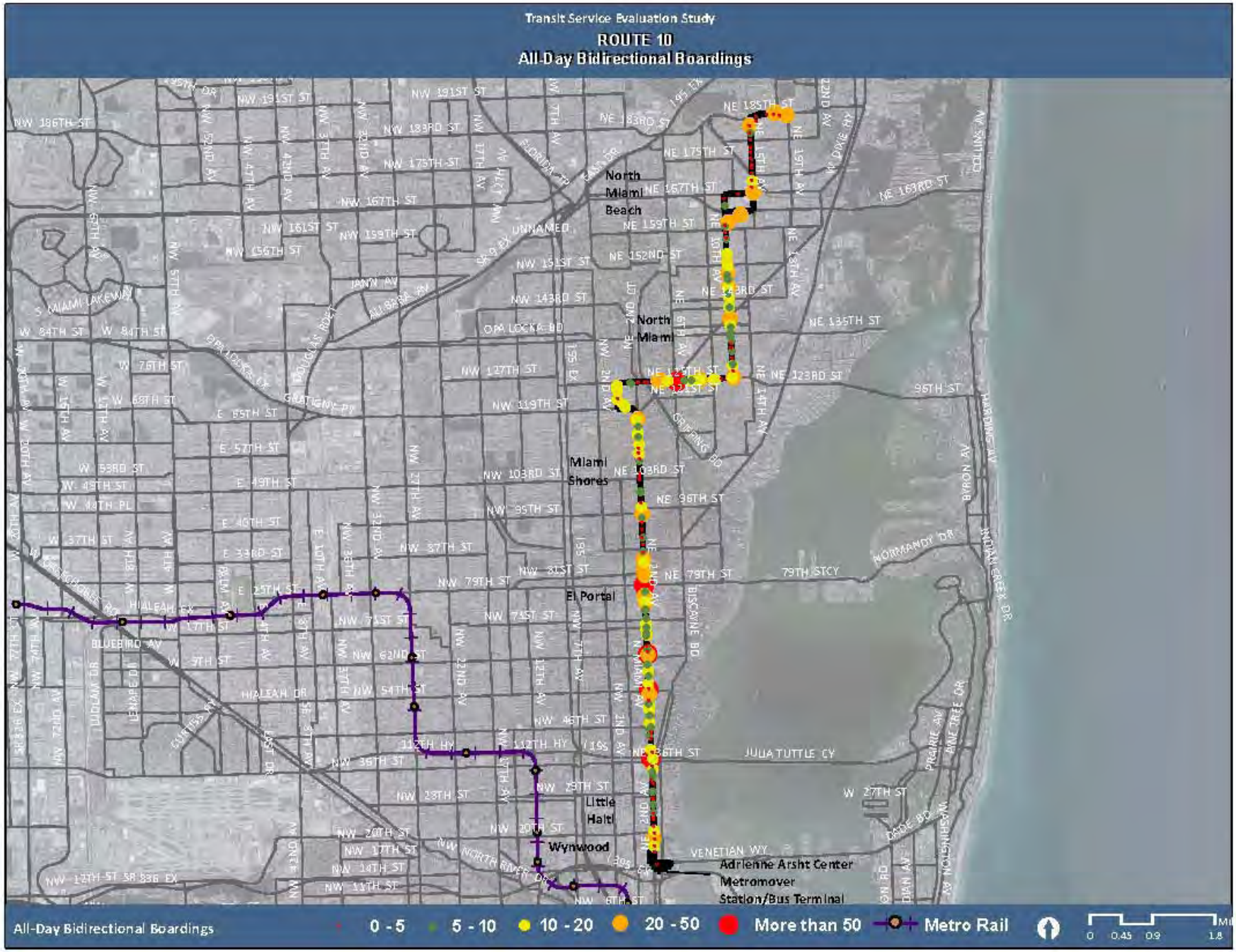
Route 9

Route 9 Statistics	
Headway in Minutes (Peak/Off-Peak)	12/30
Route Miles (Directional)	19
Number of Stops	127/128
Ridership	6,570
Route 9 Performance Measures	
Passengers per Trip	61
Passengers per Revenue Mile	3.5
Passengers per Revenue Hour	39
Farebox Ratio	0.38
Direct Operating Cost per Revenue Mile	$9.7
Direct Operating Cost per Passenger	$2.7
Direct Operating Cost per Trip	$166

The run time from Aventura Mall Transit Hub to the 163rd Street Mall Transit Hub, on Route 9 is almost 30 minutes. There is also significant activity (boardings and alightings) along this segment with an activity of 2,080 northbound and 1,248 southbound boardings.

Recommendations:

- A potential feeder bus to serve Aventura Mall Transit Hub from the 163rd Street Mall Transit Hub should be considered.
- Routes 9 and 10 should be combined once BRT/EBS (Enhanced Bus Service) is implemented in the Biscayne Corridor.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 10
All-Day Bidirectional Boardings
North Miami Beach
North Miami
Miami Shores
El Portal
Little Haiti
Wynwood
Adrienne Arsht Center
Metromover
Station/Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
0 0.45 0.9 1.8

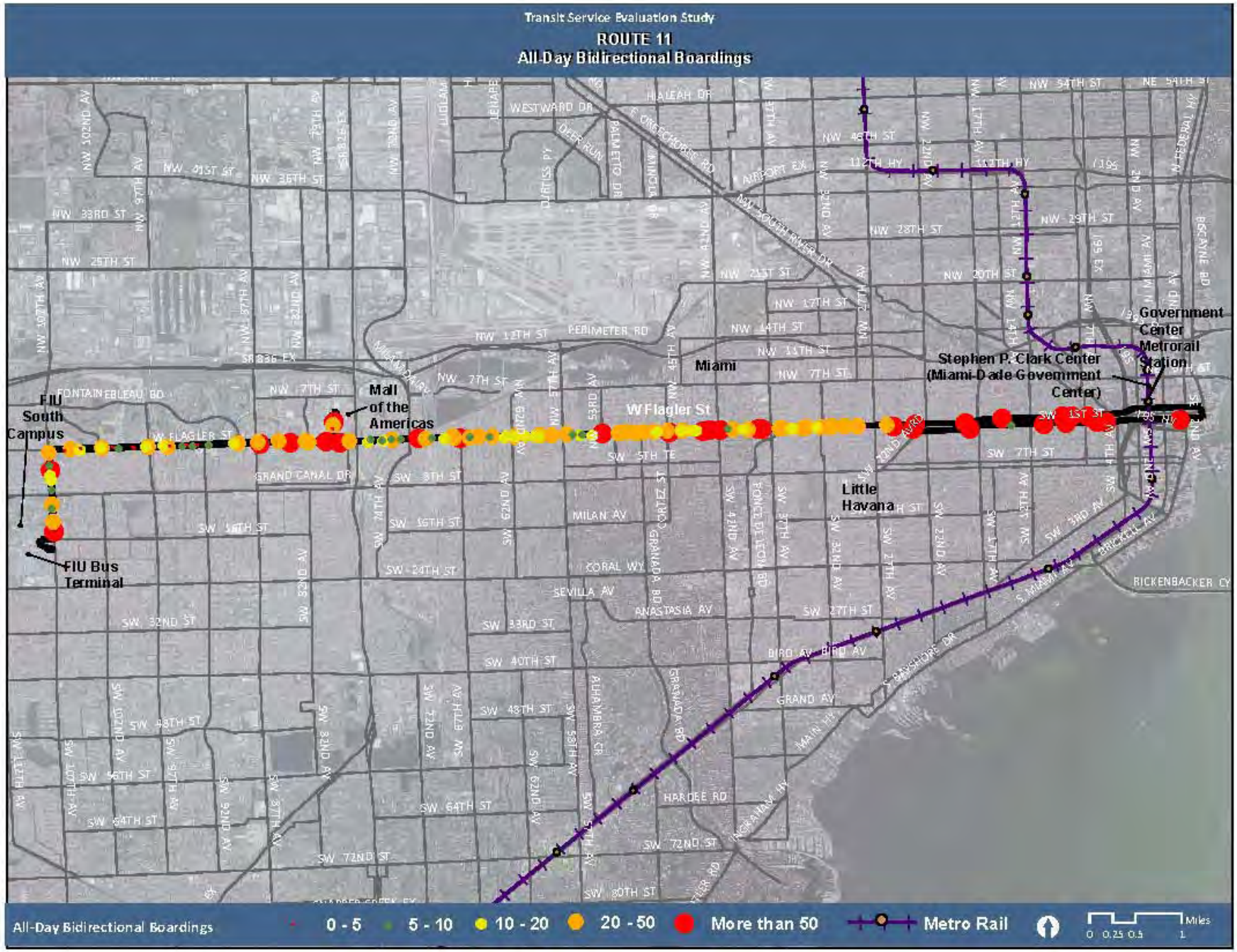
Route 10

Route 10 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles (Directional)	13.5
Number of Stops	101/95
Ridership	2,560
Route 10 Performance Measures	
Passengers per Trip	38
Passengers per Revenue Mile	3.1
Passengers per Revenue Hour	38
Farebox Ratio	0.33
Direct Operating Cost per Revenue Mile	$9.5
Direct Operating Cost per Passenger	$3.4
Direct Operating Cost per Trip	$130

Route 10 serves the 163rd Street Mall Transit Hub and Skylake Mall.

Recommendations:

- Routes 9 and 10 should be combined once BRT/EBS (Enhanced Bus Service) is implemented in the Biscayne Corridor.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 11
All-Day Bidirectional Boardings
FIU South Campus
FIU Bus Terminal
Mall of the Americas
Miami
W Flagler St
Stephen P. Clark Center (Miami-Dade Government Center)
Government Center Metrorail Station
Little Havana
RICKENBACKER CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 11

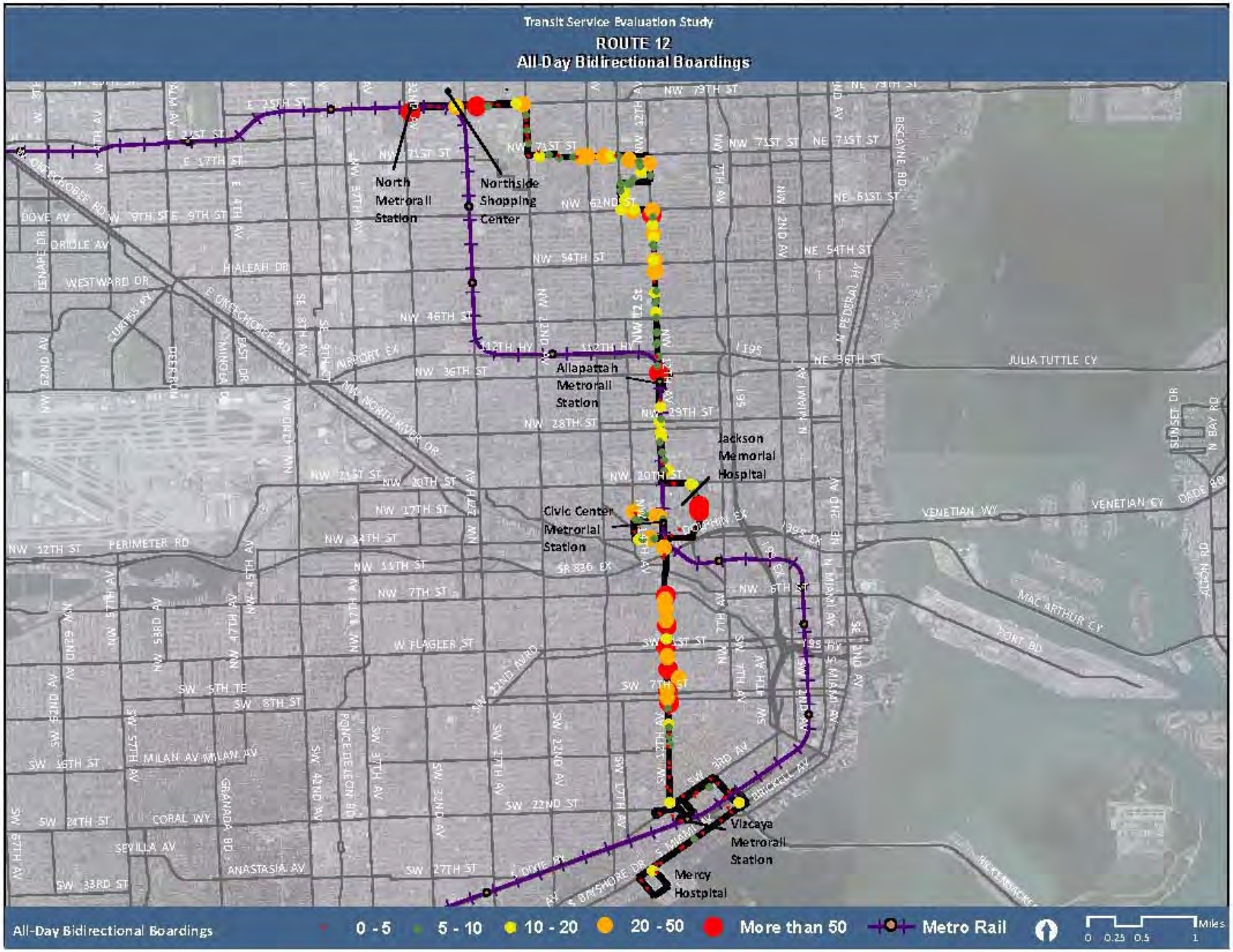
Route 11 Statistics	
Headway in Minutes (Peak/Off-Peak)	8/12
Route Miles (Directional)	13
Number of Stops – NB/SB	93/81
Ridership	11,560
Route 11 Performance Measures	
Passengers per Trip	61
Passengers per Revenue Mile	5.1
Passengers per Revenue Hour	53
Farebox Ratio	0.57
Direct Operating Cost per Revenue Mile	$10.3
Direct Operating Cost per Passenger	$1.9
Direct Operating Cost per Trip	$115

Route 11 runs along Flagler Street and provides connections to Florida International University (FIU), the Mall of the Americas Transit Hub, and Downtown Miami. The route is among the best performing routes in the entire system, with an average weekday ridership of 11,560.

Several segments of this route were analyzed to identify potential service improvements. The route deviation off of Flagler Street to serve the Mall of Americas via NW 79th Avenue accounts for approximately 10 minutes of run time, depending on the time of day. However, the route deviation contributes to significant passenger activity with nearly 690 boardings and alightings in both directions.

Recommendations:

- Given the high activity along the Mall of the Americas segment and travel time, changes to this segment are not recommended. This segment and connection to the Mall of the Americas should be further analyzed upon implementation of a BRT/EBS service.
- In the short term, this route should be maintained as a local service. In the long term, this route should be incorporated into a potential BRT/EBS system along Flagler Street and combined with Route 51.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 12
All-Day Bidirectional Boardings
North Metrorail Station
Northside Shopping Center
Allapattah Metrorail Station
Jackson Memorial Hospital
Civic Center Metrorail Station
Vizcaya Metrorail Station
Mercy Hospital
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 12

Route 12 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	14
Number of Stops	95/92
Ridership	3,360
Route 12 Performance Measures	
Passengers per Trip	49
Passengers per Revenue Mile	3.5
Passengers per Revenue Hour	41
Farebox Ratio	0.34
Direct Operating Cost per Revenue Mile	$9.7
Direct Operating Cost per Passenger	$2.7
Direct Operating Cost per Trip	$134

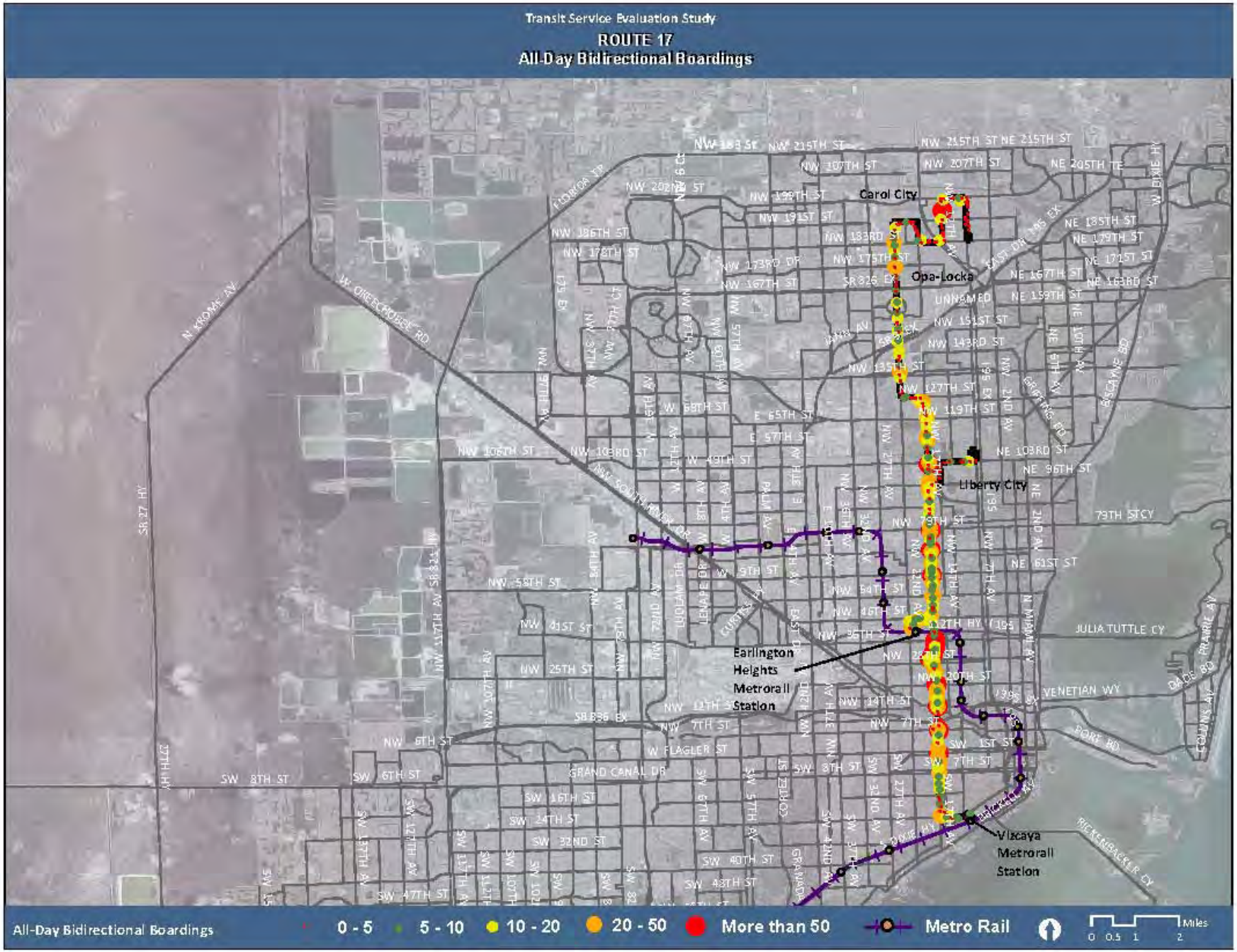
Route 12 runs along NW 12th Avenue and connects three Metrorail Stations. The route has an average weekday ridership of 3,360.

The segment analysis focused on two segments. The first segment is between Mercy Hospital and the Vizcaya Metrorail Station, where the route acts a feeder service between Mercy Hospital and Metrorail service. This segment has activity in excess of 750 boardings on a typical weekday. A roundtrip along this segment takes approximately 20 minutes. This segment is also served by Route 48, which runs along Bayshore Drive and connects Mercy Hospital with the Brickell Metrorail Station. Route 48 does not stop at Vizcaya Metrorail Station, and it operates at 60 minute headways.

The analysis also focused on the segment between Northside and Allapattah Metrorail Stations. This segment is also served by Route 21, which operates at 30-minute headways.

Recommendations:

- The portion of the route between the Northside and Allapattah Metrorail Stations should be consolidated with Route 21.
- Consolidation of the portion of the route between Mercy Hospital and the Vizcaya Metrorail Station with Route 48 should be considered. Route 48 can serve as a feeder route to Metrorail service, while Route 12 can operate as a trunk route in a trunk-and-feeder system, a concept that it described in detail in the *System Wide Recommendations* section of this report.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 17
All-Day Bidirectional Boardings
Carol City
Opa-Locka
Liberty City
Earlington Heights Metrorail Station
Vizcaya Metrorail Station
JULIA TUTTLE CY
VENETIAN WY
79TH ST CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

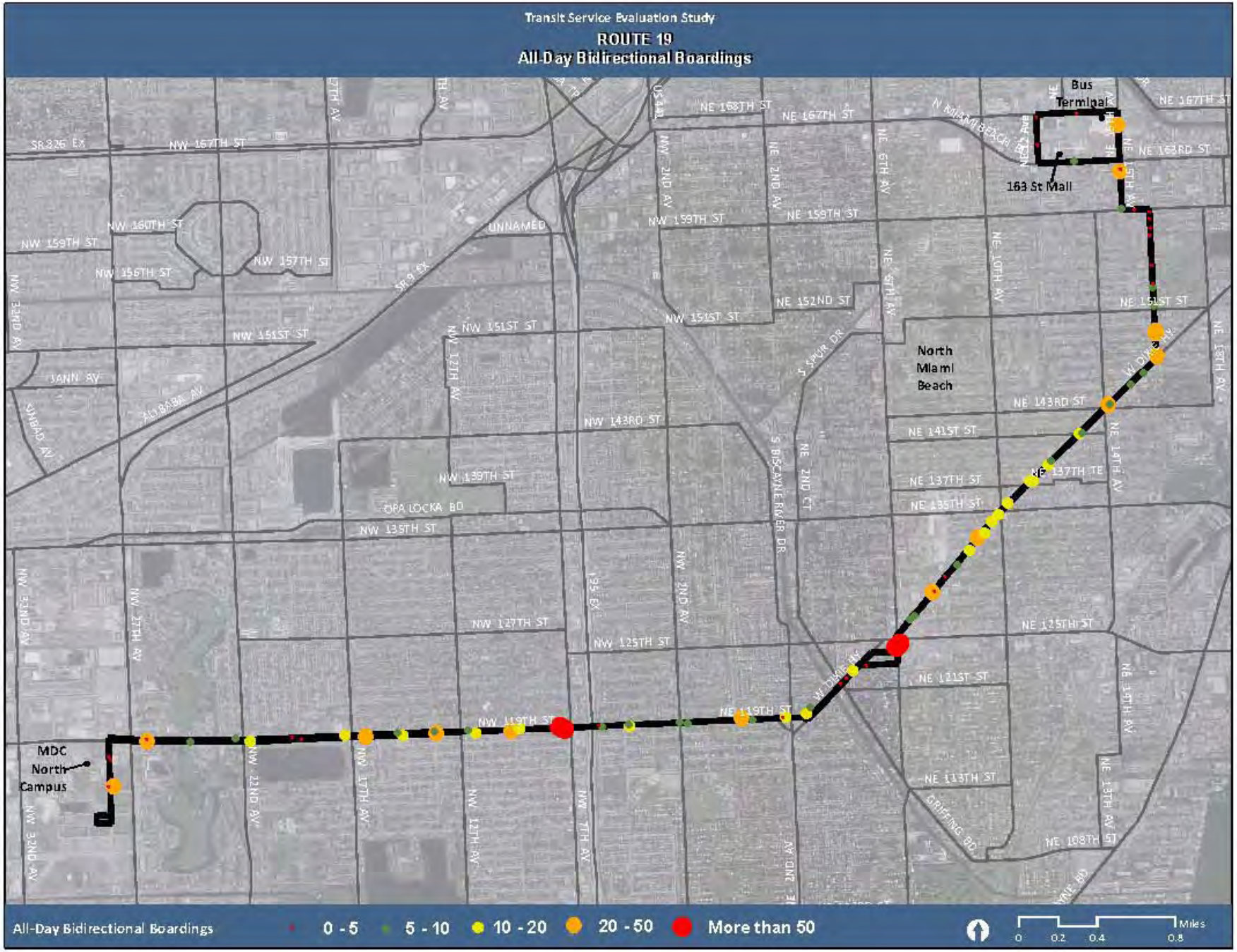
Route 17

Route 17 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles	23
Number of Stops	168/174
Ridership	4,760
Route 17 Performance Measures	
Passengers per Trip	52
Passengers per Revenue Mile	2.6
Passengers per Revenue Hour	39
Farebox Ratio	0.33
Direct Operating Cost per Revenue Mile	$8.8
Direct Operating Cost per Passenger	$3.1
Direct Operating Cost per Trip	$163

Route 17 runs along NW 17th Avenue with an average weekday ridership of 4,760. The segment analysis focused on two route deviations. The first segment is off of NW 17th Avenue, along NW 95th Street. This route deviation takes approximately 15 minutes during peak periods and generates a total activity of 87. The second route deviation is at the northern end of the route where a roundtrip takes approximately 25 minutes. This deviation generates total activity of 1,100 or approximately 8.5 percent of total route activity. The portion along NW 199th Street provides critical transit access to residents living close to the County line.

Recommendations:

- Given the high activity at the northern end, the route deviation should be maintained.
- The route deviation along NW 95th Street should be considered for elimination or consolidation to decrease route miles.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 19
All-Day Bidirectional Boardings
Bus Terminal
163 St Mall
North Miami Beach
MDC North Campus
NW 167TH ST
NE 167TH ST
NE 163RD ST
NW 159TH ST
NE 159TH ST
NW 157TH ST
NW 151ST ST
NE 151ST ST
NE 143RD ST
NE 141ST ST
NE 137TH ST
NE 135TH ST
NW 135TH ST
NW 127TH ST
NW 125TH ST
NE 125TH ST
NW 119TH ST
NE 121ST ST
NE 119TH ST
NE 113TH ST
NE 108TH ST
OPA LOCKA BD
GRIFFING BD
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0
0.2
0.4
0.8

Route 19

Route 19 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	8
Number of Stops	45/46
Ridership	1,770
Route 19 Performance Measures	
Passengers per Trip	27
Passengers per Revenue Mile	N/A
Passengers per Revenue Hour	N/A
Farebox Ratio	0.42
Direct Operating Cost per Revenue Mile	$7.4
Direct Operating Cost per Passenger	$2.6
Direct Operating Cost per Trip	$70

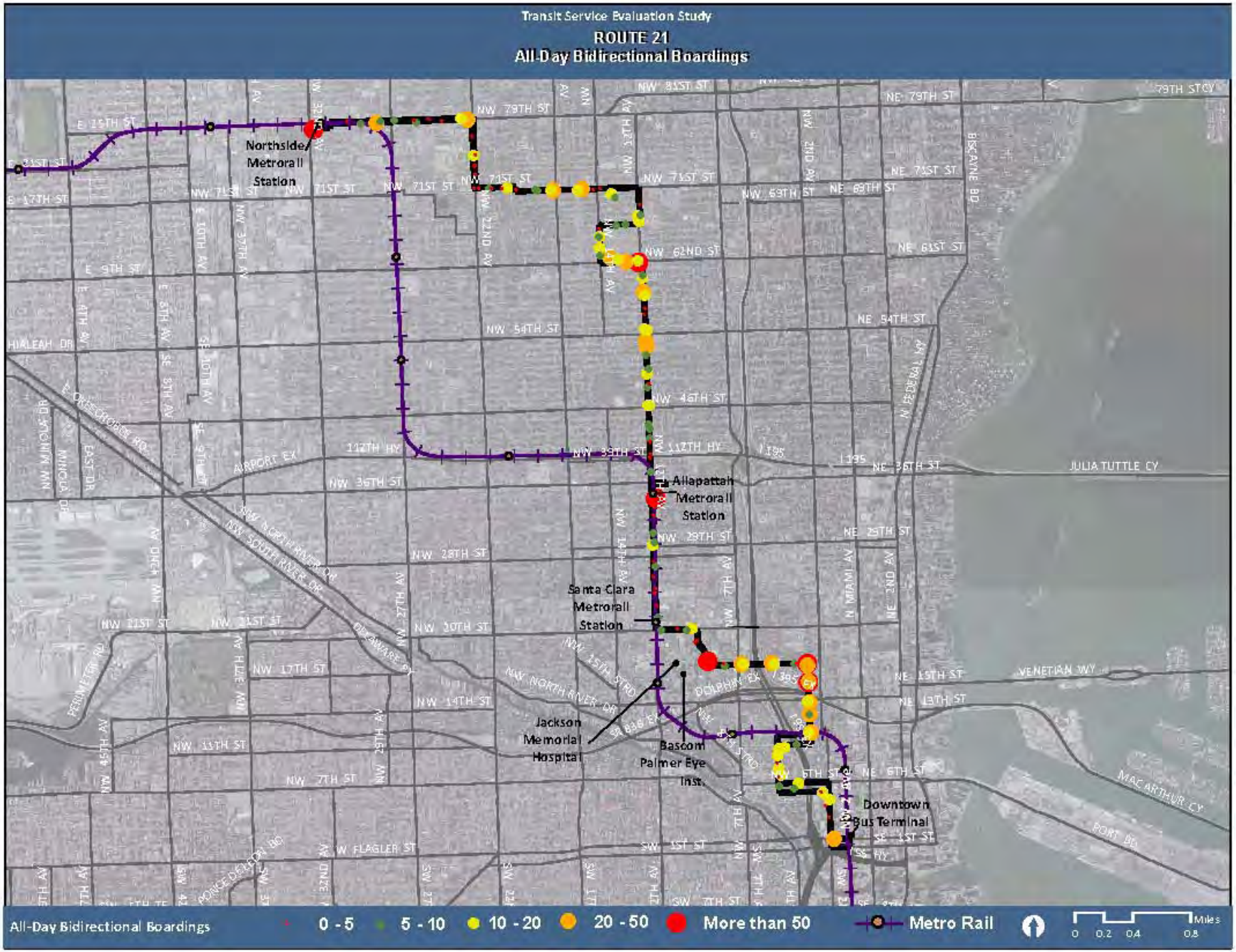
N/A = Not Available

Route 19 has an average weekday ridership of 1,770. This route was initiated as part of the December 2009 lineup changes. The route acts as a shuttle service between Miami Dade College North Campus and the 163rd Street Mall Transit Hub. It also provides a connection to Downtown in the City of North Miami located at NE 125th Street and Dixie Highway.

The route performs well based on the performance measures. A line load analysis shows that boardings and alightings are evenly spread along the route. It is the only route servicing residents along Dixie Highway and NE 119th Street. The route also provides transfer opportunities to Routes 77 and 277, which have nearly 325 boardings and alightings.

Recommendations:

- The route shows potential and should be considered for further improvements, including headway adjustments, to improve service.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 21
All-Day Bidirectional Boardings
Northside Metrorail Station
Allapattah Metrorail Station
Santa Clara Metrorail Station
Jackson Memorial Hospital
Bascom Palmer Eye Inst.
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.2 0.4 0.8

Route 21

Route 21 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	10
Number of Stops	68/71
Ridership	2,330
Route 21 Performance Measures	
Passengers per Trip	36
Passengers per Revenue Mile	3.8
Passengers per Revenue Hour	43
Farebox Ratio	0.32
Direct Operating Cost per Revenue Mile	$9.8
Direct Operating Cost per Passenger	$2.6
Direct Operating Cost per Trip	$93

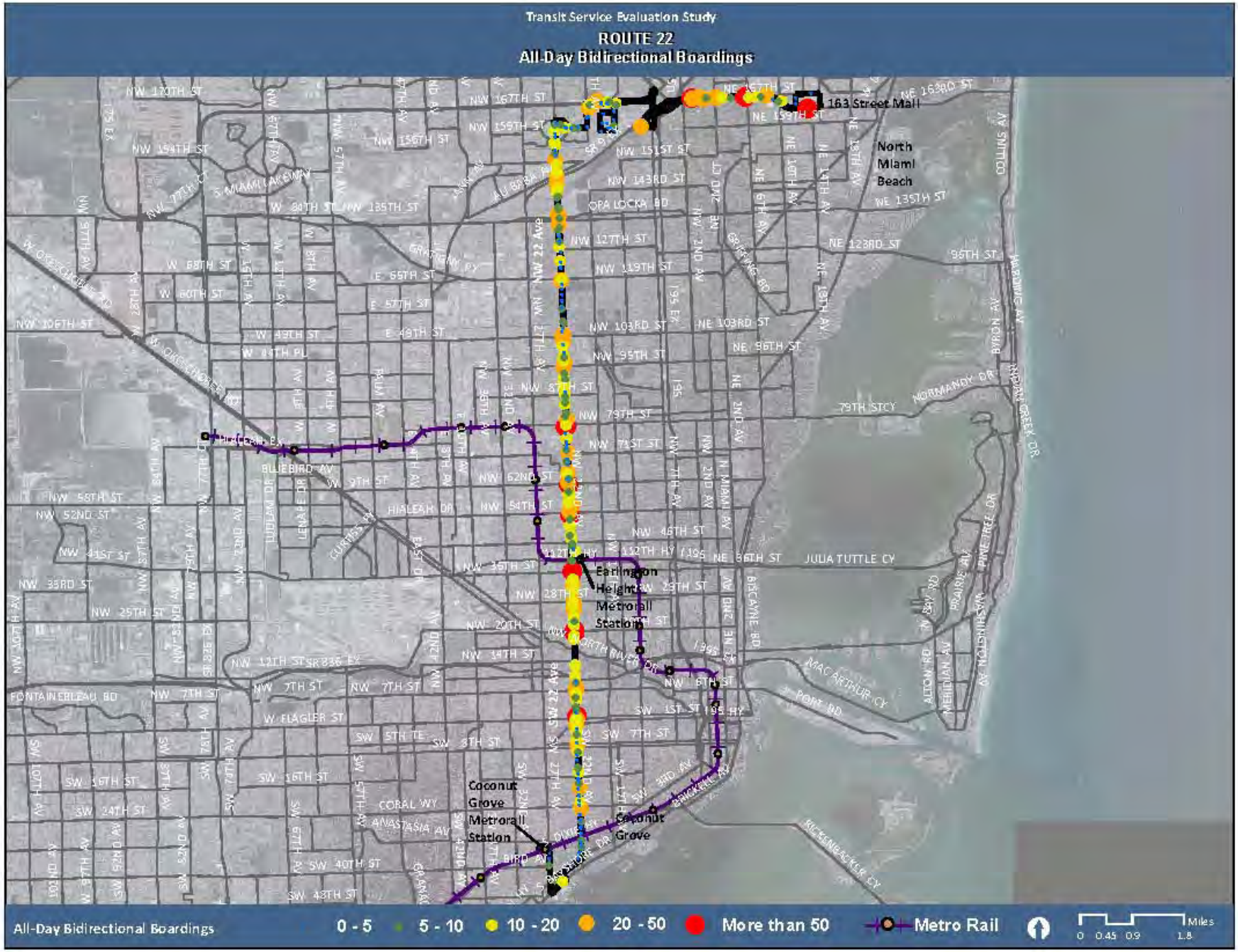
Route 21 is a north-south local service providing connection to three Metrorail Stations and to Downtown Miami. Different segments were analyzed to identify the potential for service improvements. The portion between the Allapattah and Northside Metrorail Stations contains the most activity, accounting for half of total route activity. However, this segment is nearly identical to Route 12 which also serves the aforementioned Metrorail Stations. Route 12 operates at 30-minute headways. Therefore, with the overlapping routes, the portion between Allapattah and Northside Metrorail stations has an effective 15-minute headway.

The portion south of Jackson Memorial Hospital overlaps with the Metrorail service and several other Metrobus routes. Route 21 has highly productive segments. For example, the segment along NW 5th Avenue has eight stops with average daily activity in excess of 180. Similarly, stops along NW 3rd Avenue are also highly productive.

Route 21 diverts from NW 12th Street on NW 62nd Street, NW 14th Avenue, and NW 67th Street to serve the Liberty Square Public Housing neighborhood. This diversion accounts for around 200 daily route boardings.

Recommendations:

- The portion of the route between the Northside and Allapattah Metrorail Stations should be consolidated with Route 12.
- The portion of the route south of the Allapattah Metrorail Station serves a unique market that is not served by any other route and, therefore, should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 22
All-Day Bidirectional Boardings
163 Street Mall
North Miami Beach
Earlington Heights Metrorail Station
Coconut Grove Metrorail Station
Coconut Grove
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.45 0.9 1.8

Route 22

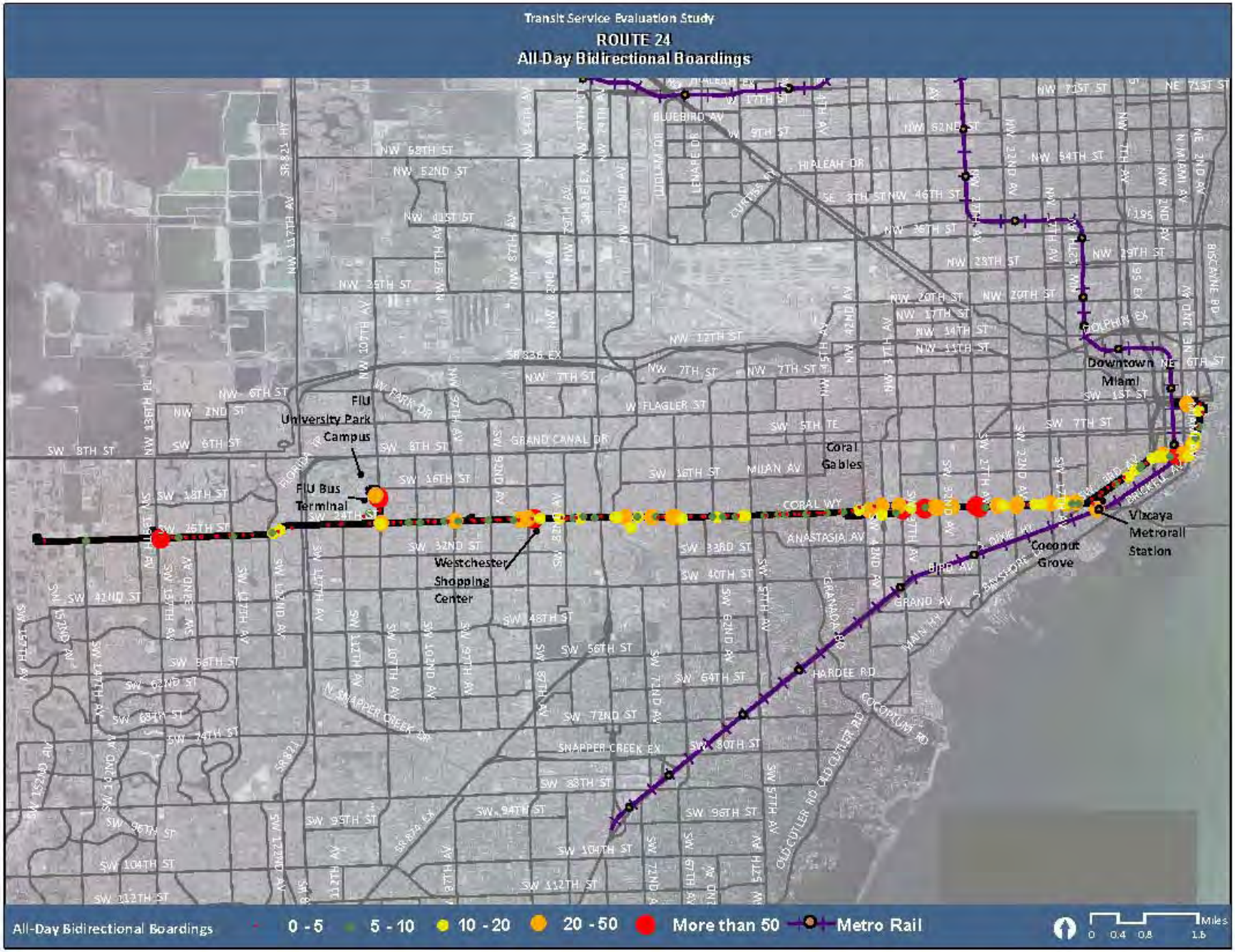
Route 22 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles	23
Number of Stops	137/139
Ridership	4,810
Route 22 Performance Measures	
Passengers per Trip	57
Passengers per Revenue Mile	2.5
Passengers per Revenue Hour	36
Farebox Ratio	0.32
Direct Operating Cost per Revenue Mile	$8.7
Direct Operating Cost per Passenger	$3.2
Direct Operating Cost per Trip	$182

Route 22 connects the Coconut Grove Metrorail Station with the 163rd Street Mall Transit Hub along SW 22nd Avenue and also serves the Earlington Heights Metrorail Station. Route 22 runs parallel to Route 27 and 97 within a half mile distance. The North Corridor is a premium transit corridor.

The segment between the Golden Glades Interchange and the 163rd Street Mall Transit Hub overlaps with Route 2. The passenger load analysis indicates that the 163rd Street Mall Transit Hub is not being utilized as the transfer point for this route.

Recommendations:

- Elimination of the segment between Golden Glades and the 163rd Street Mall Transit Hub should be considered.
- Reduction of headway and providing transfer opportunities to Routes 27 and 97 should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 24
All-Day Bidirectional Boardings
FIU University Park Campus
FIU Bus Terminal
Westchester Shopping Center
Coral Gables
Downtown Miami
Coconut Grove
Vizcaya Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.4 0.8 1.6

Route 24

Route 24 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/20
Route Miles	20
Number of Stops	98/102
Ridership	2,740
Route 24 Performance Measures	
Passengers per Trip	31
Passengers per Revenue Mile	1.9
Passengers per Revenue Hour	26
Farebox Ratio	0.28
Direct Operating Cost per Revenue Mile	$8.2
Direct Operating Cost per Passenger	$4.4
Direct Operating Cost per Trip	$134

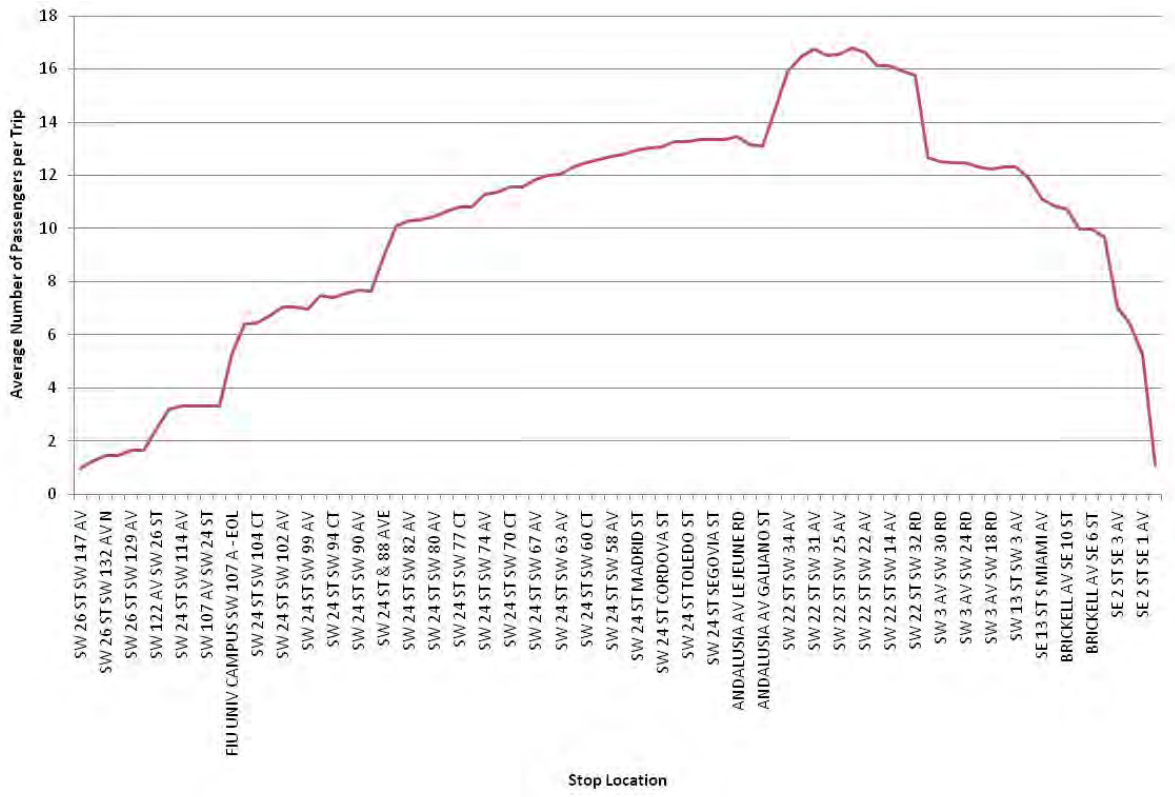
Recommendations:

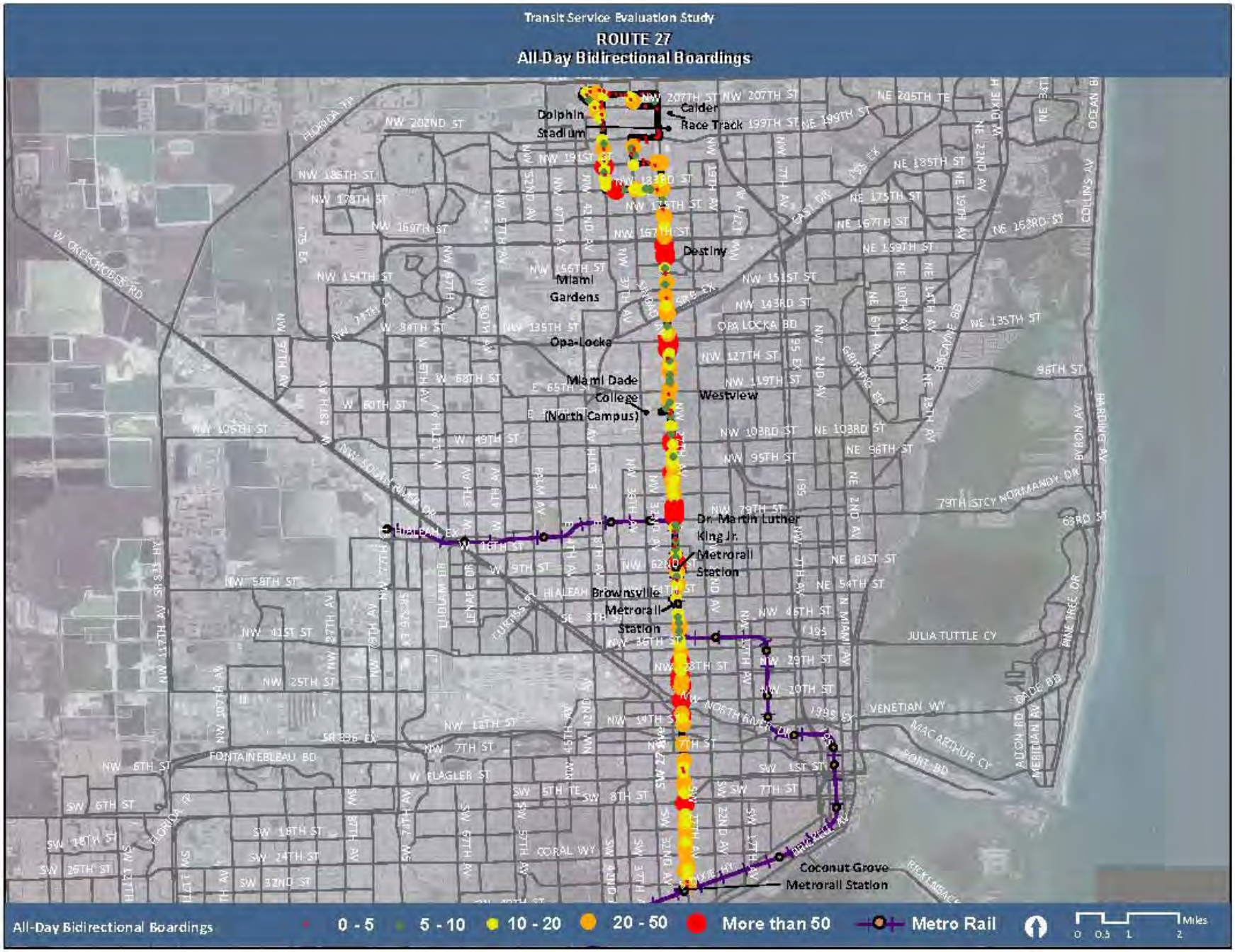
- The current service reflects mobility demand along the route. Therefore, the current service and alignment should be maintained.
- Bus stops between SW 57th Avenue and SW 42nd Avenue should be consolidated or eliminated to reduce route run time.

Route 24 is an east-west local service connecting FIU and the Westchester area with Downtown Miami. **Figure 17** depicts the eastbound weekday average passenger load.

As indicated in **Figure 17**, the average eastbound all-day passenger load per trip is less than five west of the FIU South campus. A roundtrip to SW 147th Avenue takes approximately 28 minutes during peak periods and generates a total activity of 300 out of nearly 38 trips. The stops at SW 87th Avenue, LeJeune Road, and SW 37th Avenue are major activity centers for this route.

Figure 17: Route 24 Weekday EB Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 27
All-Day Bidirectional Boardings
Dolphin Stadium
Calder Race Track
Miami Gardens
Destiny
Opa-Locka
Miami Dade College (North Campus)
Westview
Dr. Martin Luther King Jr. Metrorail Station
Brownsville Metrorail Station
Coconut Grove Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

Route 27

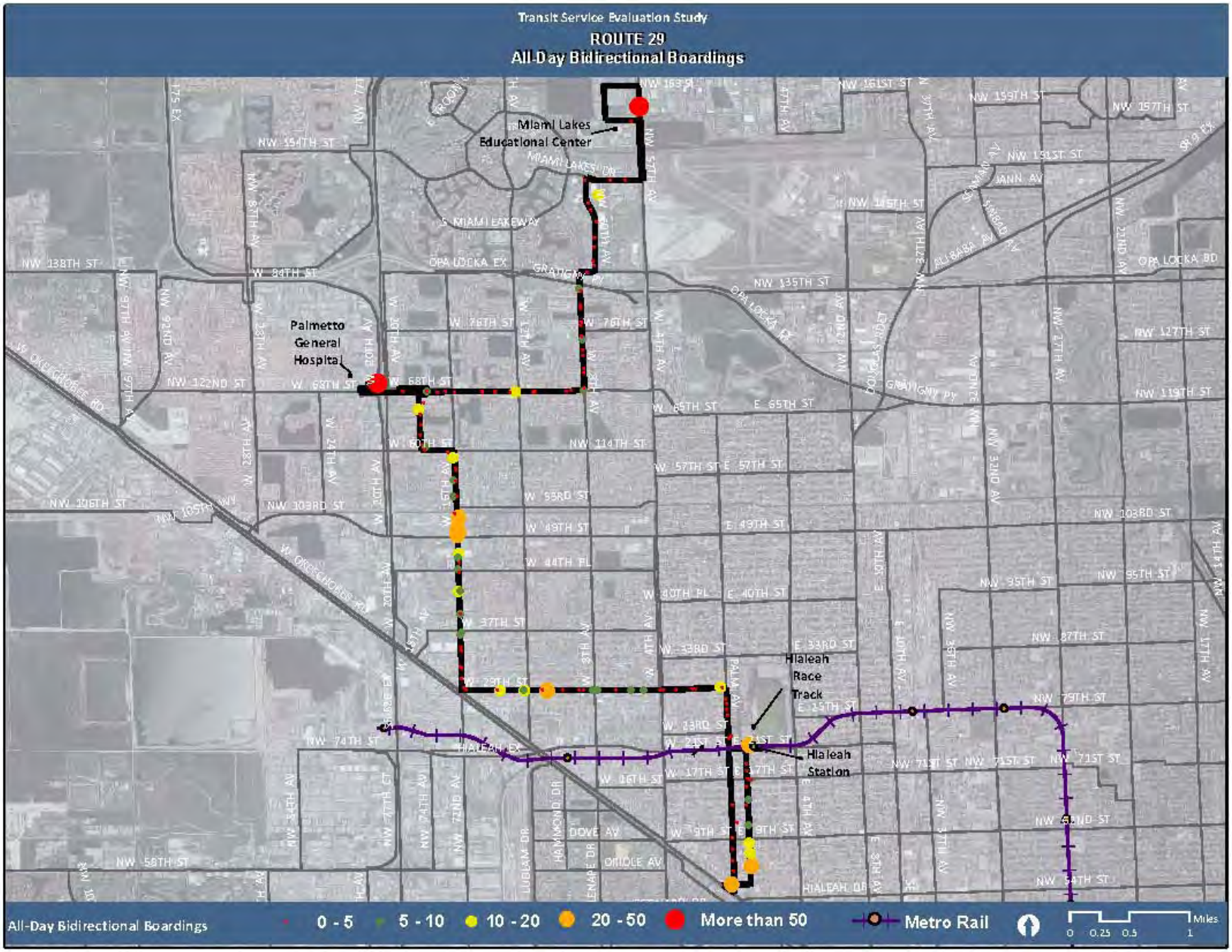
Route 27 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/15
Route Miles	20
Number of Stops	135/137
Ridership	9,530
Route 27 Performance Measures	
Passengers per Trip	69
Passengers per Revenue Mile	3.7
Passengers per Revenue Hour	52
Farebox Ratio	0.50
Direct Operating Cost per Revenue Mile	$8.5
Direct Operating Cost per Passenger	$2.3
Direct Operating Cost per Trip	$158

Route 27 is a local north-south service that runs along NW 27th Avenue and connects the Coconut Grove Metrorail Station with Opa-Locka and Miami Gardens. It has nearly 9,530 boardings on a typical weekday.

This route has two patterns, both connecting to the Coconut Grove Metrorail Station. Route 27A includes the loop in the northern portion of the route along NW 183rd Street, NW 37th Avenue, and NW 211th Street which serves a number of education institutions, such as the Miami Carol City Adult School, North Dade Regional Academy, Carol City Junior High School, and Carol City Senior High School, as well as the Carol City Complex. An analysis of passenger line loads shows that this route serves multiple travel markets.

Recommendations:

- Splitting this service in two routes at the Dr. Martin Luther King, Jr. Metrorail Station should be considered. One route would serve NW 27th Avenue from the Sun Life Stadium south to the Dr. Martin Luther King, Jr. Metrorail Station. The second route would extend from Dr. Martin Luther King, Jr. Metrorail Station, through Brownsville Metrorail Station and south to Coconut Grove Metrorail Station.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 29
All-Day Bidirectional Boardings
Miami Lakes Educational Center
Palmetto General Hospital
Hialeah Race Track
Hialeah Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 29

Route 29 Statistics	
Headway in Minutes (Peak/Off-Peak)	45/45
Route Miles	13
Number of Stops	74/69
Ridership	920
Route 29 Performance Measures	
Passengers per Trip	26
Passengers per Revenue Mile	2.0
Passengers per Revenue Hour	27
Farebox Ratio	0.17
Direct Operating Cost per Revenue Mile	$8.5
Direct Operating Cost per Passenger	$4.2
Direct Operating Cost per Trip	$110

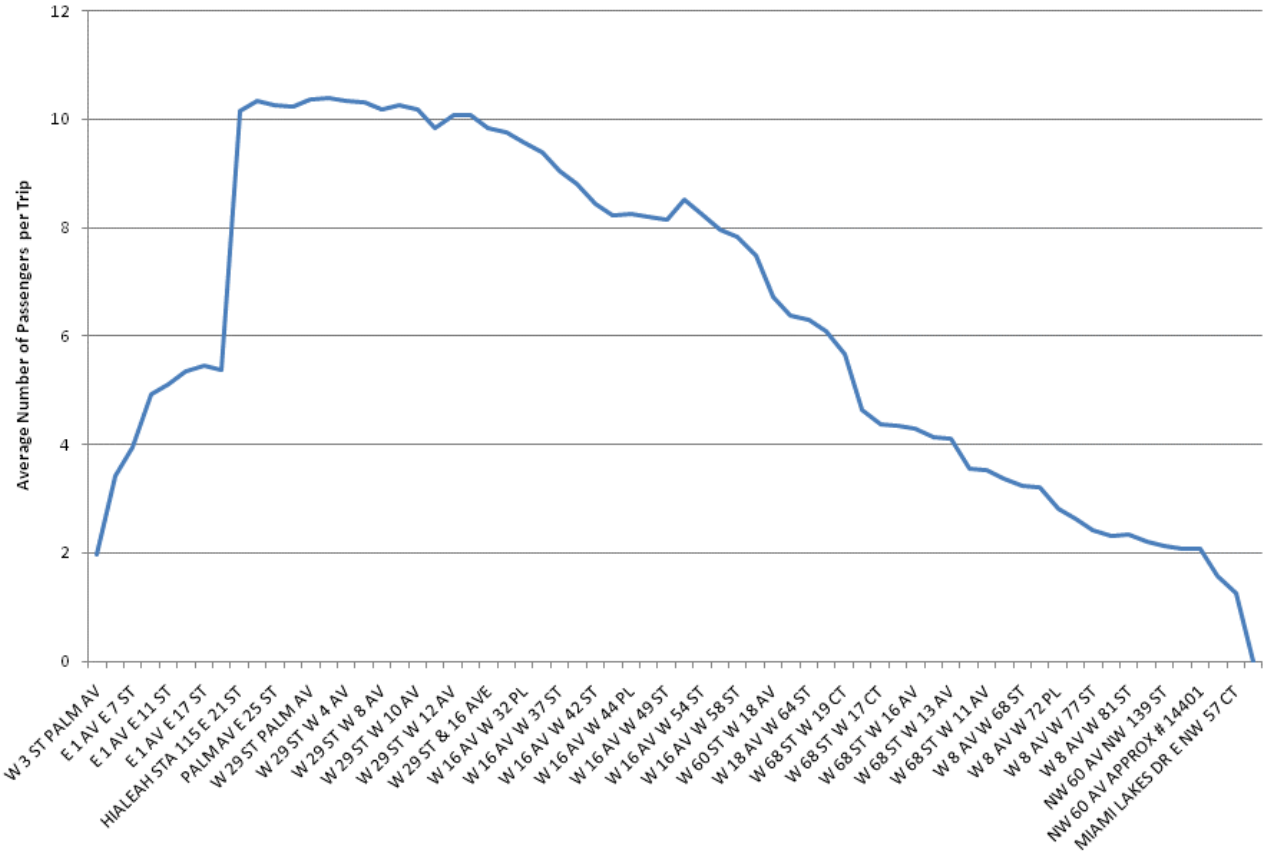
Recommendations:

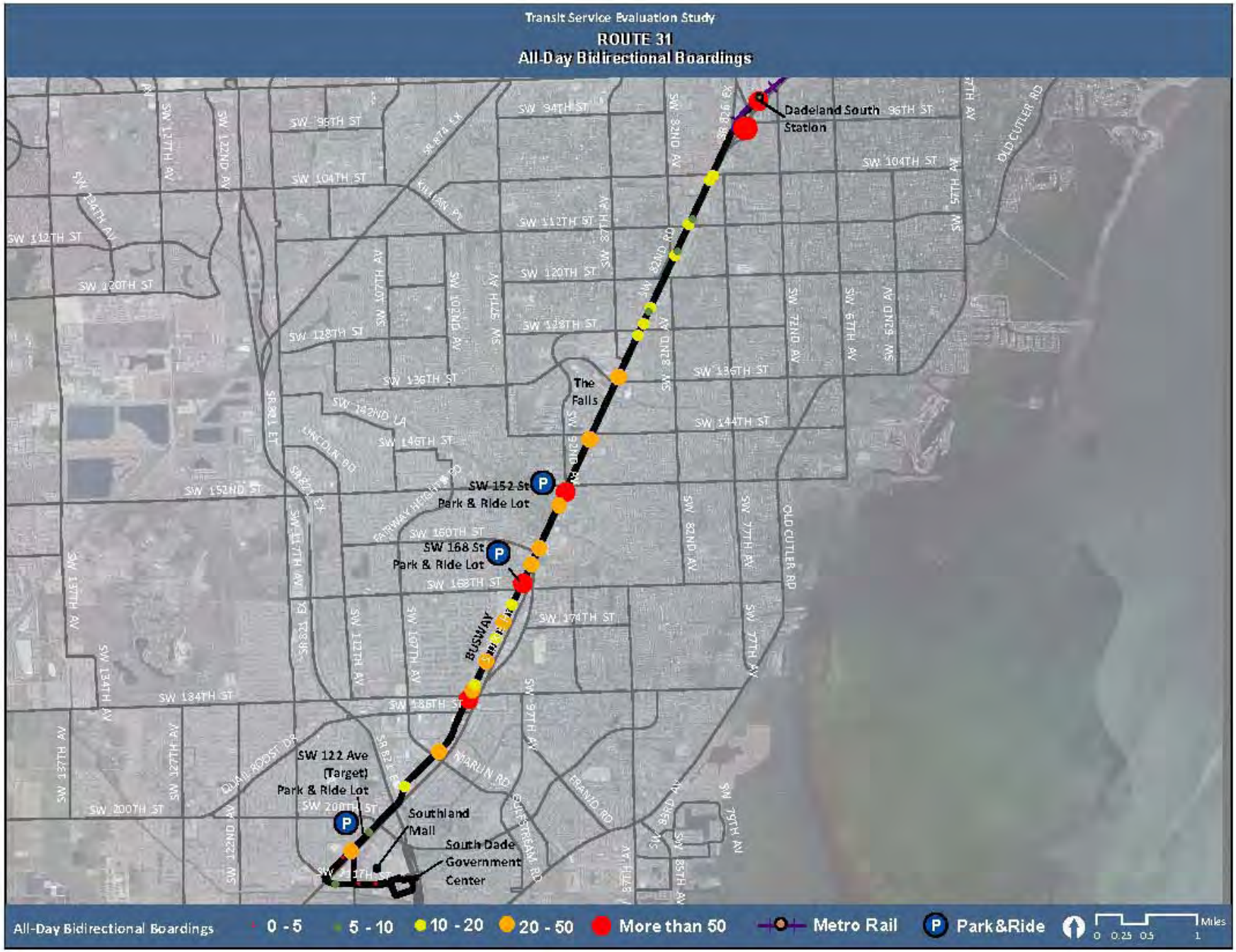
- Elimination of the segment south of the Hialeah Metrorail Station, which is also served by Route 37, should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 29 is a north-south local service connecting the Miami Lakes Technical Education Center and Palmetto General Hospital with Metrorail service. Passenger loads were analyzed to identify ridership patterns. The route serves as a feeder service for the Hialeah Metrorail Station. The stop at the Hialeah Metrorail Station has the highest amount of activity throughout the day. The segment south of the Hialeah Metrorail Station essentially serves the same market as Route 37. Passenger loads indicate that passengers boarding south of the Hialeah Metrorail Station are transferring at the Metrorail Station.

Performance measures for this route are low compared to other routes. However, this route serves a unique mobility need, as it connects to a major hospital and educational institute. **Figure 18** shows the northbound daily average passengers.

Figure 18: Route 29 Weekday NB All-Day Average Passenger Load




Transit Service Evaluation Study
ROUTE 31
All-Day Bidirectional Boardings
Dadeland South Station
SW 104TH ST
SW 112TH ST
SW 120TH ST
SW 128TH ST
SW 136TH ST
SW 144TH ST
SW 152ND ST
SW 160TH ST
SW 168TH ST
SW 174TH ST
SW 184TH ST
SW 200TH ST
The Falls
SW 152 St Park & Ride Lot
SW 168 St Park & Ride Lot
SW 122 Ave (Target) Park & Ride Lot
Southland Mall
South Dade Government Center
BUSWAY
OLD CUTLER RD
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles
0 0.25 0.5 1

Route 31

Route 31 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles (Directional)	19
Number of Stops	19/20
Ridership	1,410
Route 31 Performance Measures	
Passengers per Trip	20
Passengers per Revenue Mile	2.1
Passengers per Revenue Hour	36
Farebox Ratio	0.30
Direct Operating Cost per Revenue Mile	$7.8
Direct Operating Cost per Passenger	$4.3
Direct Operating Cost per Trip	$88

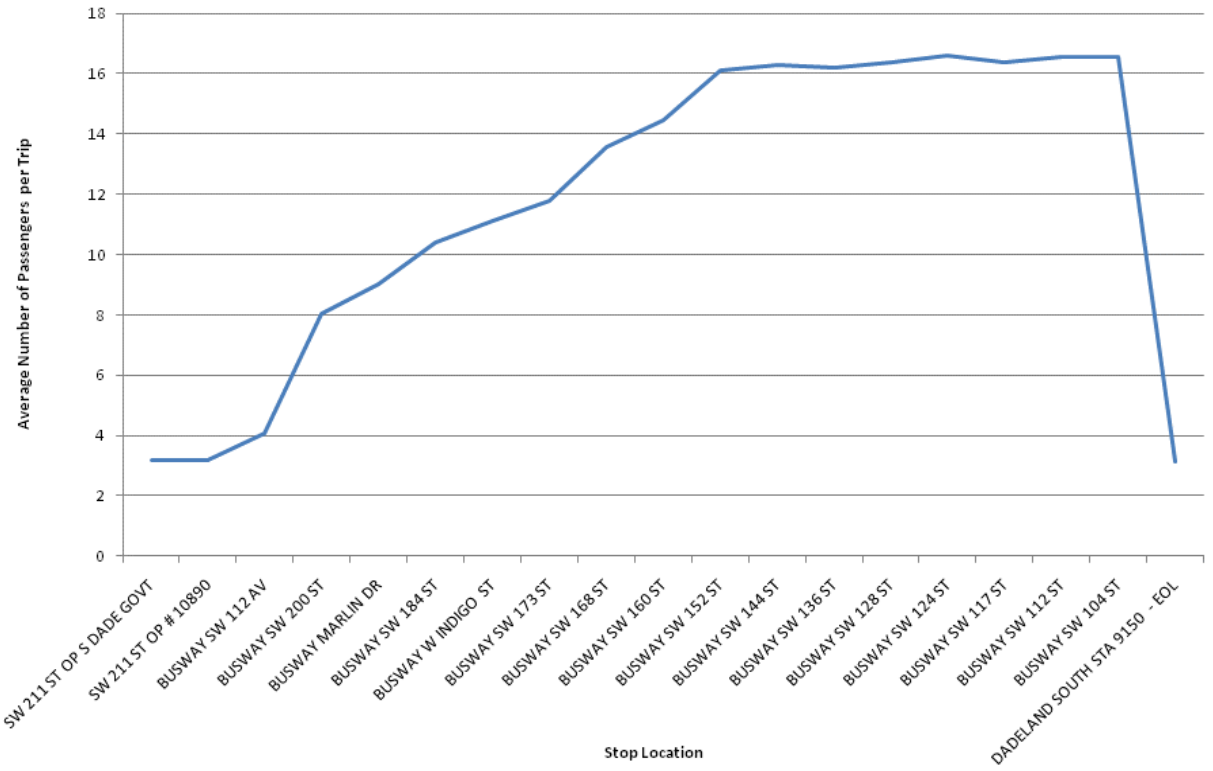
Recommendations:

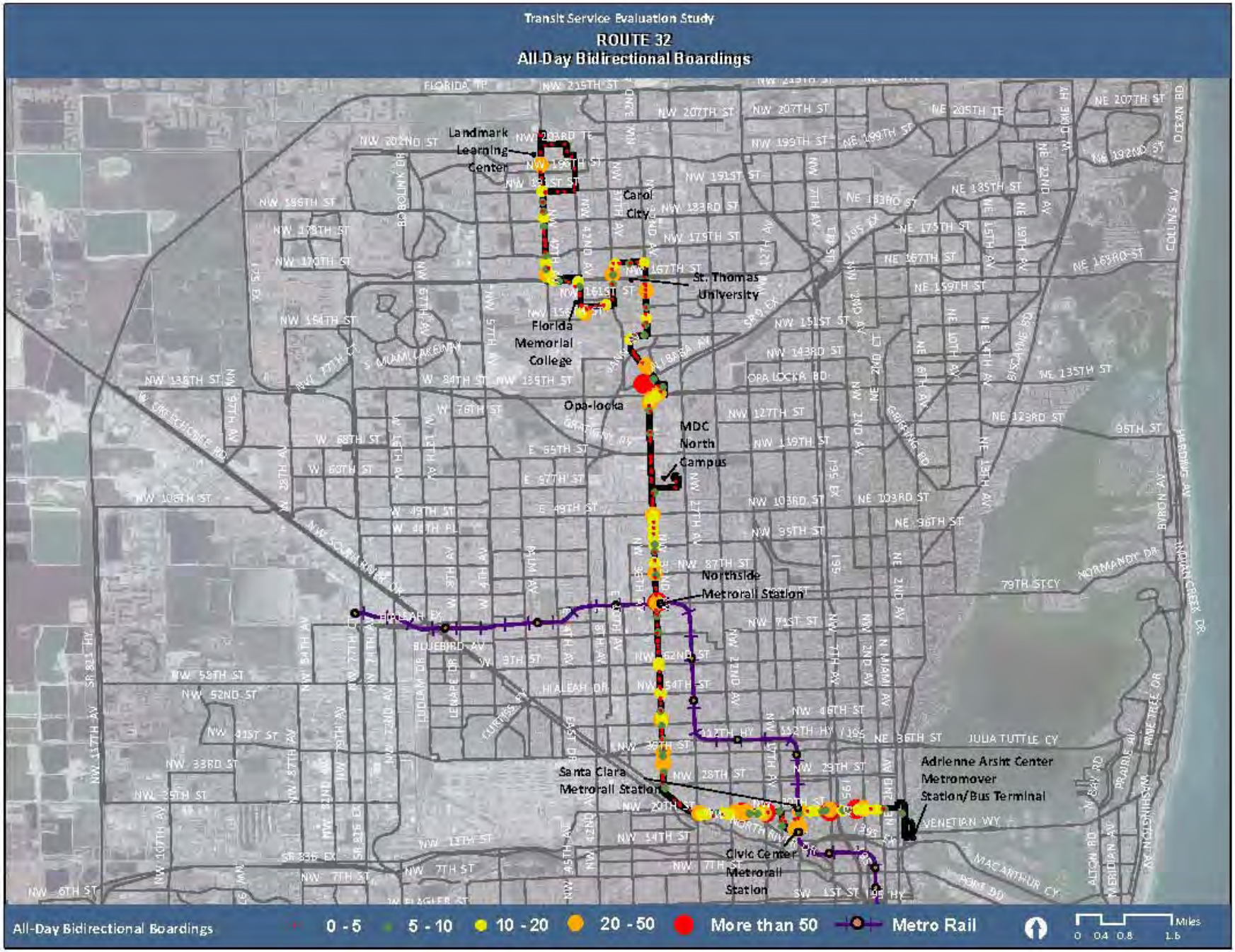
- Route 31 primarily provides additional capacity to the Busway; therefore, truncation of the route should be considered at the Busway, creating a feeder service to the Busway from South Dade Government Center and Southland Mall.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 31 is a Busway local service that provides a connection to the Dadeland South Metrorail Station. **Figure 19** illustrates the northbound ridership demand. The average weekday ridership for this route is 1,410. Unlike other limited-stop routes, the ridership is spread throughout the day, indicating that it may serve a variety of trip purposes.

This route serves two distinct purposes. Nearly 20 percent of the ridership is generated at the South Dade Government Center; therefore, it acts a feeder service to the Busway. The remaining 80 percent board or alight along the Busway, indicating that the route provides additional capacity for the corridor.

Figure 19: Route 31 Average Weekday NB Daily Line Load




Transit Service Evaluation Study
ROUTE 32
All-Day Bidirectional Boardings
Landmark Learning Center
Carol City
St. Thomas University
Florida Memorial College
Opa-locka
MDC North Campus
Northside Metrorail Station
Santa Clara Metrorail Station
Civic Center Metrorail Station
Adrienne Arsht Center Metromover Station/Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.4 0.8 1.6

Route 32

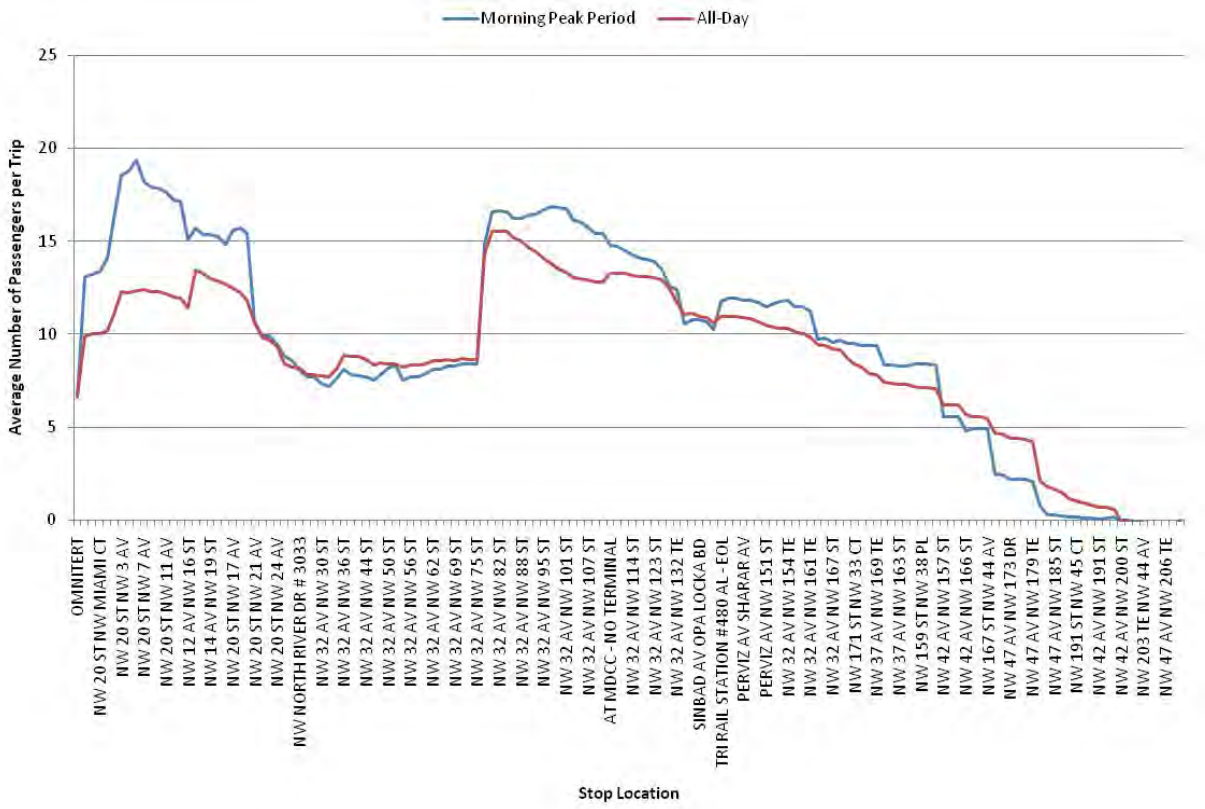
Route 32 Statistics	
Headway in Minutes (Peak/Off-Peak)	24/30
Route Miles	23
Number of Stops	142/152
Ridership	3,620
Route 32 Performance Measures	
Passengers per Trip	48
Passengers per Revenue Mile	2.0
Passengers per Revenue Hour	30
Farebox Ratio	0.28
Direct Operating Cost per Revenue Mile	$7.9
Direct Operating Cost per Passenger	$3.8
Direct Operating Cost per Trip	$183

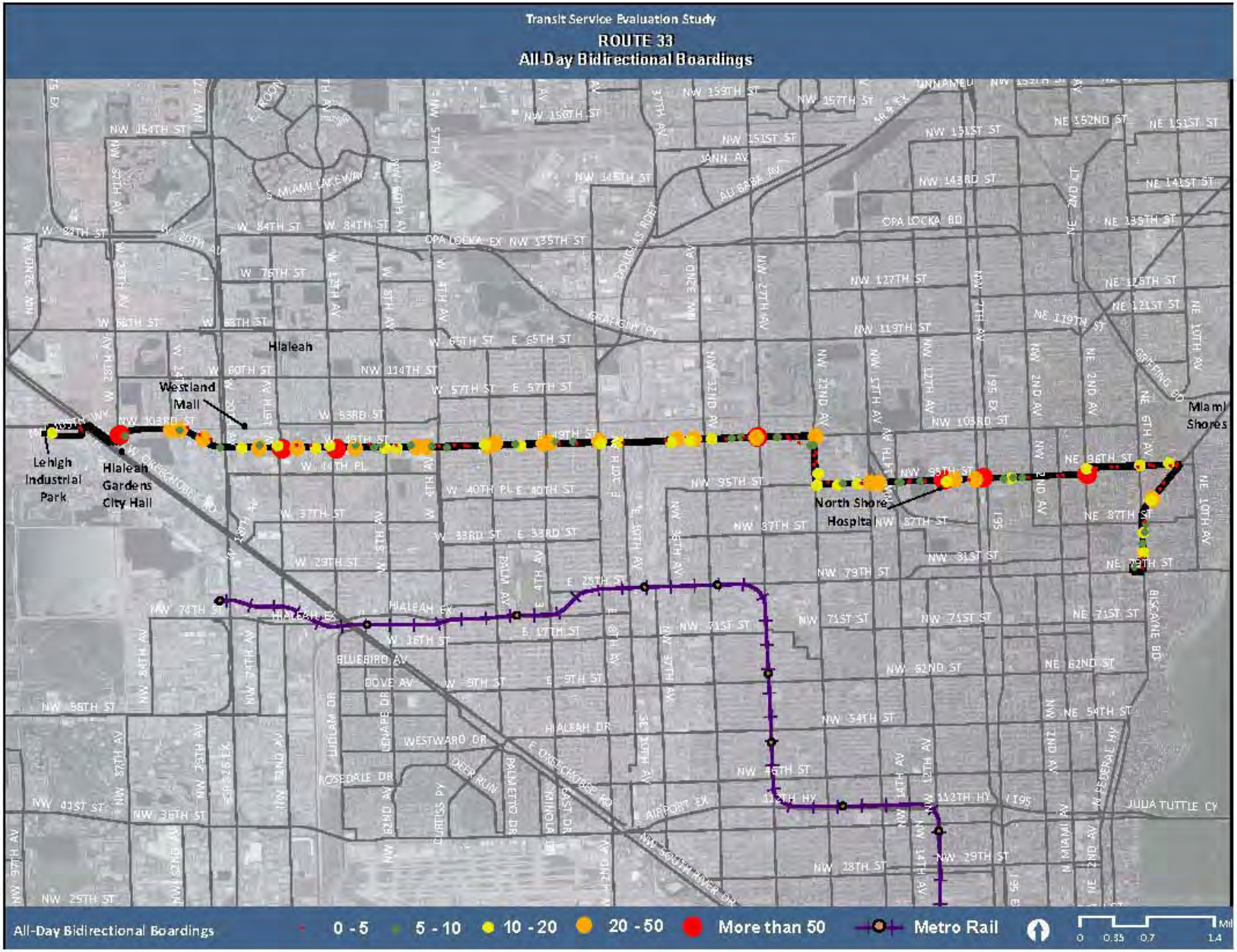
Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 32 is a north-south local service that connects several educational institutions with Metrorail and Tri-Rail services. A detailed look at the segments and passenger loads indicates that the northern portion of the route, north of NW 167th Street, is underutilized. As illustrated in **Figure 20**, the average passenger load is five or less north of NW 167th Street. The downtown segment exhibits high passenger loads during the morning peak period, indicating high utilization by commuters. On the other hand, the segment connecting the MDC North Campus sees its highest load during mid-day. The route also enters the Miami-Dade College north campus. The MDC terminal generates a total activity of 280 boardings on a typical weekday.

Figure 20: Route 32 NB AM Peak Period versus Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 33
All-Day Bidirectional Boardings
Hialeah
Westland Mall
Lehigh Industrial Park
Hialeah Gardens City Hall
North Shore Hospital
Miami Shores
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail

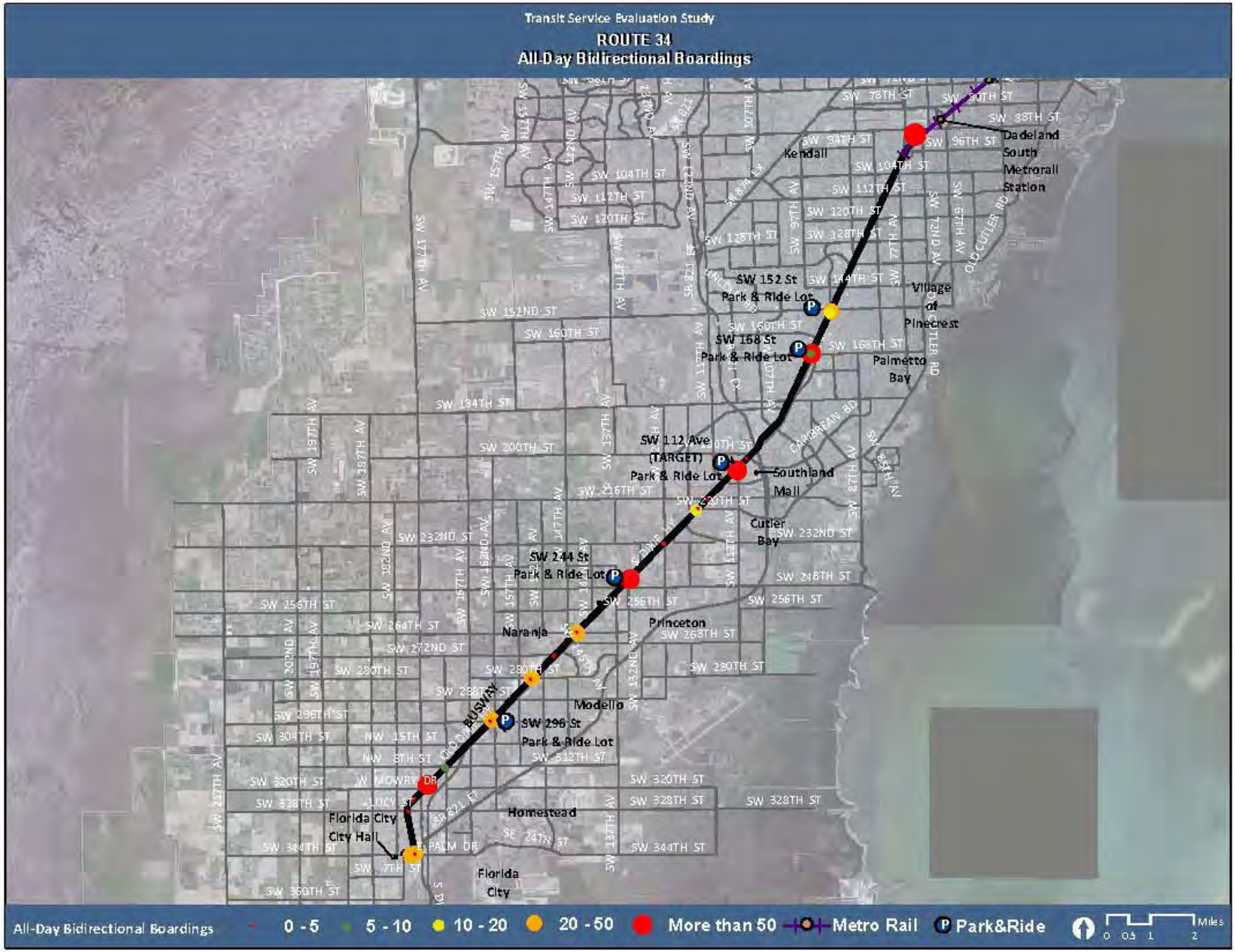
Route 33

Route 33 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	13
Number of Stops	72/75
Ridership	2,090
Route 33 Performance Measures	
Passengers per Trip	33
Passengers per Revenue Mile	2.7
Passengers per Revenue Hour	37
Farebox Ratio	0.26
Direct Operating Cost per Revenue Mile	$9.1
Direct Operating Cost per Passenger	$3.3
Direct Operating Cost per Trip	$108

Route 33 is an east-west local service that connects Hialeah Gardens, Hialeah, and Miami Shores. The route has an average of 2,090 boardings on a typical weekday. The average passenger load peaks during the midday. An analysis of segments and passenger loads indicates that the ridership peaks at NW 37th Avenue.

Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 34
All-Day Bidirectional Boardings
Dadeland South Metrorail Station
Kendall
SW 152 St Park & Ride Lot
Village of Pinecrest
SW 168 St Park & Ride Lot
Palmetto Bay
SW 112 Ave (TARGET) Park & Ride Lot
Southland Mall
Cutler Bay
SW 244 St Park & Ride Lot
Princeton
Naranja
Modello
SW 296 St Park & Ride Lot
Florida City City Hall
Homestead
Florida City
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles

Route 34

Route 34 Statistics	
Headway in Minutes (Peak)	7.5
Route Miles	20
Number of Stops	19/19
Ridership	1,420
Route 34 Performance Measures	
Passengers per Trip	37
Passengers per Revenue Mile	1.8
Passengers per Revenue Hour	33
Farebox Ratio	0.22
Direct Operating Cost per Revenue Mile	$8.4
Direct Operating Cost per Passenger	$4.8
Direct Operating Cost per Trip	$180

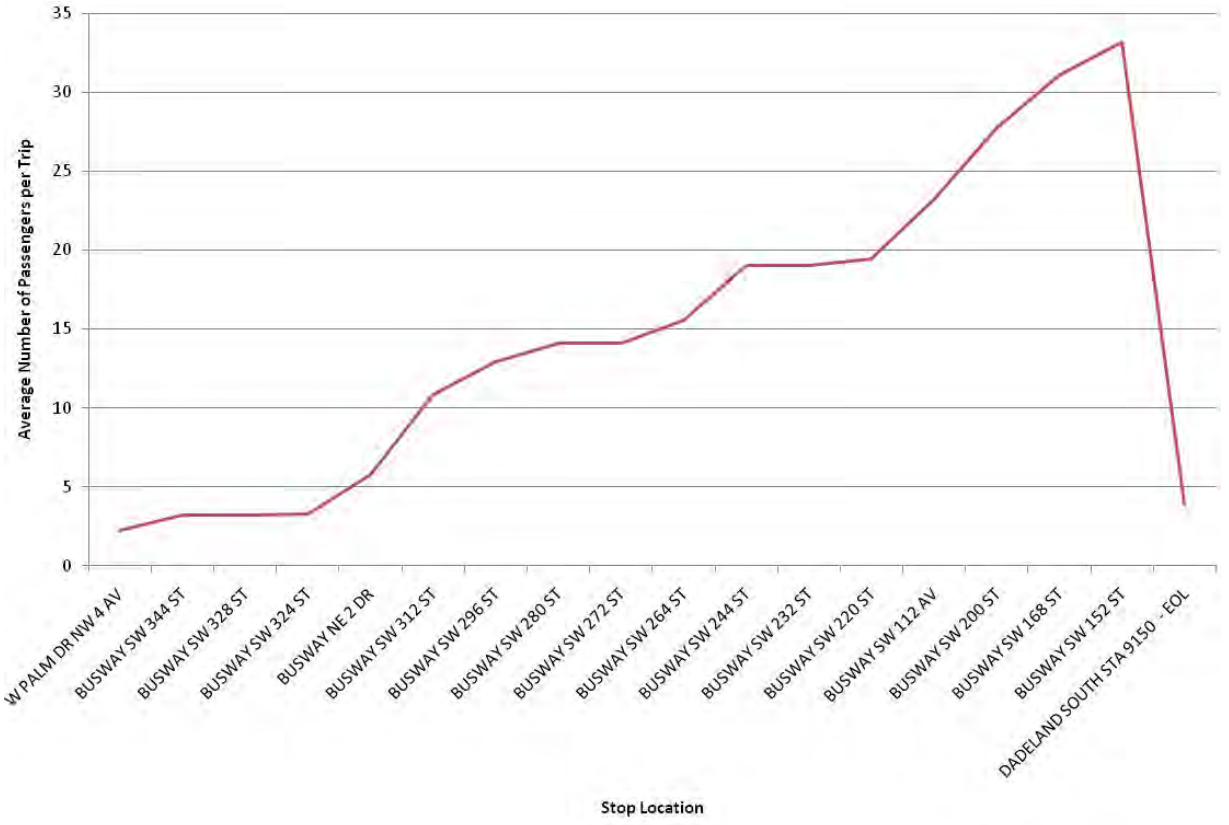
Recommendations:

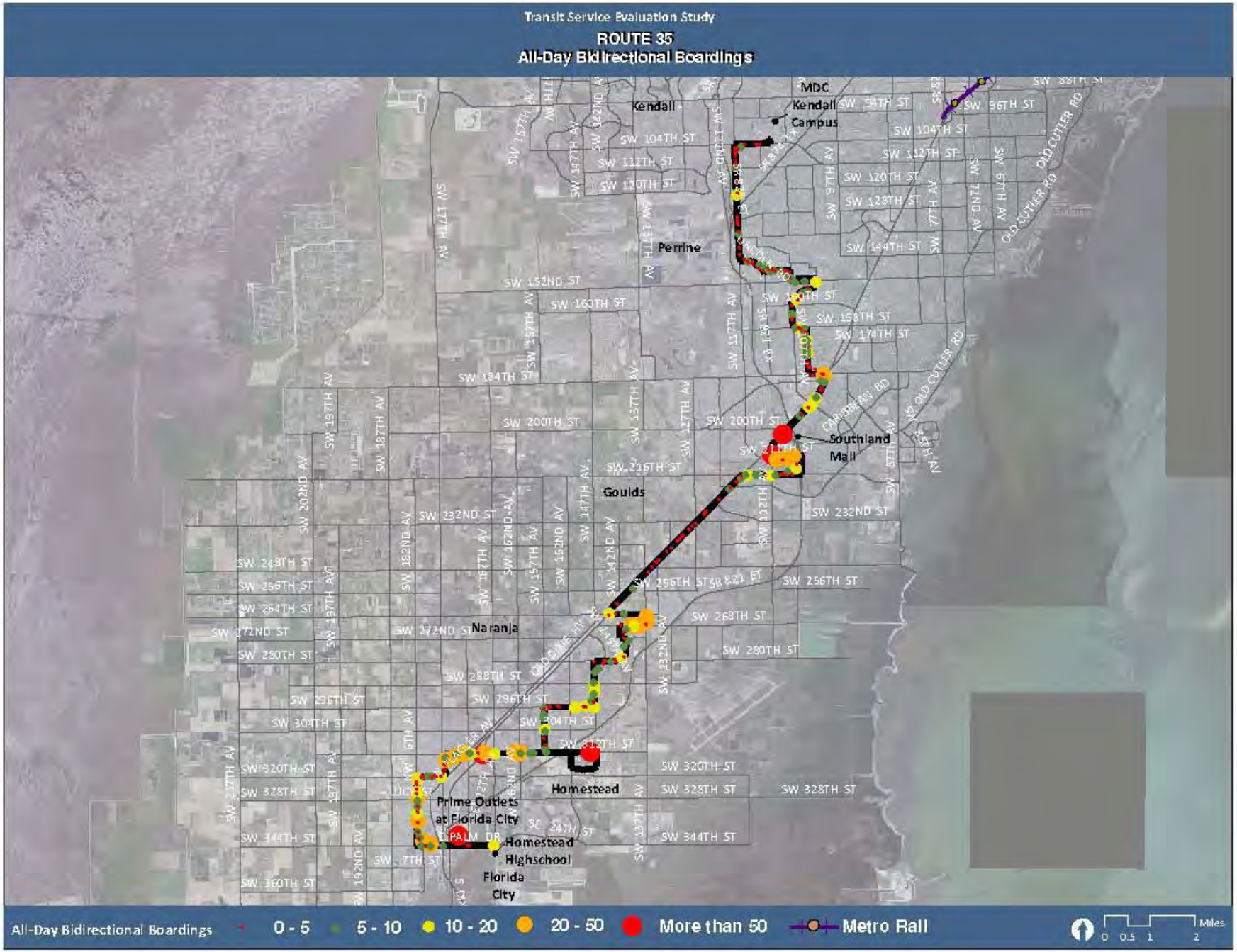
- The current service should be maintained.

Route 34 is a Busway limited-stop service that connects Florida City and Homestead with the Dadeland South Metrorail Station. The route operates only during peak periods and on the peak direction. **Figure 20** illustrates northbound ridership demand.

The average weekday ridership for this route is 1,420. This route will connect to the 344th Street Terminal which is currently in design stages. As seen in **Figure 21**, average passenger load decreases south of SW 312th Street. This segment is also served by Route 38, which operates at 15 minute headways throughout the day.

Figure 21: Route 34 Average Weekday NB All-Day Line Load




Transit Service Evaluation Study
ROUTE 35
All-Day Bidirectional Boardings
Kendall
MDC Kendall Campus
Perrine
Southland Mall
Goulds
Naranja
Homestead
Prime Outlets at Florida City
Homestead Highschool
Florida City
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

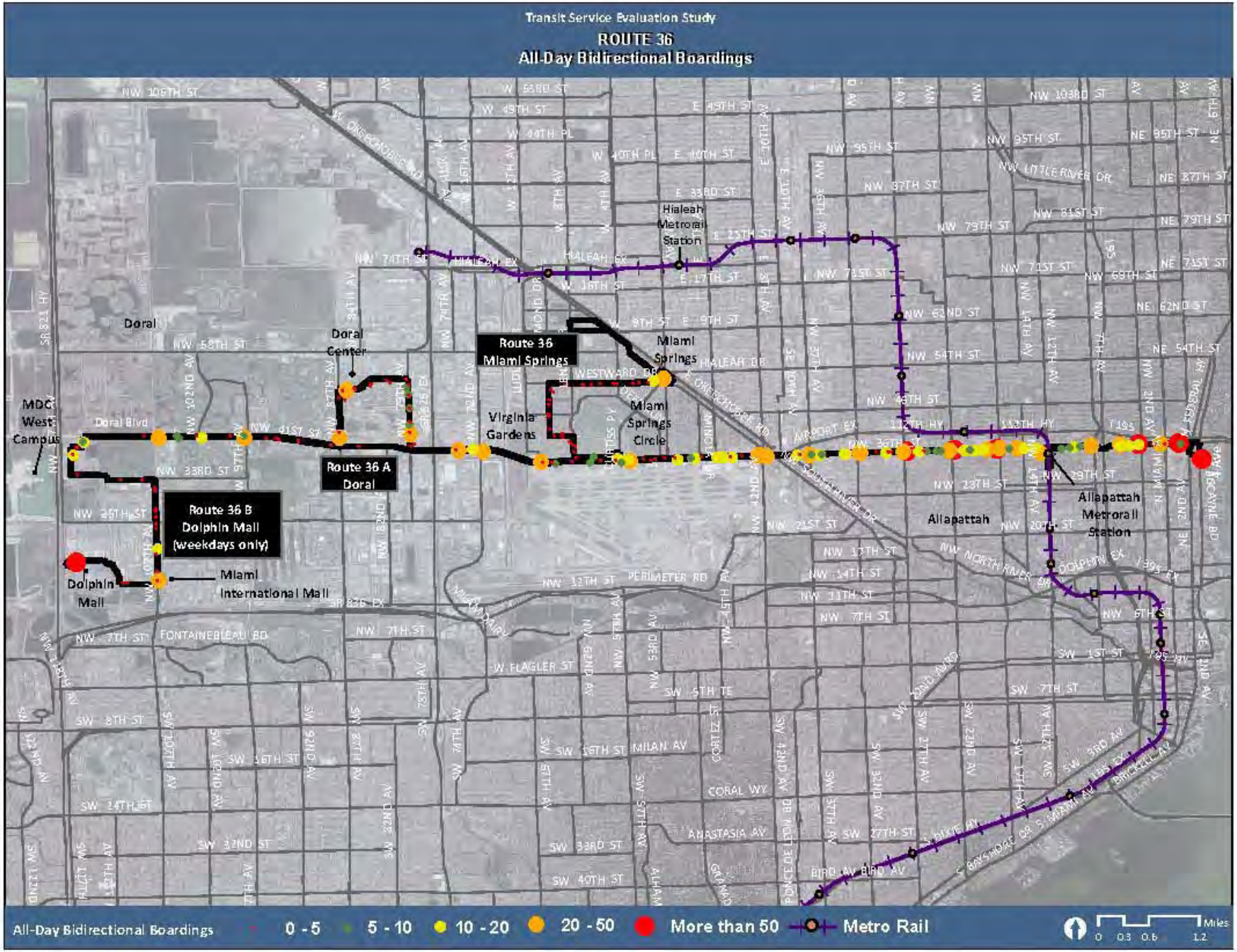
Route 35

Route 35 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	32
Number of Stops	150/141
Ridership	2,510
Route 35 Performance Measures	
Passengers per Trip	42
Passengers per Revenue Mile	1.3
Passengers per Revenue Hour	24
Farebox Ratio	0.23
Direct Operating Cost per Revenue Mile	$6.9
Direct Operating Cost per Passenger	$5.3
Direct Operating Cost per Trip	$222

Route 35 is a north-south local service that connects malls and educational institutions with the Busway and with residential neighborhoods. The route has just over 2,500 boardings on a typical weekday. An analysis of the passenger loads indicates that the MDC Kendall Campus is the main attraction along this route. Route 35 and Route 52 serve the same market west of the Busway, north of SW 184th Street. Boardings are high at both ends of the route, but are relatively low in the middle portion of the route.

Recommendations:

- Due to low boardings in the mid-portion of the route, the route should be split into two routes: one from Cutler Ridge/Perrine from MDC Kendall Campus to the SW 200th Street Park-and-Ride and the other from Homestead/Florida City to SW 244th Street Park-and-Ride.
- Consolidation with Route 52, north of NW 184th Street should also be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 36
All-Day Bidirectional Boardings
Doral
Doral Center
Route 36 Miami Springs
Miami Springs
Hialeah Metrorail Station
Virginia Gardens
Miami Springs Circle
MDC West Campus
Doral Blvd
Route 36 A Doral
Route 36 B Dolphin Mall (weekdays only)
Dolphin Mall
Miami International Mall
Allapattah
Allapattah Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.3 0.6 1.2

Route 36

Route 36 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/30
Route Miles	18.5
Number of Stops	100/96
Ridership	2,820
Route 36 Performance Measures	
Passengers per Trip	36
Passengers per Revenue Mile	2.6
Passengers per Revenue Hour	36
Farebox Ratio	0.37
Direct Operating Cost per Revenue Mile	$8.8
Direct Operating Cost per Passenger	$3.3
Direct Operating Cost per Trip	$119

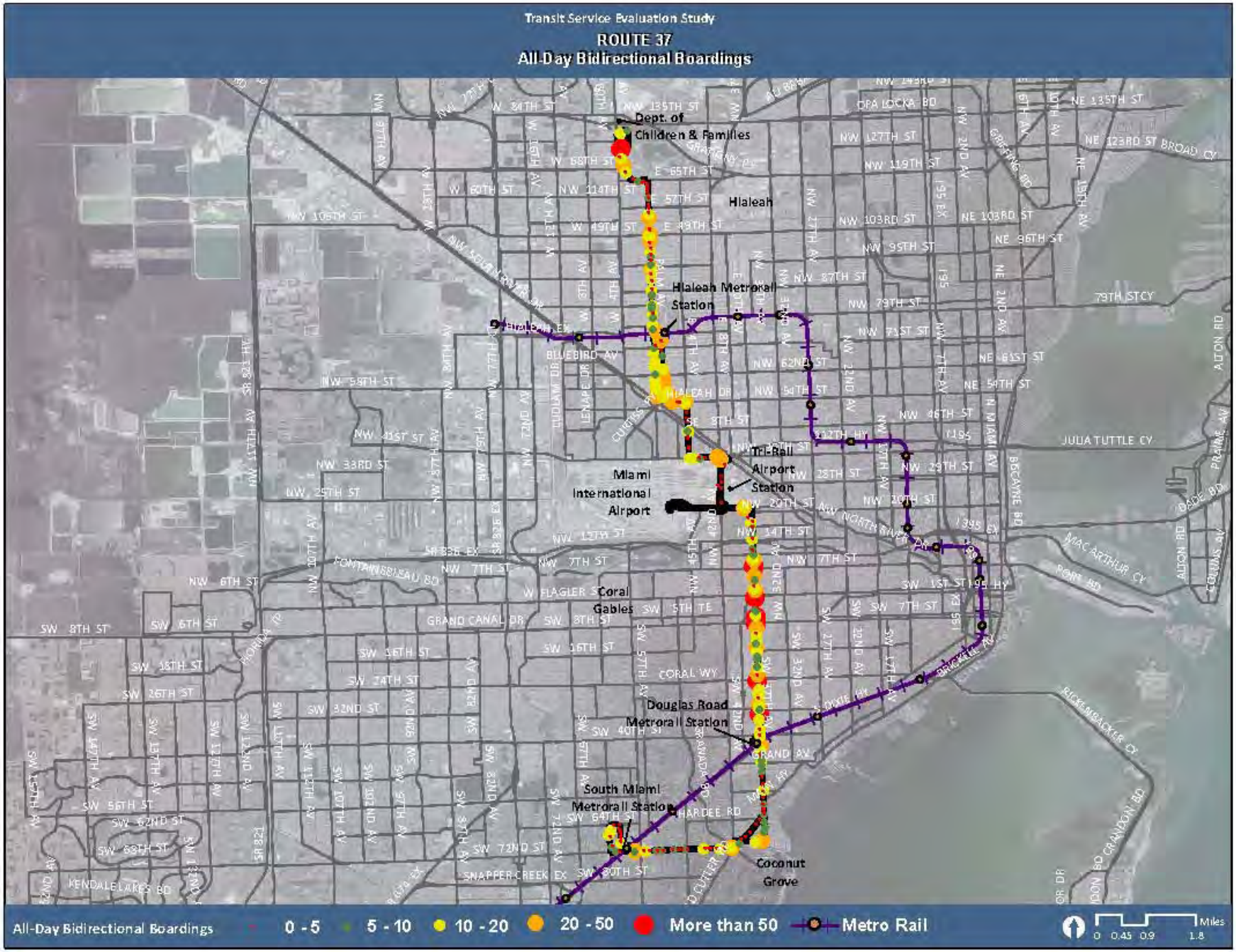
Route 36 is an east-west local service that connects malls and educational institutions with the Metrorail service. It has just over 2,800 boardings on a typical weekday.

The route analysis focused on two segments: the segment west of NW 107th Avenue that connects to MDC West Campus and the segment connecting to Miami Springs Circle. The segment west of NW 107th Avenue, the connection to Dolphin Mall and MDC West Campus, operates at 60-minute headways. The segment connecting to the MDC West Campus generates a total activity of 62. The connection to MDC West Campus has low ridership since it addresses a unique mobility need.

A roundtrip to Miami Springs Circle takes approximately 18 minutes and has total daily activity of nearly 110. The deviation to the Doral Center takes approximately ten minutes.

Recommendations:

- Due to the varying ridership and alignment deviations of this route, it is recommended that this route be evaluated in greater detail to consider:
    - Consolidation with Route 132;
    - Realignment to connect to the Hialeah Market Tri-Rail Station;
    - Division of the route into two or more routes; and
    - Implementation of feeder routes to the Doral Center and Miami Springs.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 37
All-Day Bidirectional Boardings
Dept. of Children & Families
Hialeah
Hialeah Metrorail Station
Tri-Rail
Airport Station
Miami International Airport
Coral Gables
Douglas Road Metrorail Station
South Miami Metrorail Station
Coconut Grove
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.45 0.9 1.8

Route 37

Route 37 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	22
Number of Stops	91/93
Ridership	4,150
Route 37 Performance Measures	
Passengers per Trip	61
Passengers per Revenue Mile	2.8
Passengers per Revenue Hour	34
Farebox Ratio	0.29
Direct Operating Cost per Revenue Mile	$9.0
Direct Operating Cost per Passenger	$3.2
Direct Operating Cost per Trip	$194

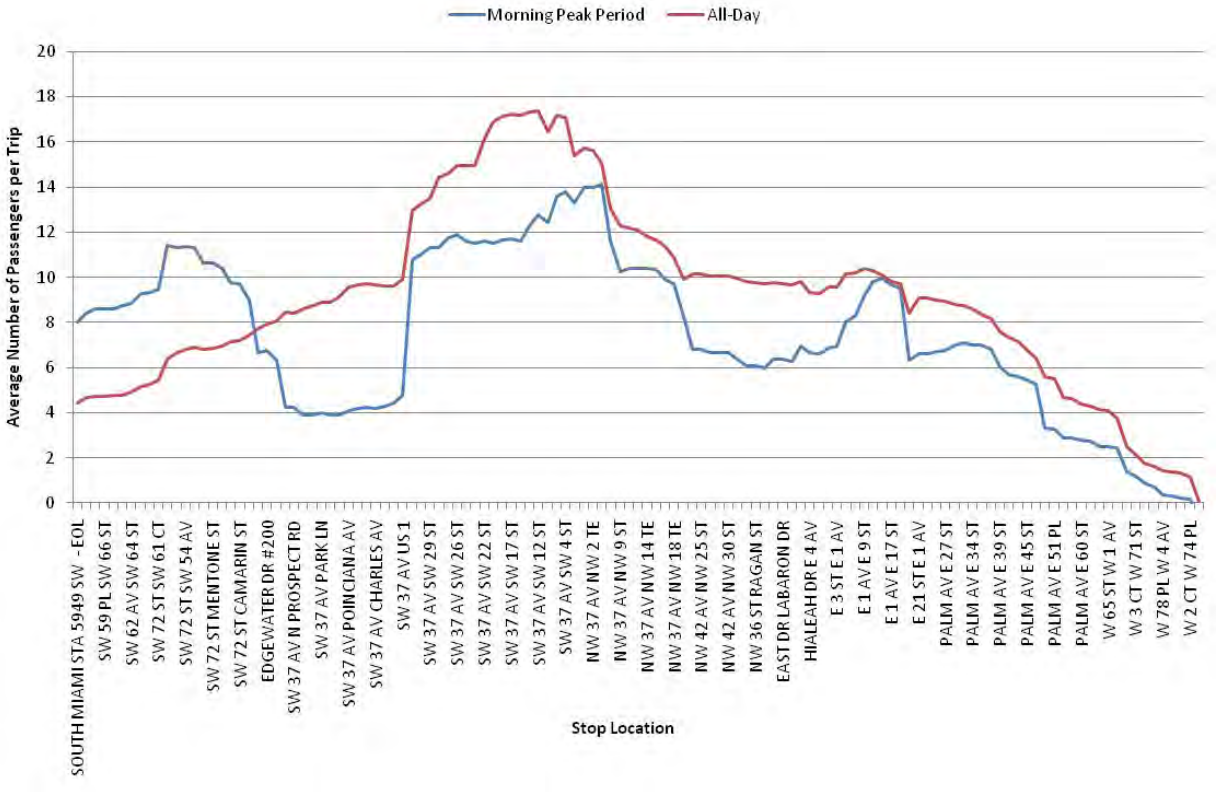
Recommendations:

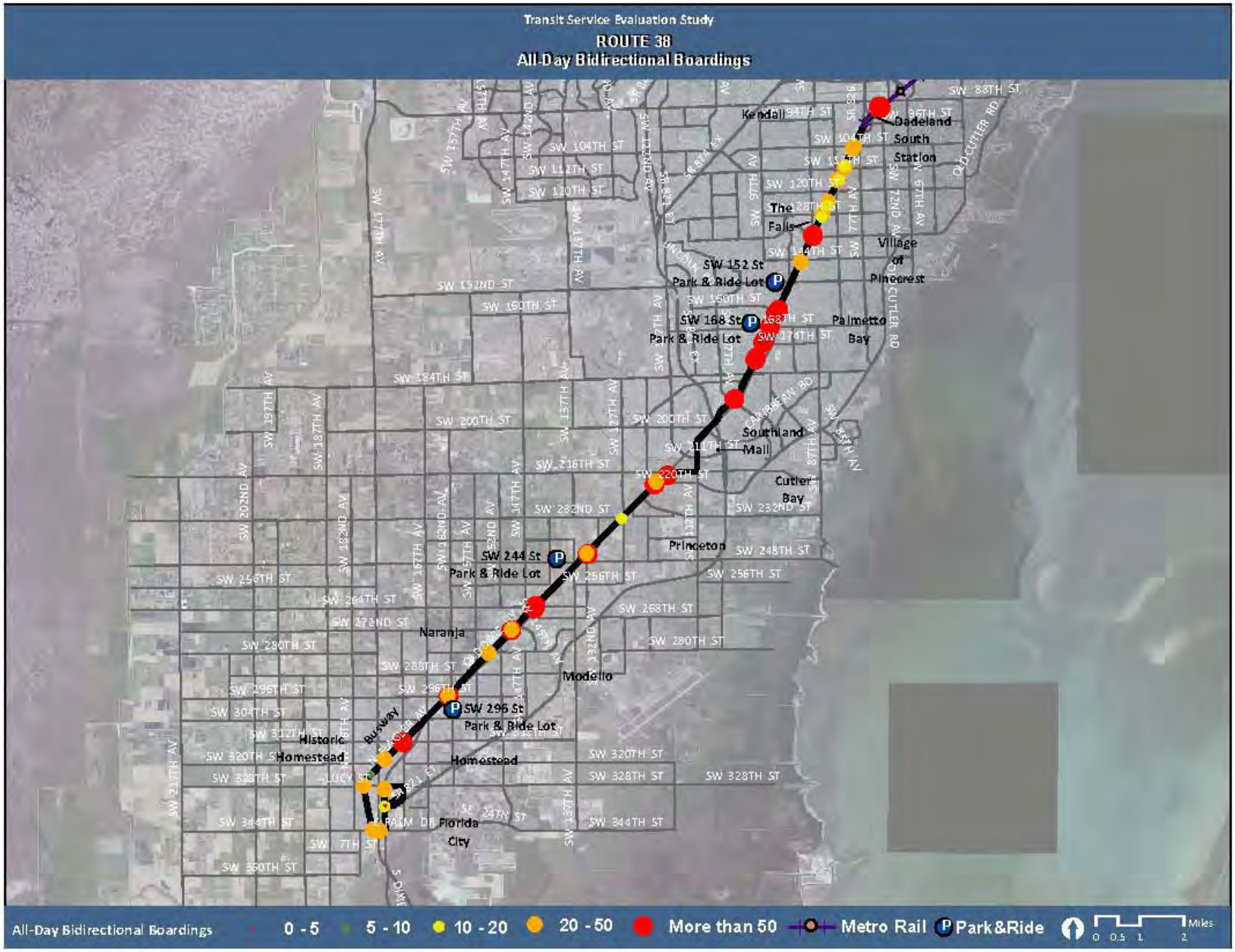
- Consolidation with Route 136, which can serve as a feeder route to the Metrorail service, should be considered.
- The Miami International Airport Segment of this route should be realigned to serve the Miami Intermodal Center once its construction is complete.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 37 is a north-south local service that connects Miami International Airport with residential communities and three Metrorail Stations. The route has an average of 4,150 boardings on a typical weekday and currently serves the Miami International Airport terminals. The segment to the Miami International Airport accounts for an average of 300 boardings per weekday, and will be realigned to connect to the Miami Intermodal Center once it is complete.

As shown in **Figure 22**, average 24-hour passenger load per trip is distinctly different from the morning-period passenger load. Passenger loads generally peak around SW 8th Street. There are a large number of boardings at the Douglas Road Metrorail Station. The segments between the Sunset Drive and Douglas Road Metrorail Stations can be potentially consolidated with Route 136 which serves that area. The passenger loads support the South Miami Metrorail Connection.

Figure 22: Route 37 NB AM versus Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 38
All-Day Bidirectional Boardings
Kendall
Dadeland South Station
The Falls
Village of Pinecrest
SW 152 St Park & Ride Lot
SW 168 St Park & Ride Lot
Palmetto Bay
Southland Mall
Cutler Bay
Princeton
SW 244 St Park & Ride Lot
Naranja
Modello
SW 296 St Park & Ride Lot
Busway
Historic Homestead
Homestead
Florida City
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles
0 0.5 1 2

Route 38

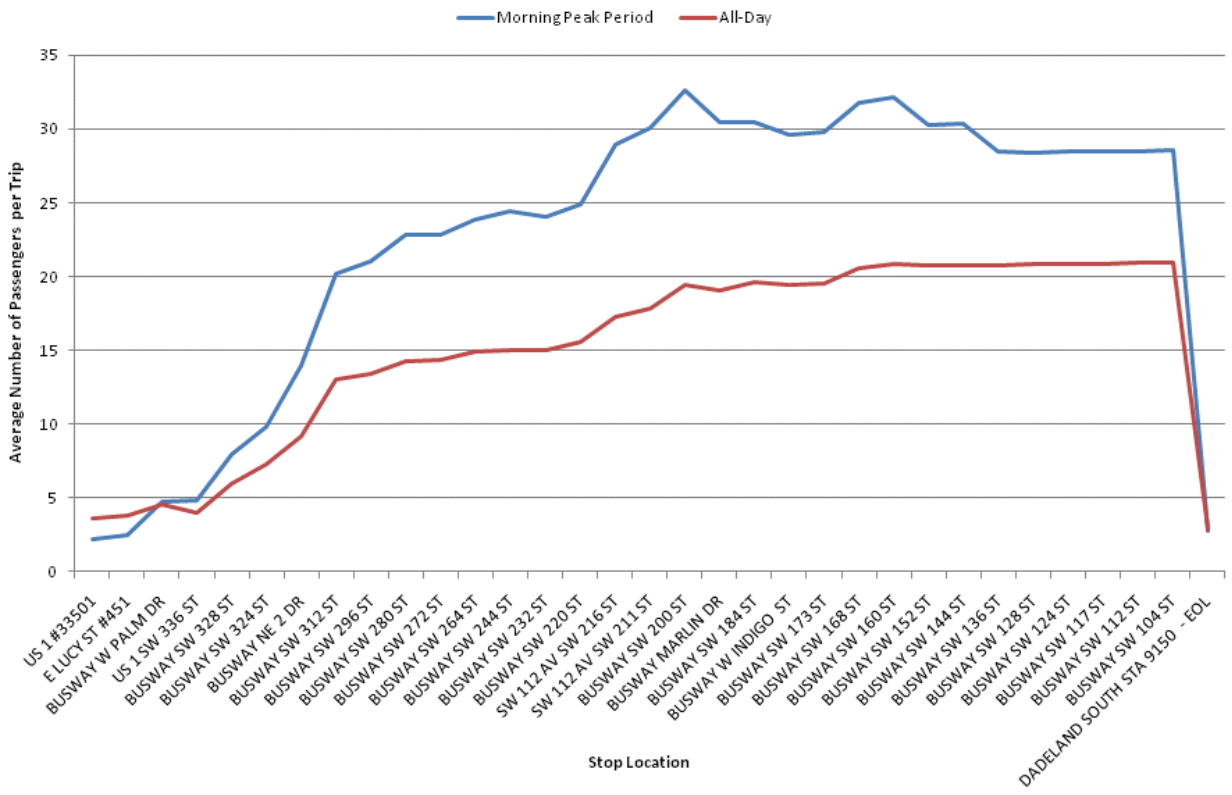
Route 38 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/15
Route Miles (Directional)	33.5
Number of Stops	36/36
Ridership	5,840
Route 38 Performance Measures	
Passengers per Trip	41
Passengers per Revenue Mile	1.6
Passengers per Revenue Hour	28
Farebox Ratio	0.37
Direct Operating Cost per Revenue Mile	$7.5
Direct Operating Cost per Passenger	$4.3
Direct Operating Cost per Trip	$177

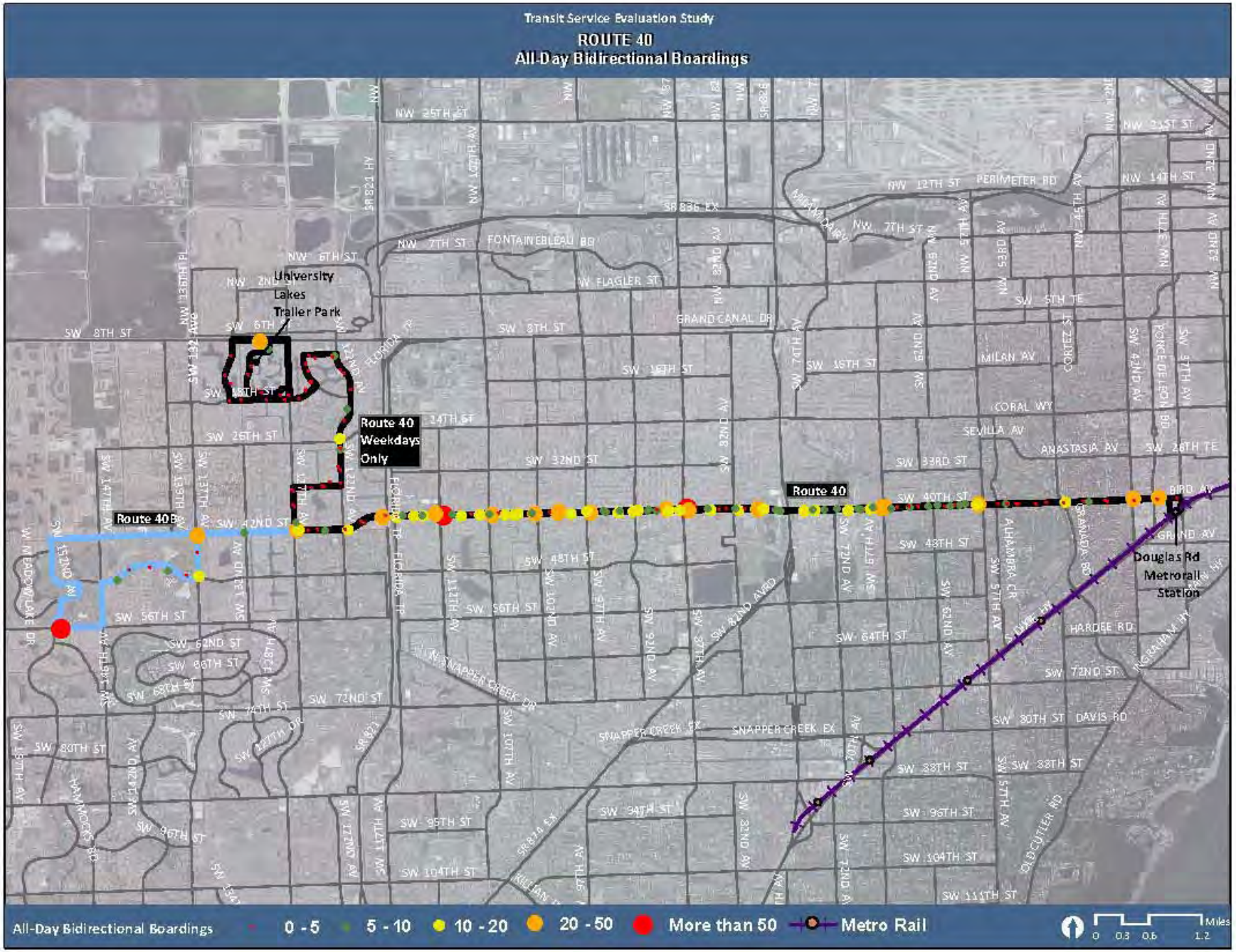
Recommendations:

- In the short-term, consider improving headway north of SW 244th Street during peak hours.

Route 38 is a Busway local service with an average weekday ridership of 5,840. As shown in **Figure 23**, the average passenger load is low south of SW 312th Street. It also shows that during the three-hour morning peak period, a vehicle is carrying more than 25 passengers north of SW 244th Street. The route does not make any stops north of SW 152nd Street. **Figure 23** confirms a supply constraint on the northern Busway segment.

Figure 23: Route 38 Average Weekday NB AM versus Daily Line Load




Transit Service Evaluation Study
ROUTE 40
All-Day Bidirectional Boardings
University Lakes Trailer Park
Route 40 Weekdays Only
Route 40
Route 40 B
Douglas Rd Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.3 0.6 1.2

Route 40

Route 40 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles	15
Number of Stops	91/93
Ridership	2,000
Route 40 Performance Measures	
Passengers per Trip	19
Passengers per Revenue Mile	2.1
Passengers per Revenue Hour	29
Farebox Ratio	0.23
Direct Operating Cost per Revenue Mile	$8.7
Direct Operating Cost per Passenger	$5.5
Direct Operating Cost per Trip	$107

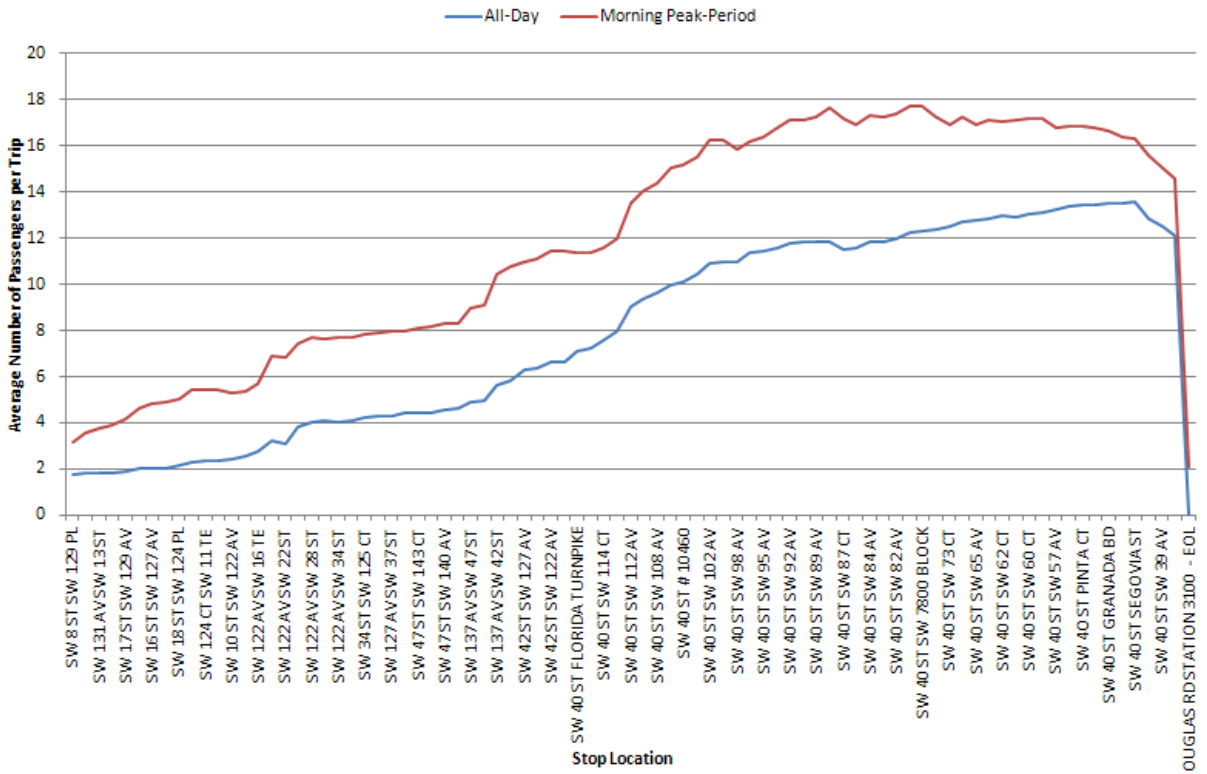
Route 40 is an east-west local service that connects the County's western suburban areas with the Douglas Metrorail Station and the US-1 corridor. It has nearly 2,000 boardings on a typical weekday. Route 40 has two different alignments. One alignment travels north via SW 127th Avenue and SW 122nd Avenue to serve SW 18th Street and the University Lakes Trailer Park. Route 40B is provided both on weekdays and weekends, continuing west on SW 42nd Street to SW 152nd Avenue to serve a variety of commercial businesses, neighborhoods, and the Jane Roberts Center for Kindergarten to Eight Grade Students. Nearly 65 percent of route boardings occur during peak periods, indicating a high commuter usage. This route has one distinct destination, which is the Douglas Road Metrorail Station.

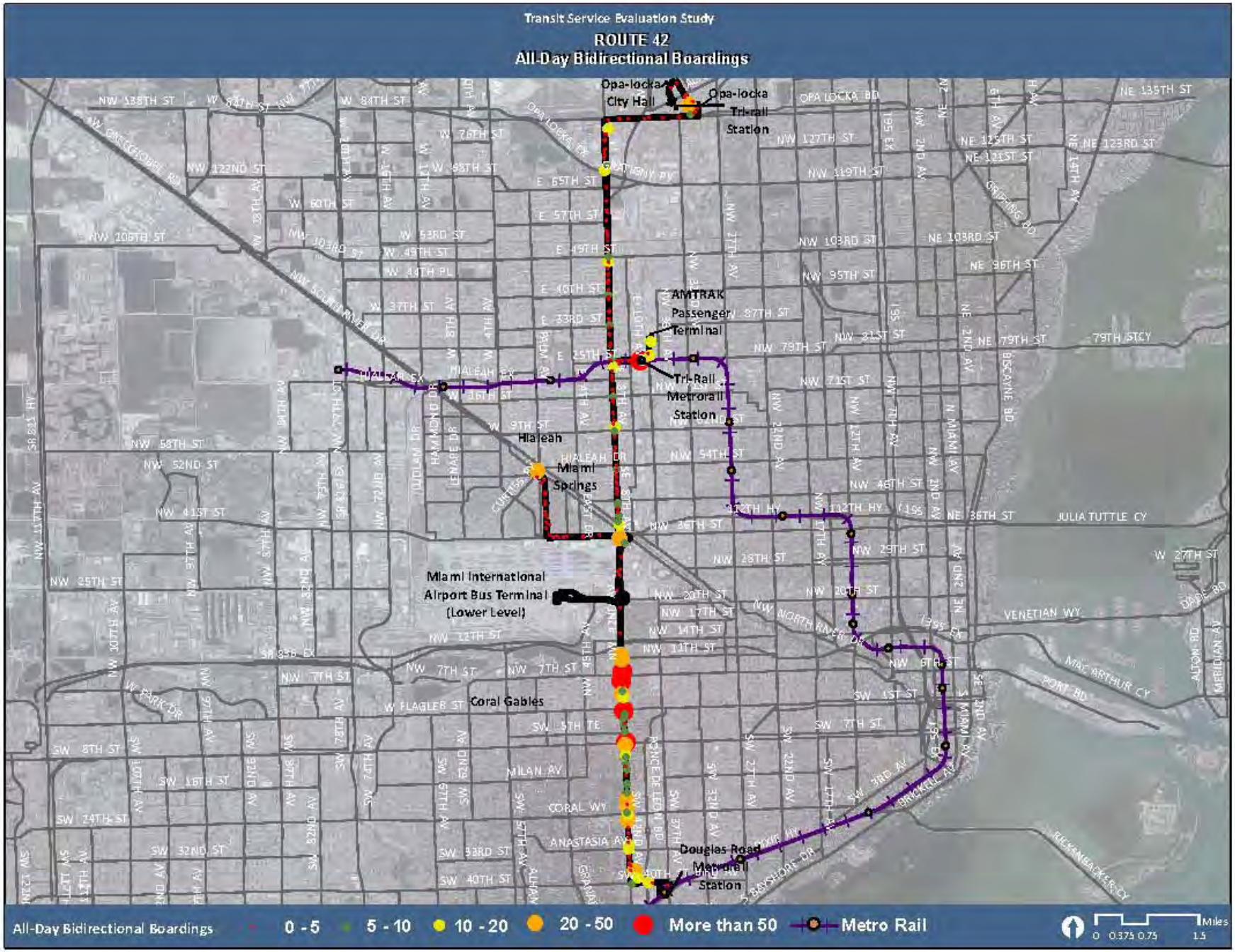
A potential shuttle service connection to the University Lakes Trailer Park was evaluated. This segment has a total daily activity of 110. **Figure 24** provides a summary of morning and all-day passenger loads. A roundtrip to the University Lakes Trailer Park takes approximately 30 minutes.

Recommendations:

- Elimination of the connection to the University Lakes Trailer Park should be considered. Alternatively, a feeder shuttle service can be provided.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Figure 24: EB All-Day Average Passenger Load




Transit Service Evaluation Study
ROUTE 42
All-Day Bidirectional Boardings
Opa-locka City Hall
Opa-locka Tri-rail Station
AMTRAK Passenger Terminal
Tri-Rail Metrorail Station
Hialeah
Miami Springs
Miami International Airport Bus Terminal (Lower Level)
Coral Gables
Douglas Road Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.375 0.75 1.5

Route 42

Route 42 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles	18
Number of Stops	120/128
Ridership	2,040
Route 42 Performance Measures	
Passengers per Trip	23
Passengers per Revenue Mile	1.8
Passengers per Revenue Hour	27
Farebox Ratio	0.19
Direct Operating Cost per Revenue Mile	$8.8
Direct Operating Cost per Passenger	$5.3
Direct Operating Cost per Trip	$120

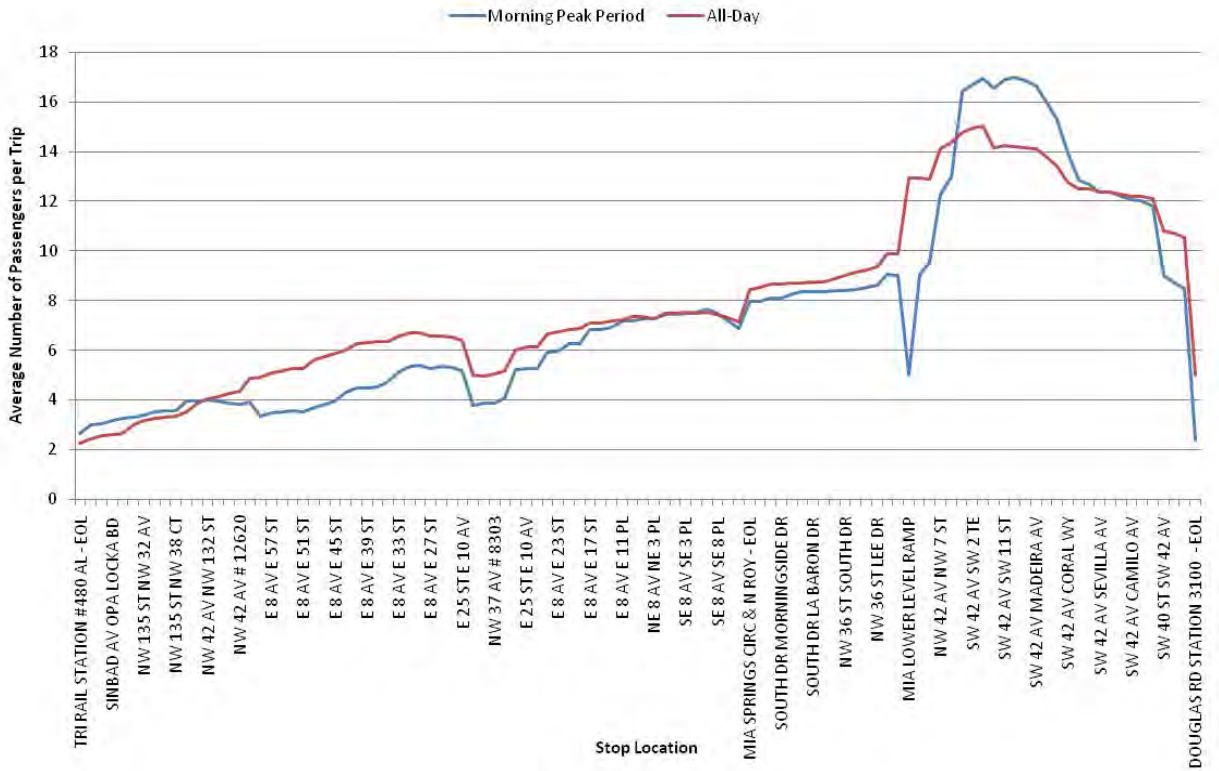
Recommendations:

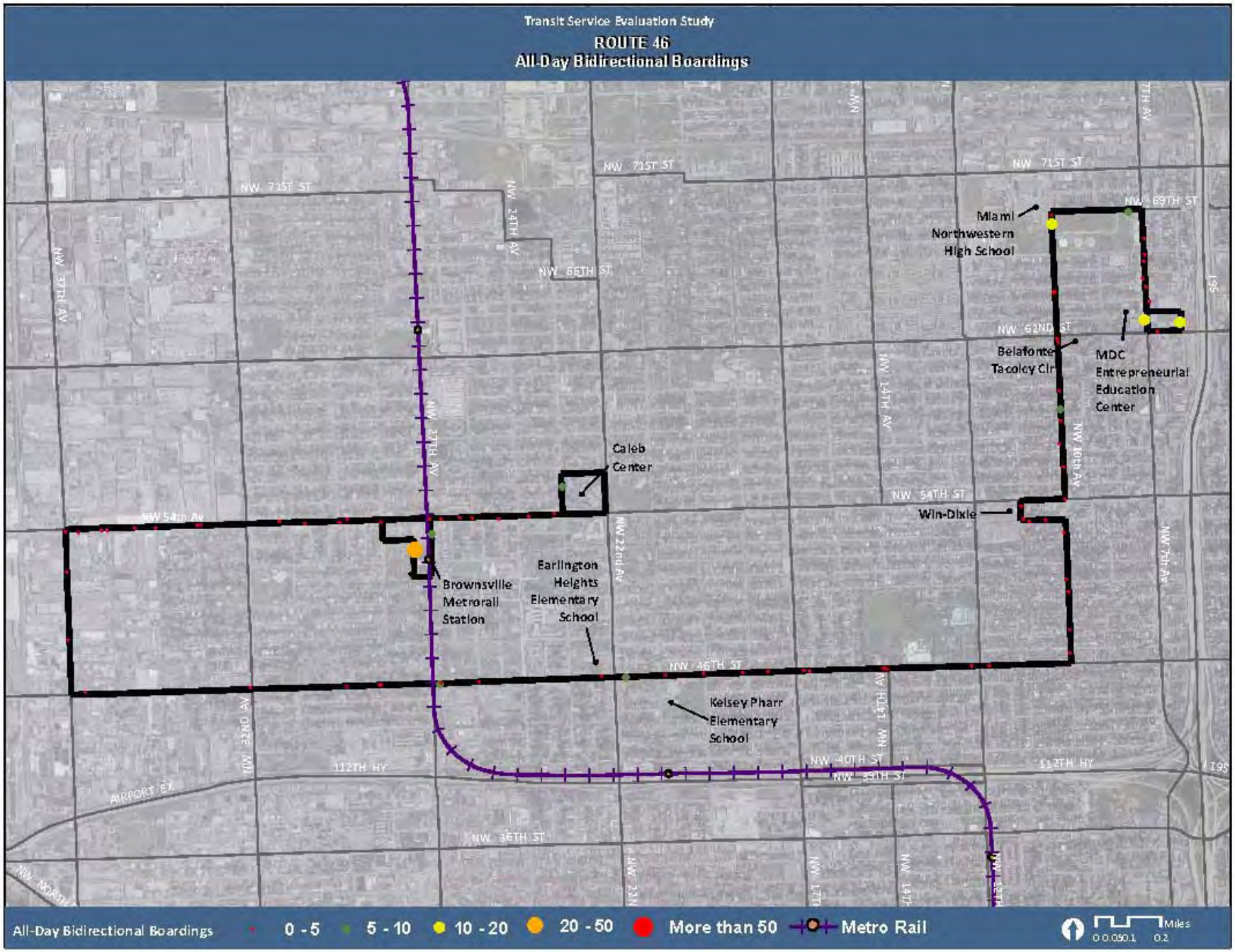
- Elimination of the link to Miami Springs Circle should be considered.
- The Miami International Airport Segment of this route should be realigned to serve the Miami Intermodal Center once its construction is complete.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 42 is a north-south local service that connects Opa-Locka and Miami Springs with Tri-Rail and Metrorail services. It has an average of 2,040 boardings on a typical weekday. The route currently goes inside the Miami International Airport terminals. That segment will be realigned to connect to the Miami Intermodal Center once complete. **Figure 25** illustrates the southbound average passenger load.

An analysis of segment and average passenger loads (**Figure 25**) indicates that the segment north of NW 135th Street is underutilized. Similarly, the connection to Miami Springs Circle is also underutilized. A potential shuttle service connection to the Miami Springs Circle was evaluated, but both trip length, which is about 12 minutes roundtrip, and low passenger volume did not support the alternative and should be considered for elimination.

Figure 25: Route 42 SB Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 46
All-Day Bidirectional Boardings
NW 71ST ST
NW 69TH ST
NW 66TH ST
NW 62ND ST
NW 54TH ST
NW 46TH ST
NW 40TH ST
NW 39TH ST
NW 36TH ST
NW 54th Av
NW 24TH AV
NW 17TH AV
NW 14TH AV
NW 22nd Av
NW 32ND AV
NW 37TH AV
NW 7TH AV
112TH HY
AIRPORT EX
Miami Northwestern High School
Belafonte Tacolcy Ctr
MDC Entrepreneurial Education Center
Caleb Center
Win-Dixie
Brownsville Metrorail Station
Barlington Heights Elementary School
Kelsey Pharr Elementary School
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.05 0.1 0.2

Route 46

Route 46 Statistics	
Headway in Minutes (Peak)	40
Route Miles	8
Number of Stops	40/39
Ridership	190
Route 46 Performance Measures	
Passengers per Trip	8
Passengers per Revenue Mile	0.9
Passengers per Revenue Hour	14
Farebox Ratio	0.10
Direct Operating Cost per Revenue Mile	$10.4
Direct Operating Cost per Passenger	$8.5
Direct Operating Cost per Trip	$71

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

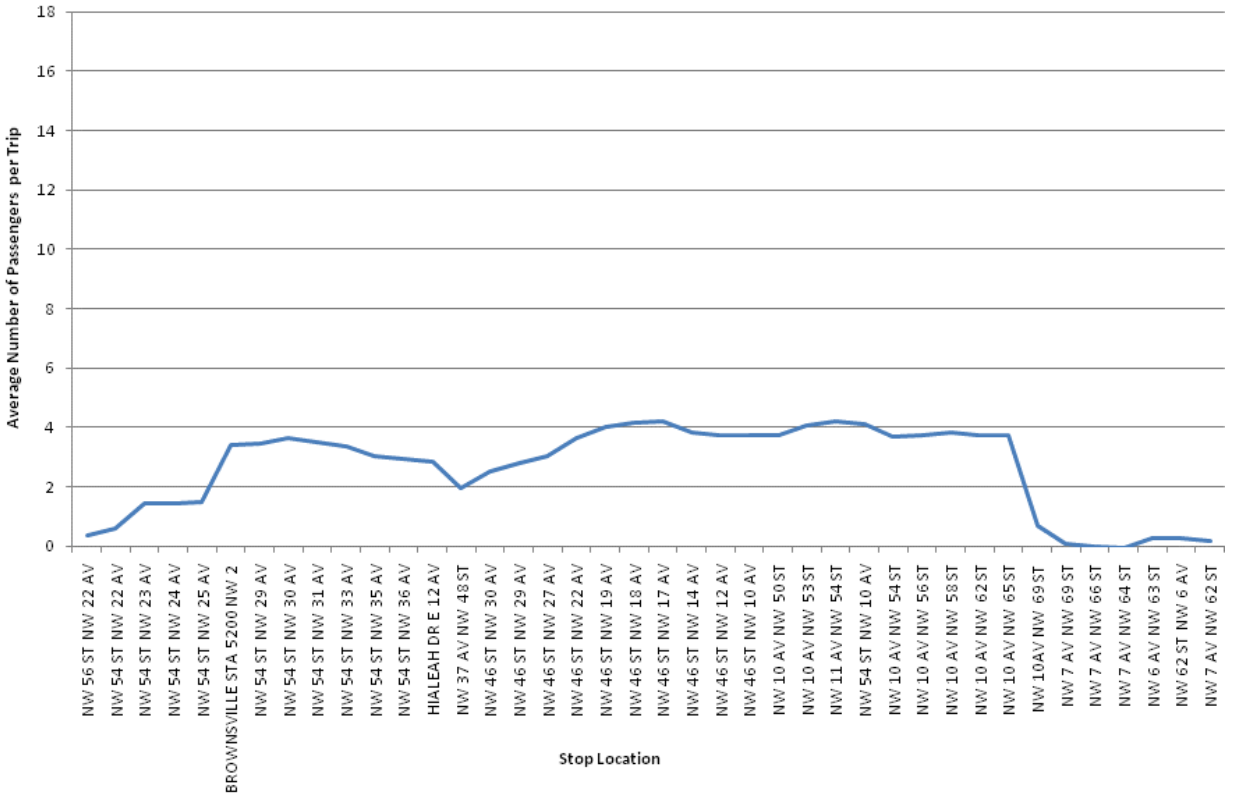
Recommendations:

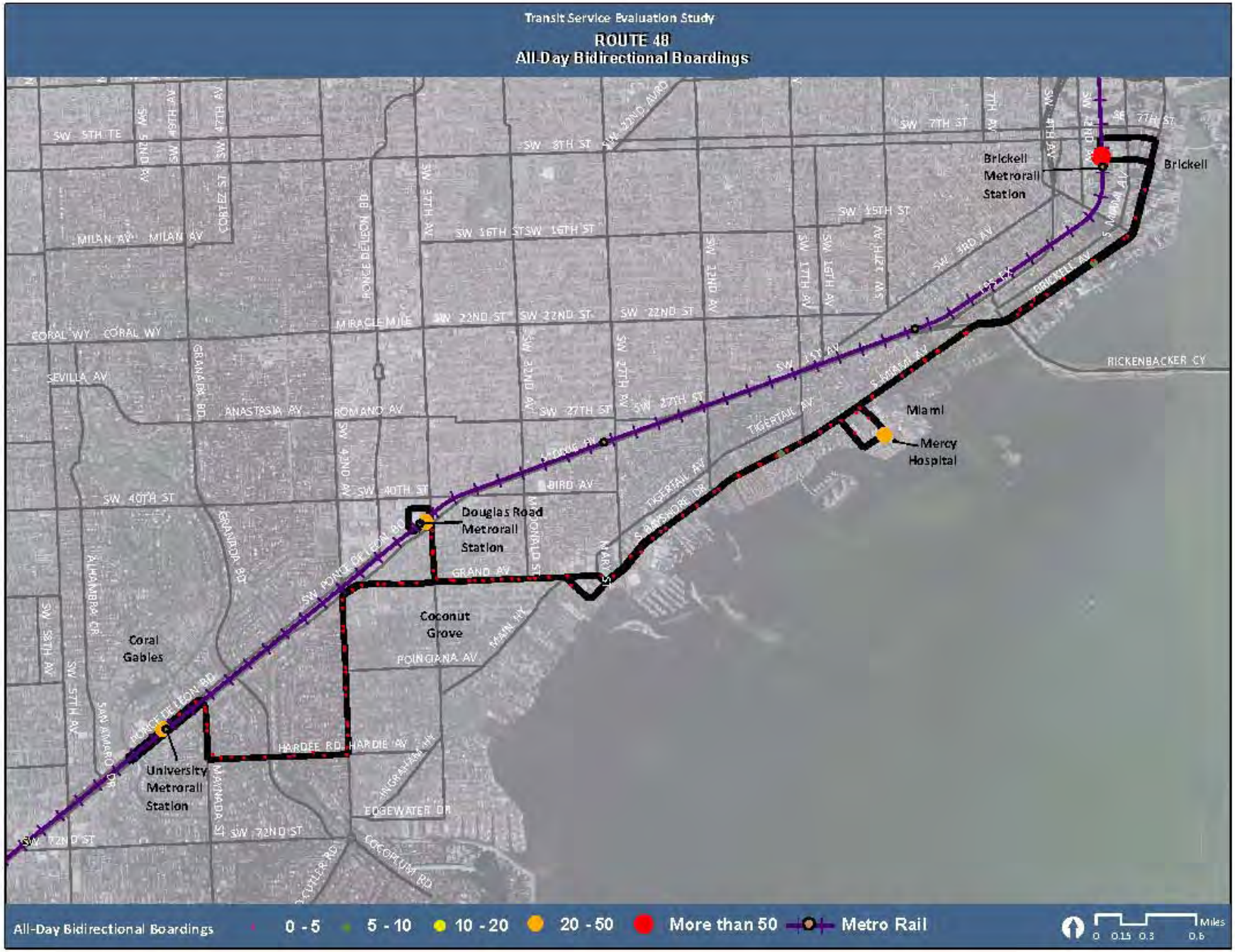
- Consolidation or elimination of this route should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 46, the Liberty City Connection, is primarily a peak period east-west shuttle service that connects various Liberty City institutions to the Metrorail service at the Brownsville Metrorail Station. It has an average of 190 boardings on a typical weekday. **Figure 26** depicts the eastbound morning peak period average passenger loads on Route 46.

This route is in the bottom 25th percentile on nine out of ten performance measure and exhibits low passenger loads. On an average, there are fewer than four passengers at a time on a given trip.

Figure 26: Route 46 EB AM Peak Period Average Passenger Load




Transit Service Evaluation Study
ROUTE 48
All-Day Bidirectional Boardings
Brickell Metrorail Station
Brickell
Miami
Mercy Hospital
Douglas Road Metrorail Station
Coconut Grove
Coral Gables
University Metrorail Station
BRICKELL KEY
RICKENBACKER CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.15 0.3 0.6

Route 48

Route 48 Statistics	
Headway in Minutes (Peak/Off-Peak)	60/60
Route Miles	10.5
Number of Stops	62/60
Ridership	330
Route 48 Performance Measures	
Passengers per Trip	13
Passengers per Revenue Mile	1.0
Passengers per Revenue Hour	13
Farebox Ratio	0.16
Direct Operating Cost per Revenue Mile	$9.0
Direct Operating Cost per Passenger	$7.5
Direct Operating Cost per Trip	$95

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Recommendations:

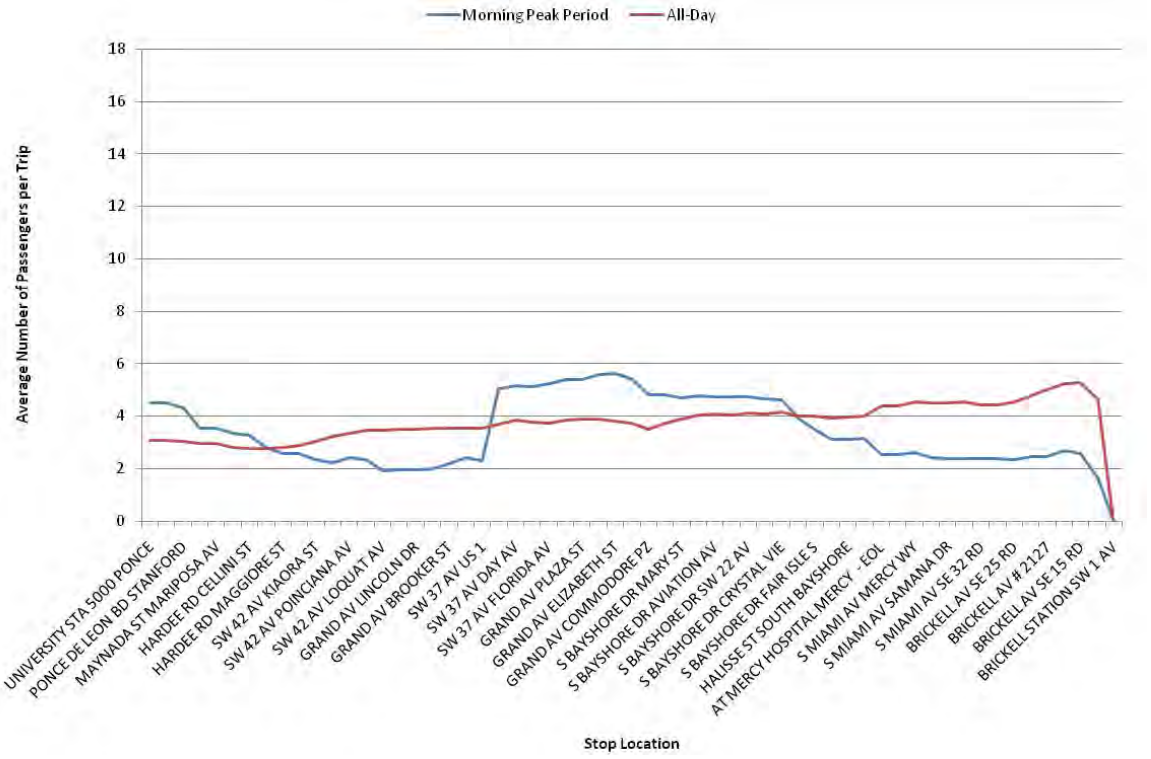
- Consolidation or elimination of this route should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

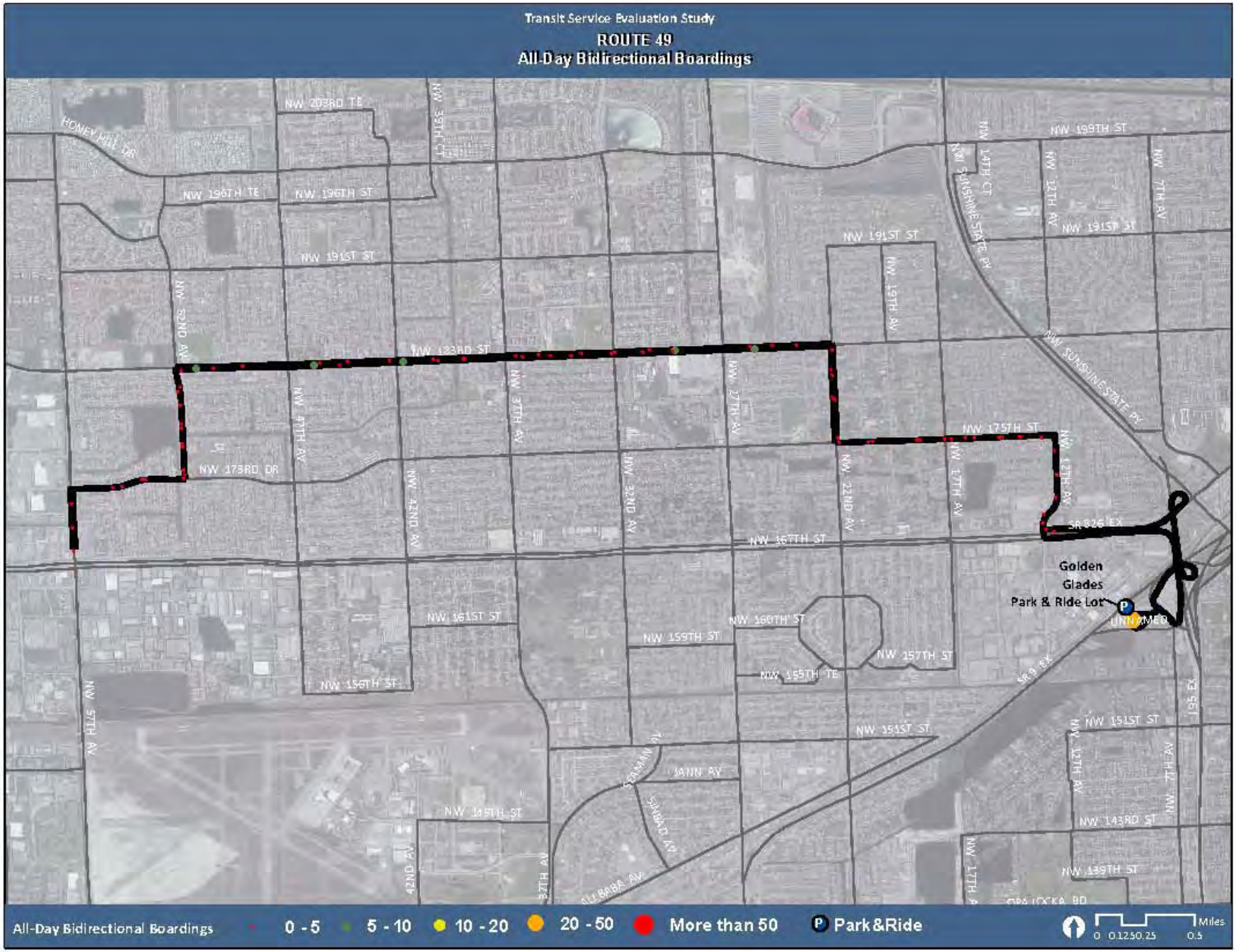
Route 48 is primarily a north-south shuttle service that connects Coral Gables and the Brickell area and connects to three Metrorail Stations: University, Douglas, and Brickell. It has an average of 330 boardings on a typical weekday.

The route's one passenger per revenue mile is among the bottom 25th percentile. On an average, there are fewer than five passengers in the vehicle. It appears that riders going to Mercy Hospital use this route for the last-mile connectivity. Similarly, riders at Mercy Hospital use this route to access the Brickell Metrorail Station.

Route 12 also connects Mercy Hospital with the Brickell Metrorail Station, and Route 102 connects Bayshore Drive and Brickell Avenue with the Brickell Metrorail Station. Additionally, the City of Miami recently approved a Brickell Trolley service, which will also be serving Bayshore Drive and Brickell Avenue. **Figure 27** illustrates Route 48's northbound average passenger loads for both the morning peak period and all-day volumes.

Figure 27: Route 48 NB AM Peak Period versus Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 49
All-Day Bidirectional Boardings
NW 203RD TE
NW 196TH TE
NW 196TH ST
NW 191ST ST
NW 199TH ST
NW 183RD ST
NW 175TH ST
NW 173RD DR
NW 167TH ST
NW 161ST ST
NW 156TH ST
NW 159TH ST
NW 160TH ST
NW 157TH ST
NW 155TH TE
NW 151ST ST
NW 145TH ST
NW 143RD ST
NW 139TH ST
NW 52ND AV
NW 47TH AV
NW 42ND AV
NW 37TH AV
NW 32ND AV
NW 27TH AV
NW 22ND AV
NW 17TH AV
NW 12TH AV
NW 7TH AV
NW 19TH AV
NW 14TH CT
NW 37TH CT
HONEY HILL DR
NW SUNSHINE STATE PY
SR 826 EX
SR 9 EX
I 95 EX
Golden Glades Park & Ride Lot
UNNAMED
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Park&Ride
Miles
0 0.125 0.25 0.5

Route 49

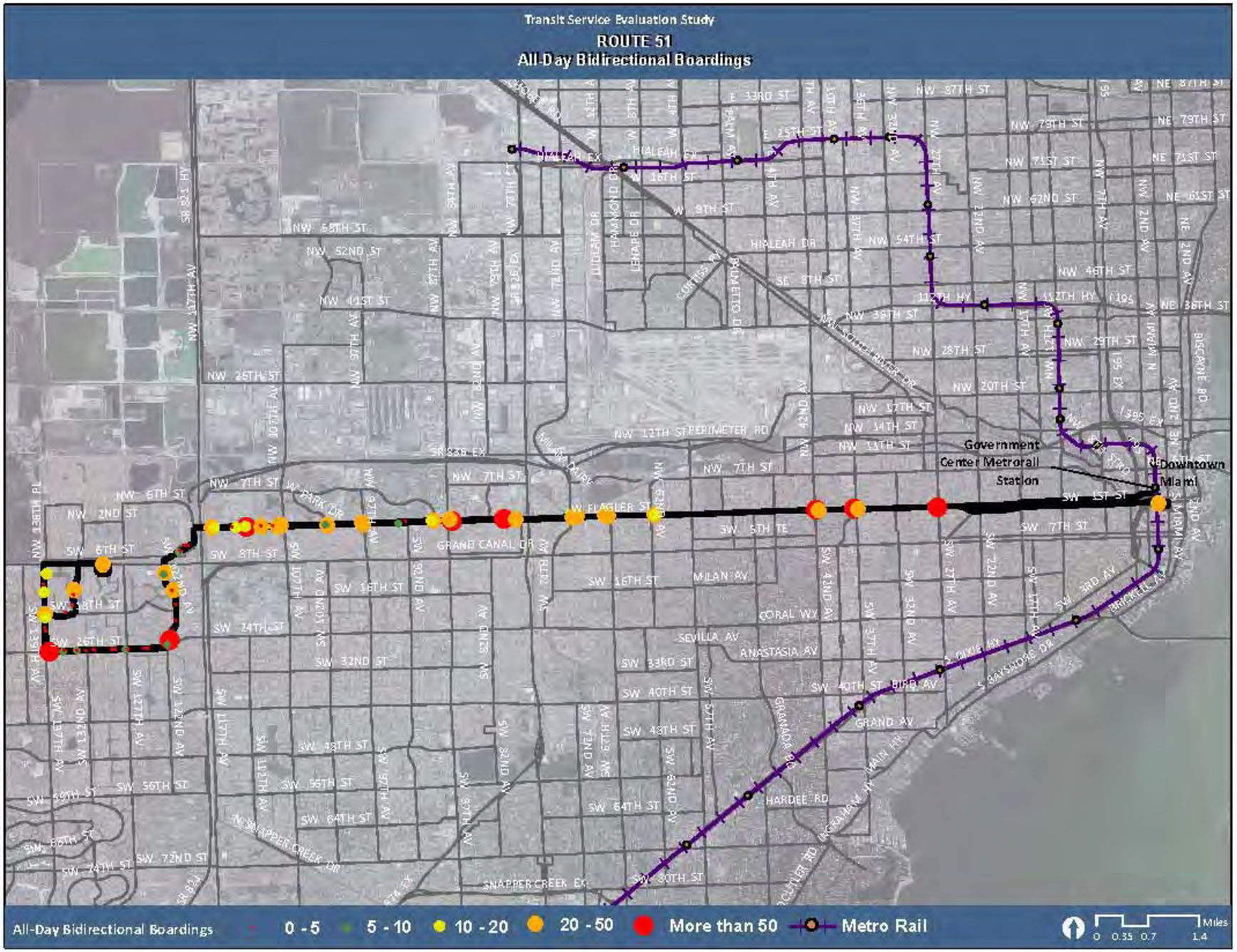
Route 49 Statistics	
Headway in Minutes (Peak/Off Peak)	60/60
Route Miles	8
Number of Stops	37/40
Ridership	90
Route 49 Performance Measures	
Passengers per Trip	10
Passengers per Revenue Mile	N/A
Passengers per Revenue Hour	N/A
Farebox Ratio	0.12
Direct Operating Cost per Revenue Mile	$10.8
Direct Operating Cost per Passenger	$8.7
Direct Operating Cost per Trip	$87

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.
N/A = Not Available

Route 49 is an east-west shuttle service that connects Carol City with the Golden Glades transfer stop. It has nearly 90 boardings on a typical weekday out of total nine trips. This route was created as part of the December 2009 lineup changes. Route 183, a parallel route, does not connect to the Golden Glades. The Route 49 stop at Golden Glades provides transfer opportunities to Routes 77 and 95 Express.

Recommendations:

- The current service should be reevaluated to examine the possibility of combining the route with Route 183.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 51
All-Day Bidirectional Boardings
Government Center Metrorail Station
Downtown Miami
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.35 0.7 1.4

Route 51

Route 51 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles (Directional)	18
Number of Stops – NB/SB	47/42
Ridership	2,670
Route 51 Performance Measures	
Passengers per Trip	25
Passengers per Revenue Mile	1.7
Passengers per Revenue Hour	25
Farebox Ratio	0.30
Direct Operating Cost per Revenue Mile	$8.3
Direct Operating Cost per Passenger	$4.4
Direct Operating Cost per Trip	$110

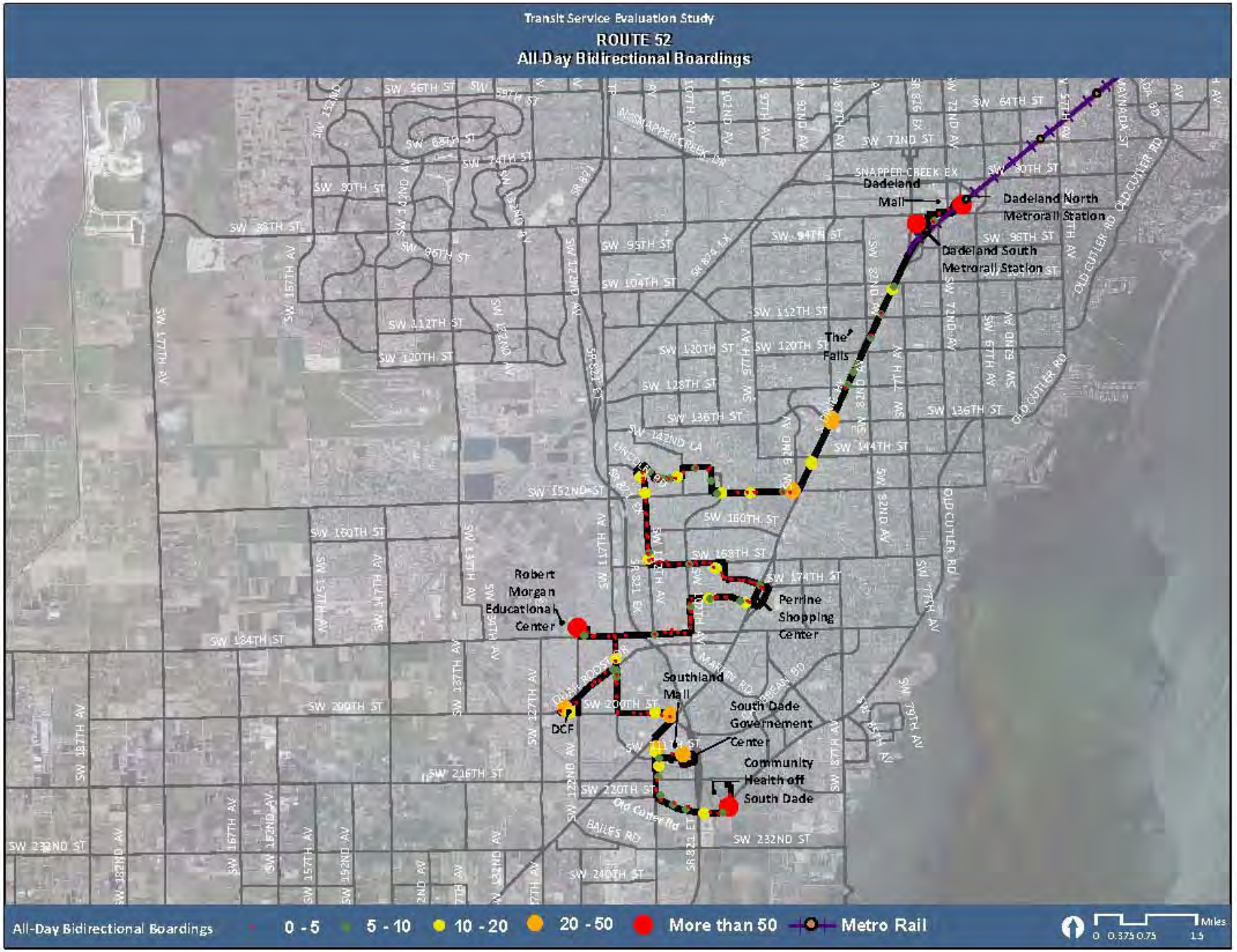
Route 51 provides limited-stop service to the same geographic travel market as Route 11. The route runs along Flagler Street and connects the County's western suburbs with Downtown Miami.

The route performs very well based on the performance measures. The average weekday ridership for this route is 2,670. Unlike other limited-stop routes, the ridership is spread across all time periods throughout a weekday, indicating that the route serves a variety of trip purposes. Different segments were analyzed to identify potential service improvements. The segments west of the Mall of the Americas contribute approximately 45 percent of total activity, which is consistent with demographic patterns.

Other than Downtown Miami, there are four major active locations along this route. These locations are: NW 27th Avenue with a total activity of 411 boardings, NW 12th Avenue with a total activity of 676 boardings, NW 37th Avenue with a total activity of 235 boardings, and NW 107th Avenue with a total activity of 270 boardings.

Recommendations:

- In the short term, this route should be maintained as a limited stop service. Truncation of the route at 117th Street and Flagler Street and development of a circulator route that would feed into both the Flagler Street limited or local stop service should be considered.
- In the long term, this route should be incorporated into a potential BRT/EBS system along Flagler Street and combined with Route 11.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 52
All-Day Bidirectional Boardings
Dadeland Mall
Dadeland North Metrorail Station
Dadeland South Metrorail Station
The Falls
Robert Morgan Educational Center
Perrine Shopping Center
Southland Mall
South Dade Government Center
Community Health of South Dade
DCF
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.375 0.75 1.5

Route 52

Route 52 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/45
Route Miles	24
Number of Stops	107/106
Ridership	1,460
Route 52 Performance Measures	
Passengers per Trip	31
Passengers per Revenue Mile	1.0
Passengers per Revenue Hour	15
Farebox Ratio	0.32
Direct Operating Cost per Revenue Mile	$4.1
Direct Operating Cost per Passenger	$3.6
Direct Operating Cost per Trip	$113

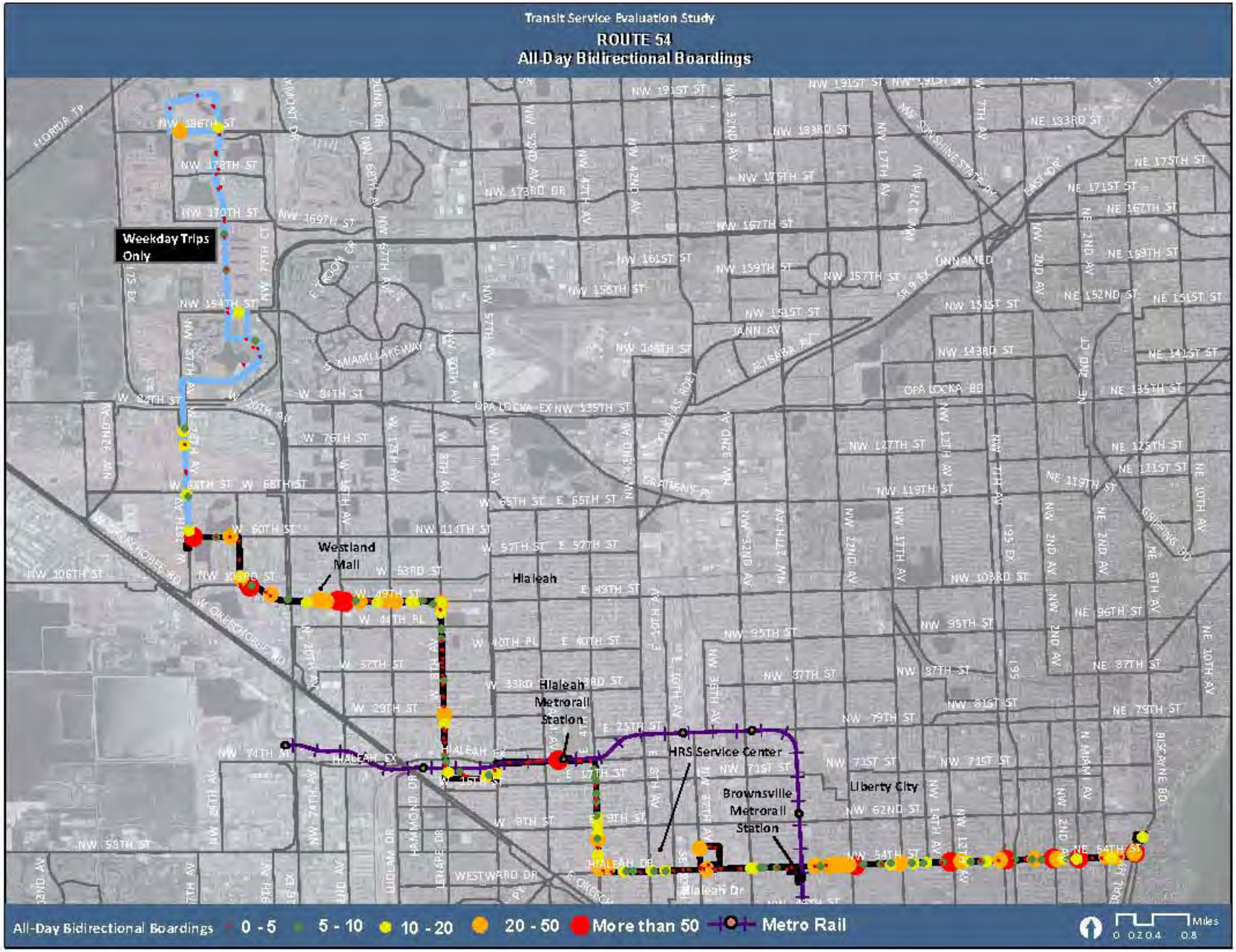
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

The average weekday ridership for this route is 1,460. The route is in the bottom 25th percentile in terms of passengers per vehicle mile. The passenger load analysis indicates that, on average, there are fewer than eight passengers in the vehicle. The segment south of the Busway is the least productive segment of this route. It also overlaps with other services in the area.

This route serves as both a local route to various neighborhoods along the US-1 corridor and a premium route on the Busway, providing a connection to the Dadeland South Metrorail Station. This route also runs parallel to Route 35, adjacent to the Busway, and serves the same geographic market.

Recommendations:

- Consolidation of this route with Route 35 and elimination of portions east of the Busway should be considered. Such consolidation will require some alignment changes to Route 35 which are discussed in the individual Route 35 analysis.


Transit Service Evaluation Study
ROUTE 54
All-Day Bidirectional Boardings
Weekday Trips Only
Westland Mall
Hialeah
Hialeah Metrorail Station
HRS Service Center
Brownsville Metrorail Station
Liberty City
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.2 0.4 0.8

Route 54

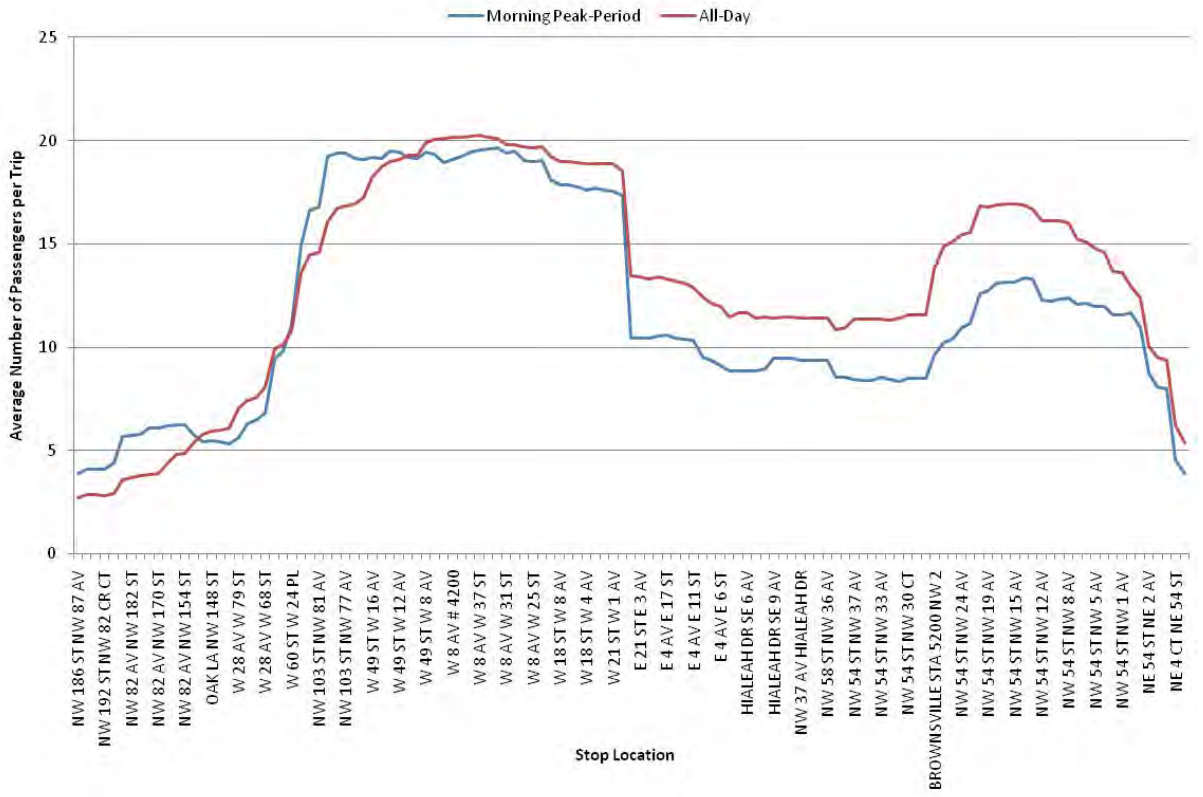
Route 54 Statistics	
Headway in Minutes (Peak/Off Peak)	24/30
Route Miles	22
Number of Stops	129/118
Ridership	3,810
Route 54 Performance Measures	
Passengers per Trip	48
Passengers per Revenue Mile	3.1
Passengers per Revenue Hour	37
Farebox Ratio	0.32
Direct Operating Cost per Revenue Mile	$8.9
Direct Operating Cost per Passenger	$3.3
Direct Operating Cost per Trip	$156

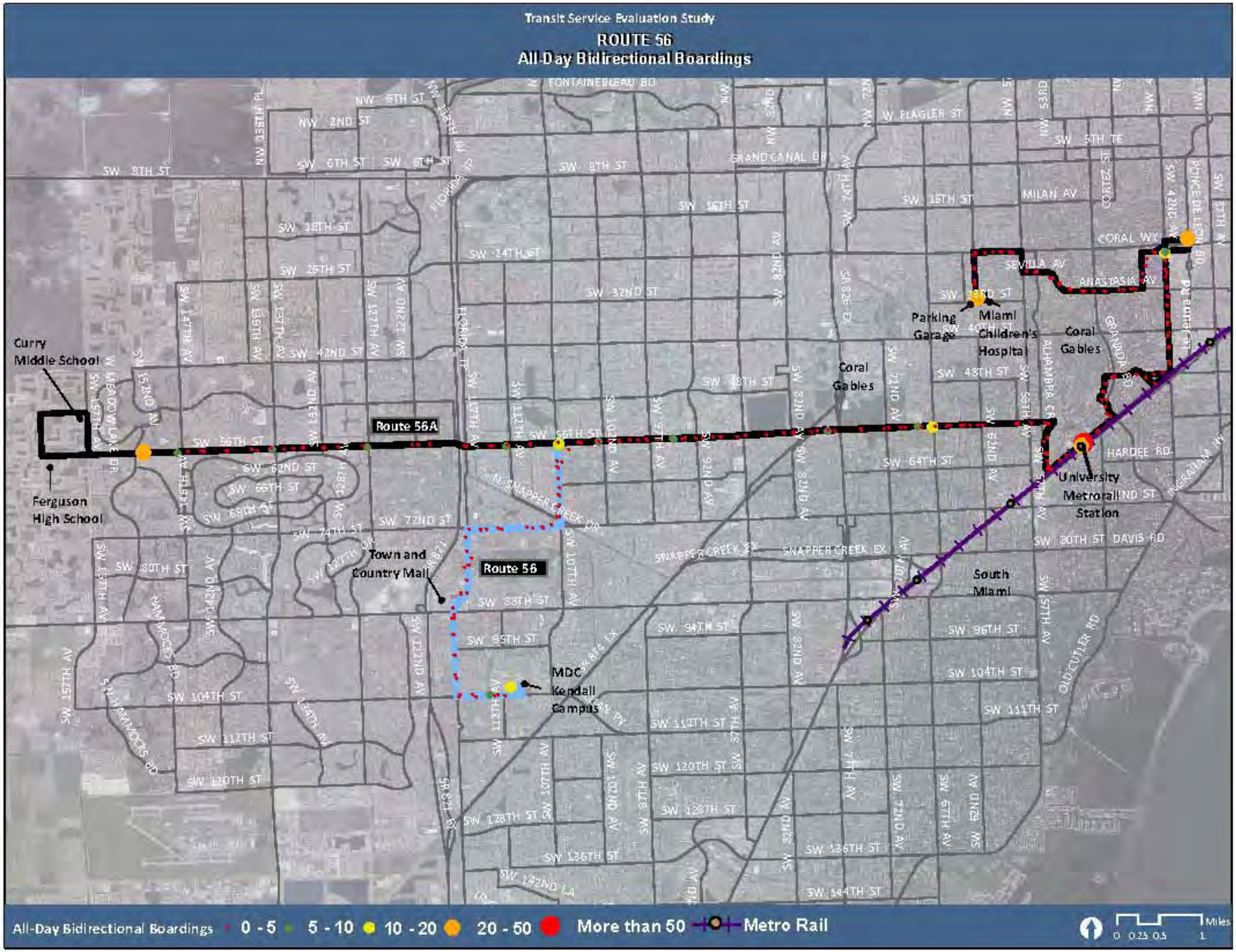
Recommendations:

- The current service should be maintained.
- Further evaluation should be conducted to investigate the possibility of developing a weekday feeder route for the segment north of SW 60th Street.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 54 is an east-west service that connects Hialeah and Liberty City with Metrorail service. The northern portion of the route extending from W 60th Street to NW 192nd Street only operates on weekdays. Route 54 has nearly 3,800 boardings on a typical weekday. Based on the performance measures listed in the table on the left, the route provides effective service. The passenger loads remain consistent throughout the day. As shown in **Figure 28**, segments along W 49th Street carry the highest number of passengers per trip, and the segment north of W 60th Street carries the fewest number of passengers per trip.

Figure 28: Route 54 EB AM Peak Period versus Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 56
All-Day Bidirectional Boardings
Curry Middle School
Ferguson High School
Route 56A
Route 56
Town and Country Mall
MDC Kendall Campus
Parking Garage
Miami Children's Hospital
Coral Gables
University Metrorail Station
South Miami
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 56

Route 56 Statistics	
Headway in Minutes (Peak/Off Peak)	30/60
Route Miles	22
Number of Stops	126/131
Ridership	640
Route 56 Performance Measures	
Passengers per Trip	14
Passengers per Revenue Mile	0.6
Passengers per Revenue Hour	11
Farebox Ratio	0.13
Direct Operating Cost per Revenue Mile	$7.4
Direct Operating Cost per Passenger	$10.8
Direct Operating Cost per Trip	$150

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

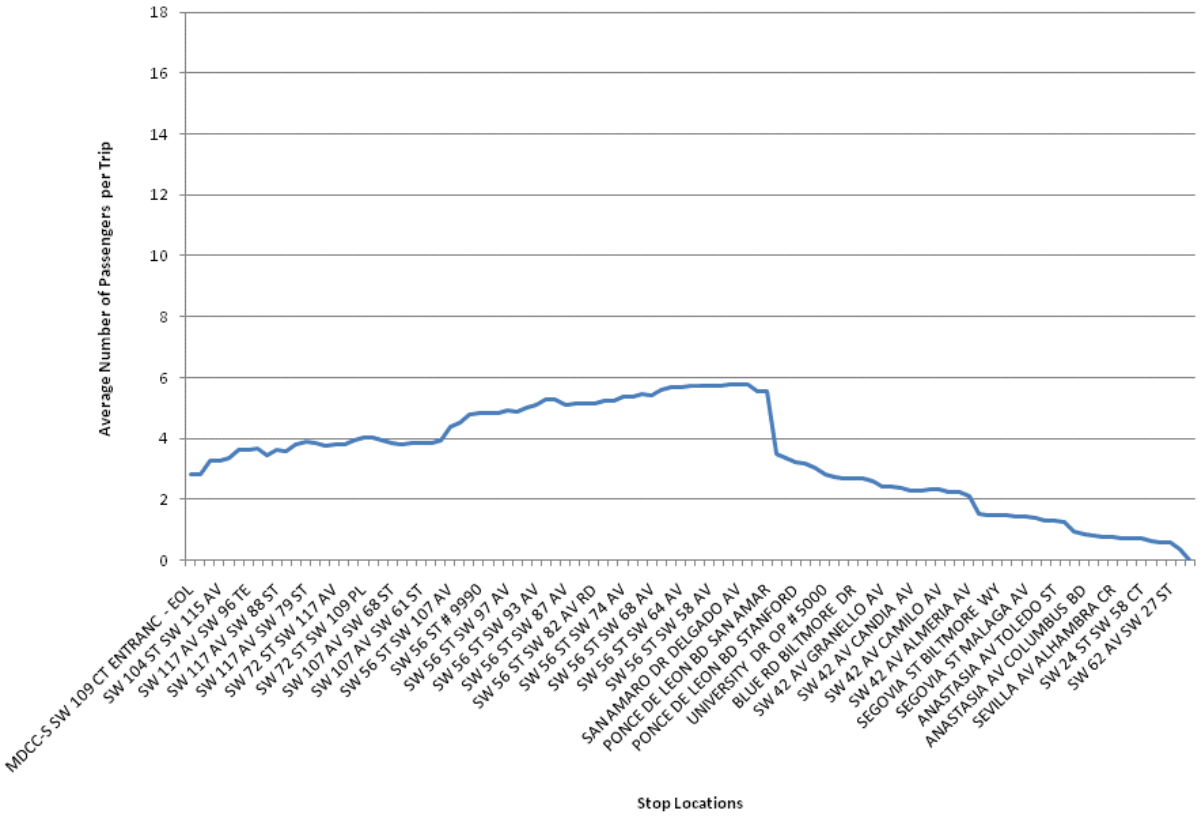
Recommendations:

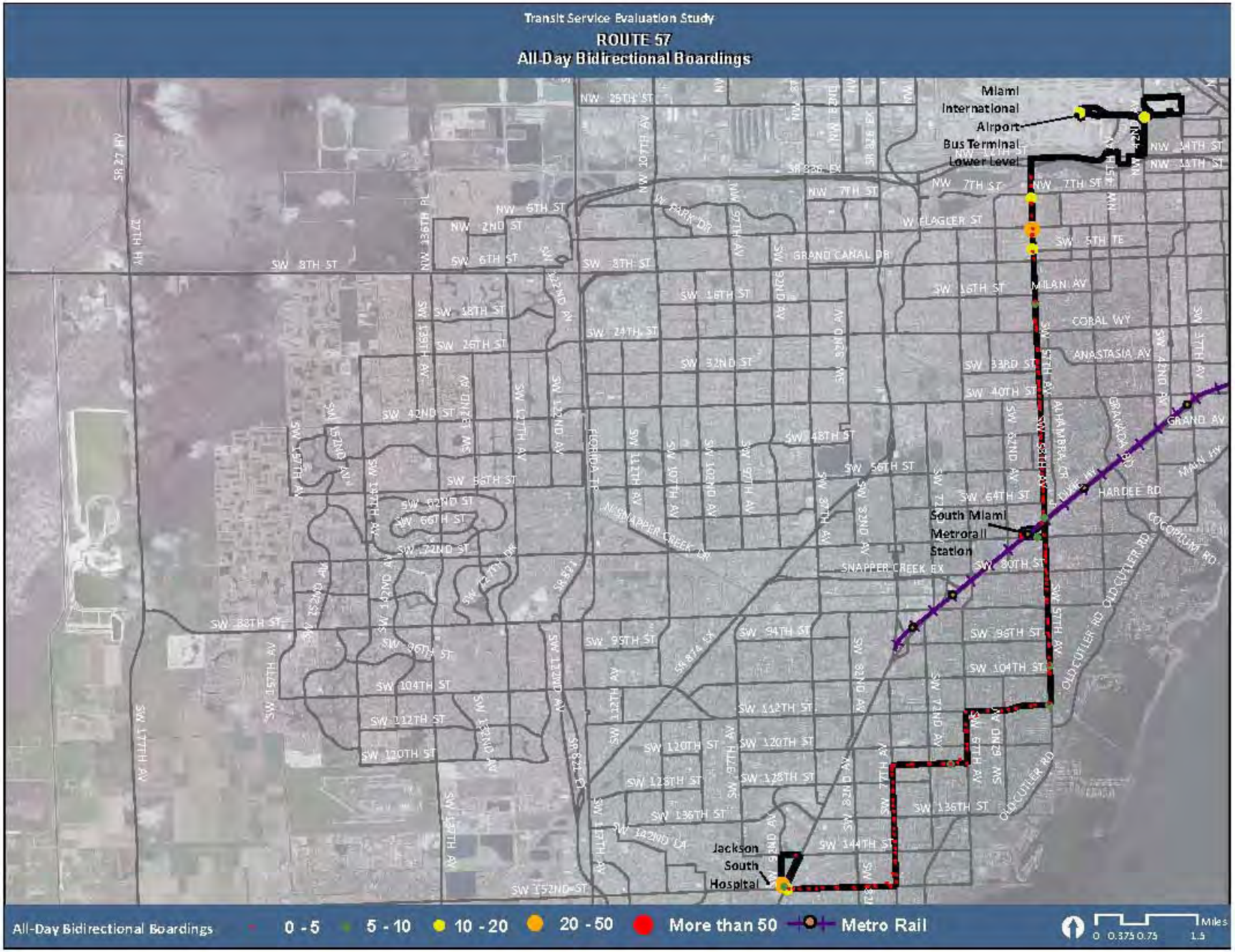
- A shuttle service between Miami Children's Hospital and the Douglas Road Metrorail Station should be considered.
- Consolidation or elimination of peak period trips to MDC Kendall Campus should be considered, or a shuttle feeder service from the MDC Kendall Campus to the route should be evaluated.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 56 is an east-west service that connects the County's western suburban areas with Metrorail service, Miami Children's Hospital, and the MDC Kendall Campus. It has an average of 640 boardings on a typical weekday.

The route has very low passengers per vehicle mile. A roundtrip between the University Metrorail Station and Miami Children's Hospital takes approximately 60 minutes, and there are fewer than four passengers per trip along this segment, as seen in **Figure 29**. The segment connecting to the MDC Kendall Campus has an average of 160 boardings and alightings out of total 15 trips, each taking about 25 minutes per one way trip.

Figure 29: Route 56 EB AM Peak Period Average Passenger Load




Transit Service Evaluation Study
ROUTE 57
All-Day Bidirectional Boardings
Miami International Airport Bus Terminal Lower Level
South Miami Metrorail Station
Jackson South Hospital
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.375 0.75 1.5

Route 57

Route 57 Statistics	
Headway in Minutes (Peak/Off Peak)	40/60
Route Miles	22
Number of Stops	93/93
Ridership	470
Route 57 Performance Measures	
Passengers per Trip	17
Passengers per Revenue Mile	0.7
Passengers per Revenue Hour	11
Farebox Ratio	0.14
Direct Operating Cost per Revenue Mile	$7.5
Direct Operating Cost per Passenger	$11.1
Direct Operating Cost per Trip	$187

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

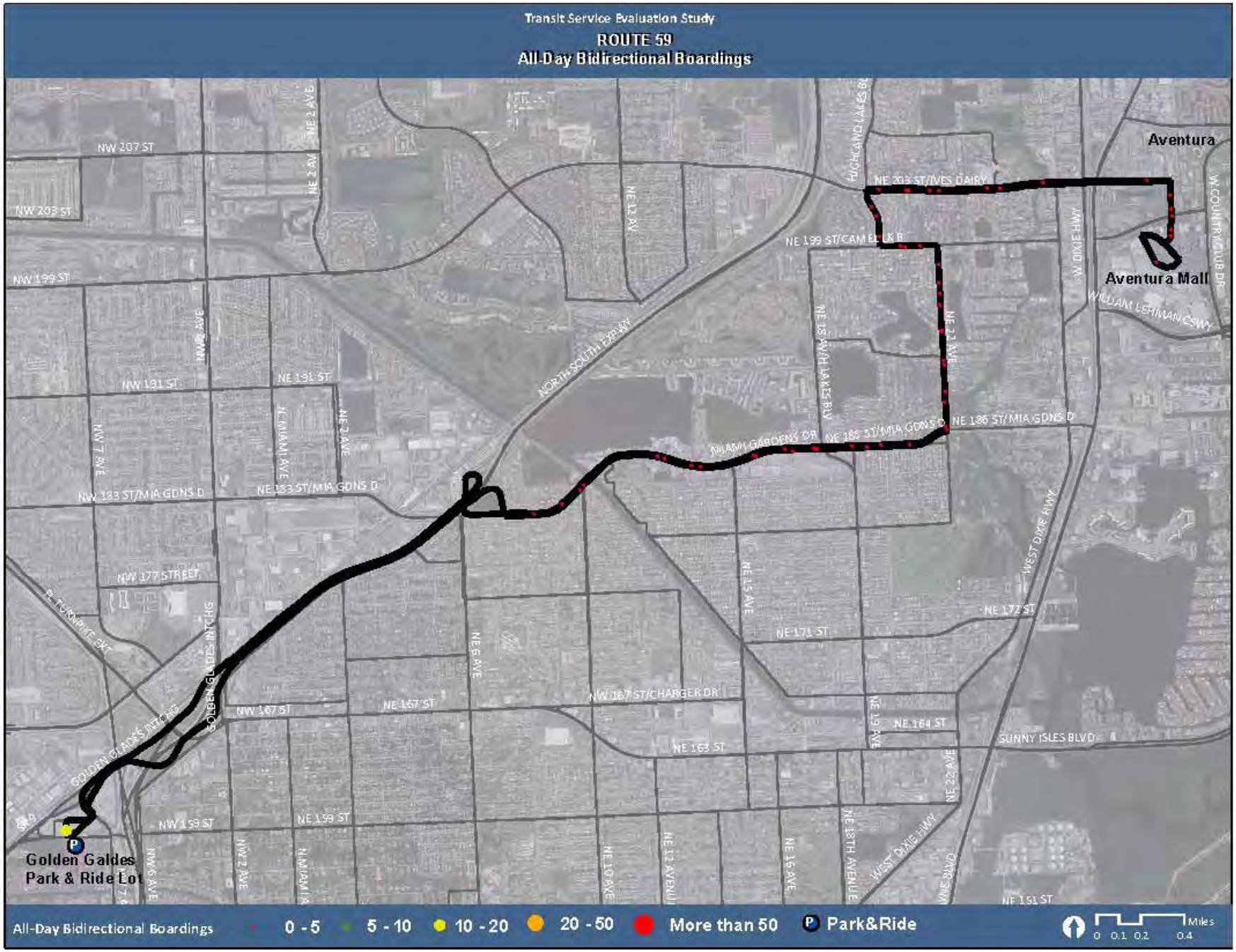
Recommendations:

- Consolidation of the portion south of the South Miami Metrorail Station with Route 136 should be considered.
- The Miami International Airport Segment of this route should be realigned to serve the Miami Intermodal Center once its construction is complete.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 57 is a local north-south service that connects Jackson South Hospital with Miami International Airport primarily via SW 57th Avenue. The route has about 470 boardings on a typical weekday.

The route has a low passenger per vehicle mile. In the northbound morning peak period, there are fewer than five passengers per vehicle. The northbound average passenger load for both the morning peak period and northbound all-day trips is illustrated in **Figure 30**. The portion of the route north of SW 57th Avenue and Flagler Street takes about 16 minutes one-way and generates about 25 average daily trips. The boarding data also indicates that the South Miami Metrorail Station functions as a break point that separates the route into two distinct travel patterns. The portion south of South Miami Metrorail Station is also served by Route 136.

Figure 30: Route 57 NB AM Peak Period versus Daily Average Passenger Load


Transit Service Evaluation Study
ROUTE 59
All-Day Bidirectional Boardings
Aventura
Aventura Mall
Golden Galdes
Park & Ride Lot
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Park&Ride
Miles
0 0.1 0.2 0.4

Route 59

Route 59 Statistics	
Headway in Minutes (Peak)	50
Route Miles	8
Number of Stops	33/25
Ridership	25
Route 59 Performance Measures	
Passengers per Trip	5
Passengers per Revenue Mile	N/A
Passengers per Revenue Hour	N/A
Farebox Ratio	0.03
Direct Operating Cost per Revenue Mile	$8.6
Direct Operating Cost per Passenger	$18.1
Direct Operating Cost per Trip	$96

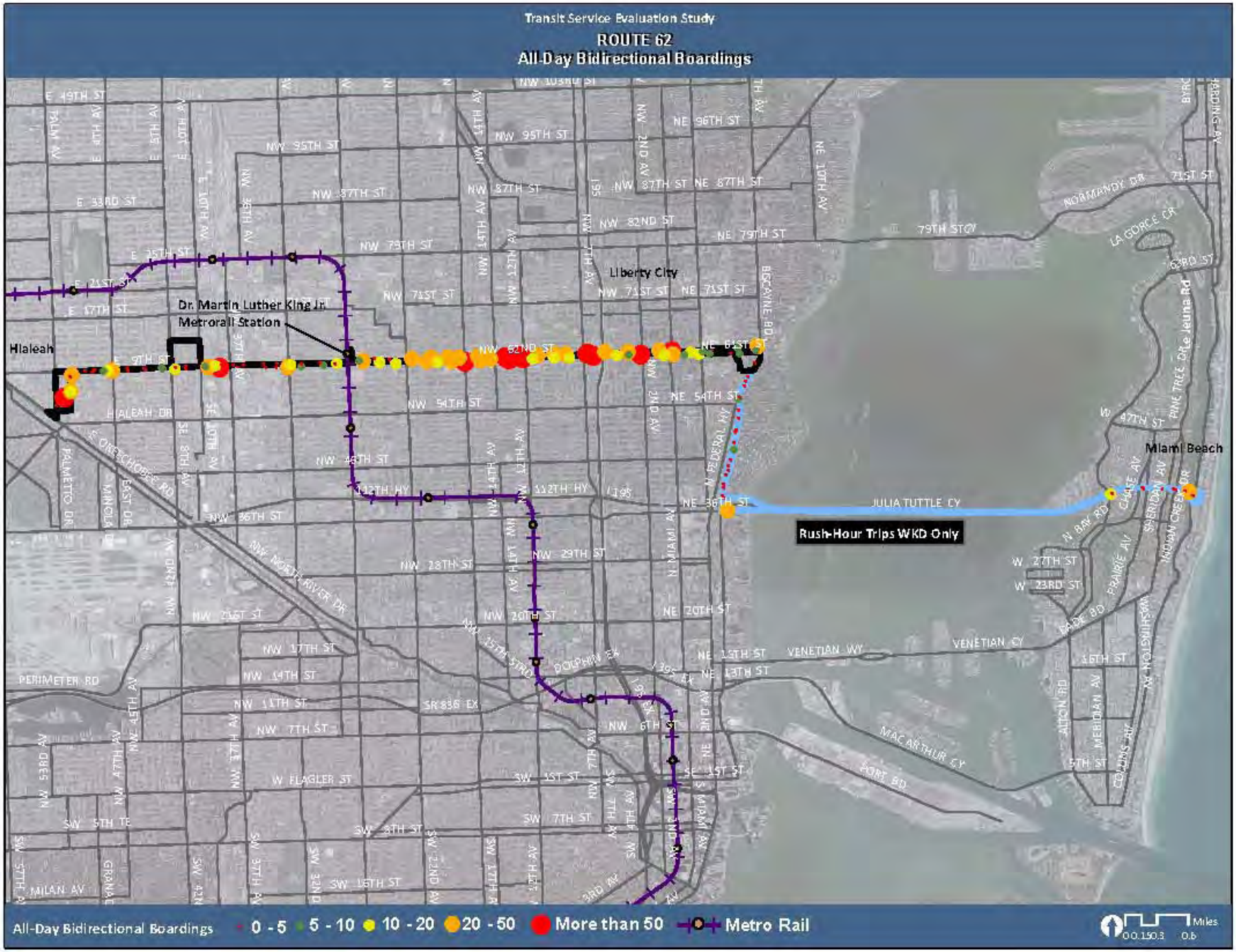
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.
N/A – Not Available

Route 59 is a feeder service for Route I-95 Express. It connects the two busiest transit hubs in the County: Golden Glades and Aventura Mall Transit Hub. The route was initiated as part of the December 2009 lineup changes. The route operates for approximately two hours during both morning and evening peaks and has an average of about 25 boardings on a typical weekday.

Since the route connects two transit hubs, the implicit assumption is that riders will make their first transfer at the Aventura Mall Transit Hub, take this route to Golden Glades, and then transfer to the I-95 Express service which connects to Downtown Miami. This service also provides connection to Route 77, which runs along State Road 7.

Recommendations:

- More information is needed to further identify the potential of this service.
- A connection between 163rd Street Mall Transit Hub and Aventura Mall Transit Hub, which could potentially include a connection to Golden Glades, should be further examined.


Transit Service Evaluation Study
ROUTE 62
All-Day Bidirectional Boardings
Dr. Martin Luther King Jr. Metrorail Station
Hialeah
Liberty City
Miami Beach
Rush-Hour Trips WKD Only
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles

Route 62

Route 62 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/20
Route Miles (Directional)	28
Number of Stops – NB/SB	69/71
Ridership	3,660
Route 62 Performance Measures	
Passengers per Trip	25
Passengers per Revenue Mile	2.6
Passengers per Revenue Hour	32
Farebox Ratio	0.33
Direct Operating Cost per Revenue Mile	$10.9
Direct Operating Cost per Passenger	$2.7
Direct Operating Cost per Trip	$66.0

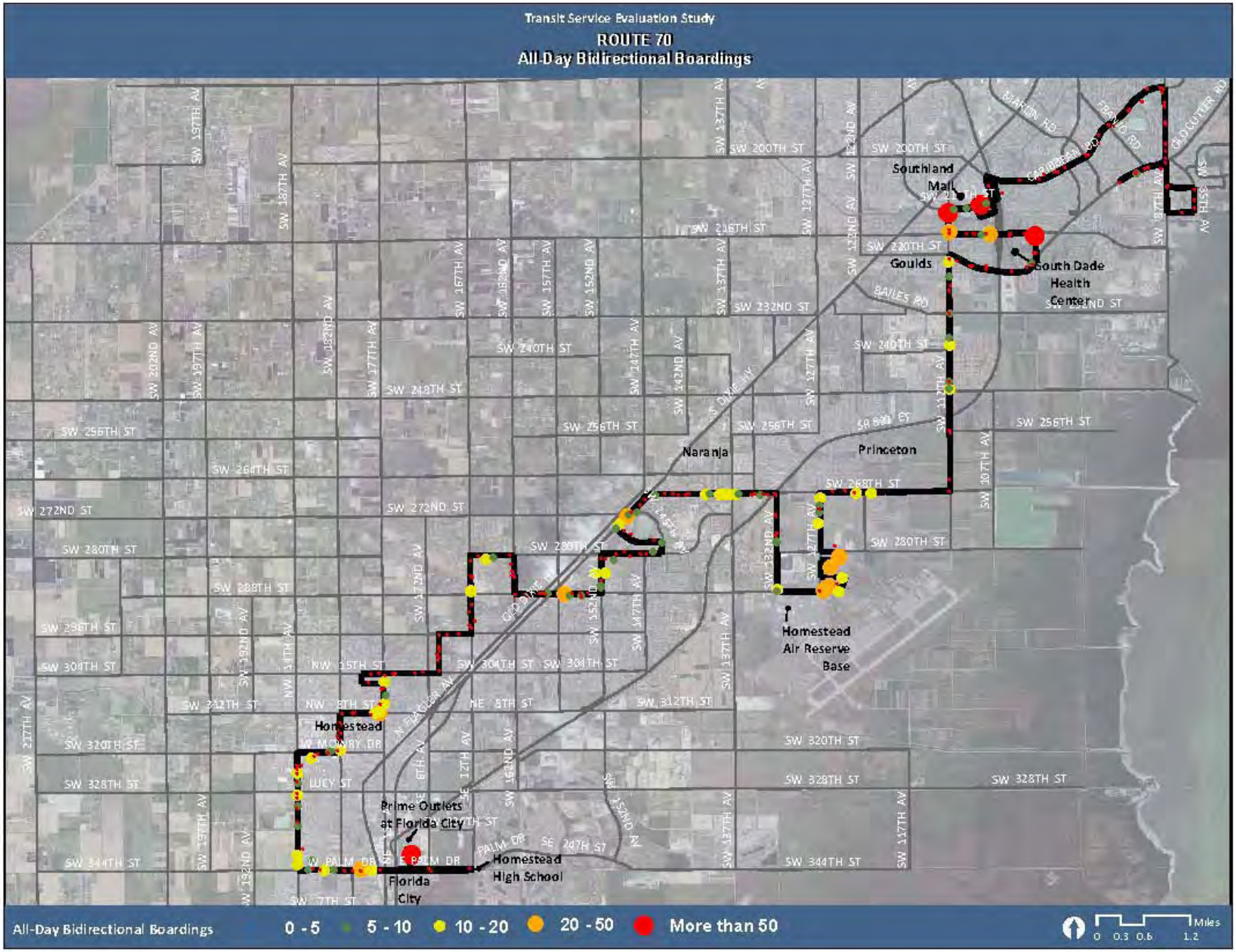
Route 62 is a local service that provides a connection to the Martin Luther King, Jr. Metrorail Station. During peak periods, the route runs south along Biscayne Boulevard and then to Miami Beach via the Julia Tuttle Causeway to provide a direct connection between Liberty City and Miami Beach.

The segment of Biscayne Boulevard from NE 62nd Street to 36th Street operating in peak periods results in an activity of about 100 boardings. This segment of Biscayne Boulevard is also served by Routes 3 and 93 and, therefore, receives additional service. The round trip to Indian Creek Drive and 41st Street in Miami Beach from Biscayne and NE 36th Street via the Julia Tuttle Causeway has a 30-minute duration, including a ten minute layover time at Miami Beach.

A segment analysis was performed, splitting the route into two at the Martin Luther King, Jr. Metrorail Station. Trip loads and passenger volumes indicate that this may lead to a significantly higher number of transfers. Furthermore, resulting segement lengths are not likely to improve operational efficiencies. Therefore, the portion on NW 62nd Street should continue to remain unchanged.

Recommendations:

- The segment serving the Miami Beach area should be consolidated with Route 110, which also serves the same demographic market.
- Given the boarding and alighting activity along this segment of Biscayne Boulevard, consolidation with other existing services such as Routes 3 and 93 should be considered. Route 62 would therefore only serve NW 62nd Street and provide transfer opportunities at the Martin Luther King, Jr. Metrorail Station and Biscayne Boulevard.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

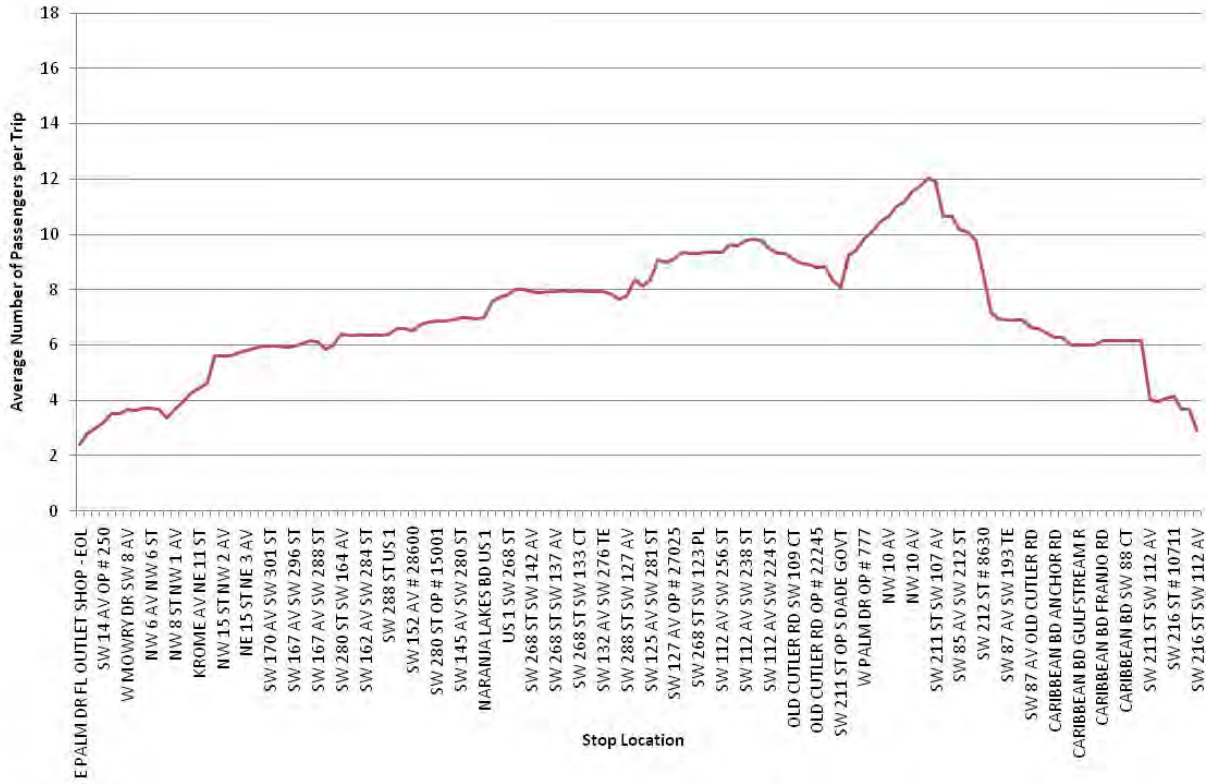

Transit Service Evaluation Study
ROUTE 70
All-Day Bidirectional Boardings
Southland Mall
Goulds
South Dade Health Center
Naranja
Princeton
Homestead Air Reserve Base
Homestead
Prime Outlets at Florida City
Homestead High School
Florida City
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0 0.3 0.6 1.2

Route 70

Route 70 Statistics	
Headway in Minutes (Peak/Off Peak)	30/60
Route Miles	32.5
Number of Stops	152/147
Ridership	1,590
Route 70 Performance Measures	
Passengers per Trip	33
Passengers per Revenue Mile	1.2
Passengers per Revenue Hour	27
Farebox Ratio	0.20
Direct Operating Cost per Revenue Mile	$6.4
Direct Operating Cost per Passenger	$5.4
Direct Operating Cost per Trip	$178

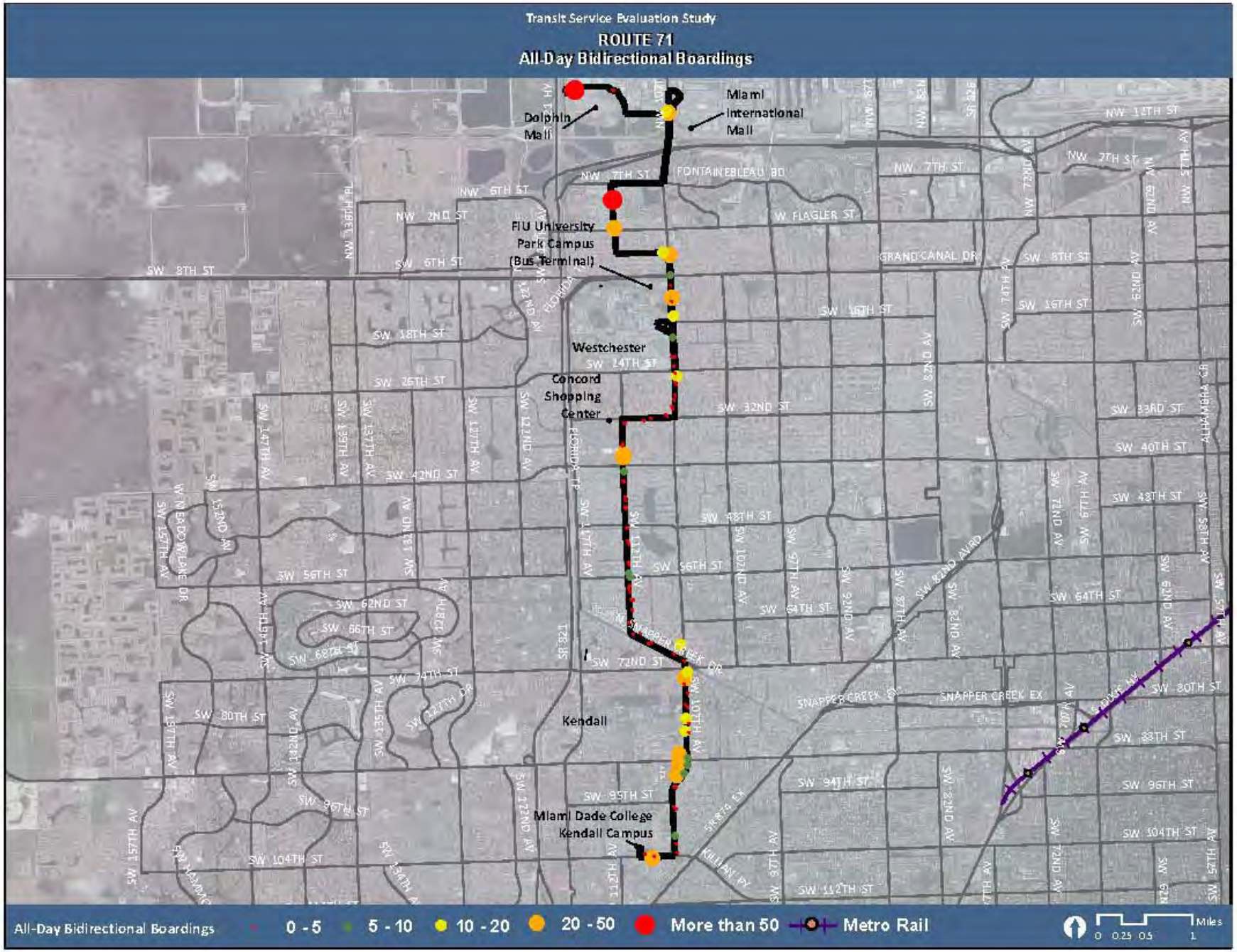
Route 70 is a local north-south service that connects the Homestead area with the South Dade Government Center. It has an average of 1,590 boardings on a typical weekday. **Figure 31** depicts the average northbound daily passenger load. Some of the routes highest activity stops include Southland Mall, South Dade Health Center, Homestead Air Reserve Base, and the Prime Outlets at Florida City, all major centers of employment.

Figure 31: Route 70 NB Daily Average Passenger Load



Recommendations:

- Consolidating the northern portion of Route 70 with Route 287 should be considered. This route would act as a feeder route to the US-1 Busway, ending at the 168th Street Park-and-Ride Lot.
- The southern portion of this route should also be considered for realignment to provide additional feeder service to the Busway.
- The diversions taken for both the South Dade Health Center in the north and the Homestead Air Reserve Base should be maintained due to high boardings at these activity centers.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 71
All-Day Bidirectional Boardings
Dolphin Mall
Miami International Mall
FIU University Park Campus (Bus Terminal)
Westchester
Concord Shopping Center
Kendall
Miami Dade College Kendall Campus
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 71

Route 71 Statistics	
Headway in Minutes (Peak/Off Peak)	30/60
Route Miles	13
Number of Stops	71/66
Ridership	1,080
Route 71 Performance Measures	
Passengers per Trip	31
Passengers per Revenue Mile	2.1
Passengers per Revenue Hour	29
Farebox Ratio	0.24
Direct Operating Cost per Revenue Mile	$8.7
Direct Operating Cost per Passenger	$4.2
Direct Operating Cost per Trip	$130

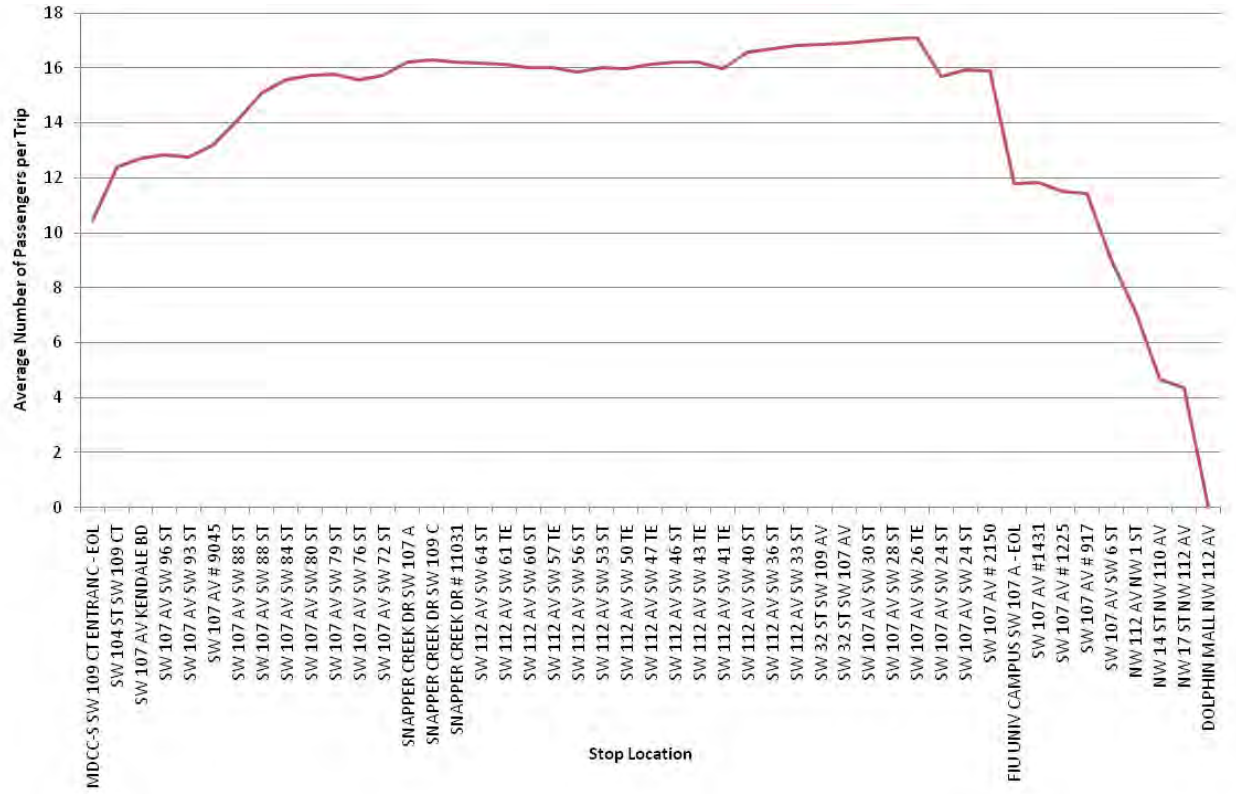
Recommendations:

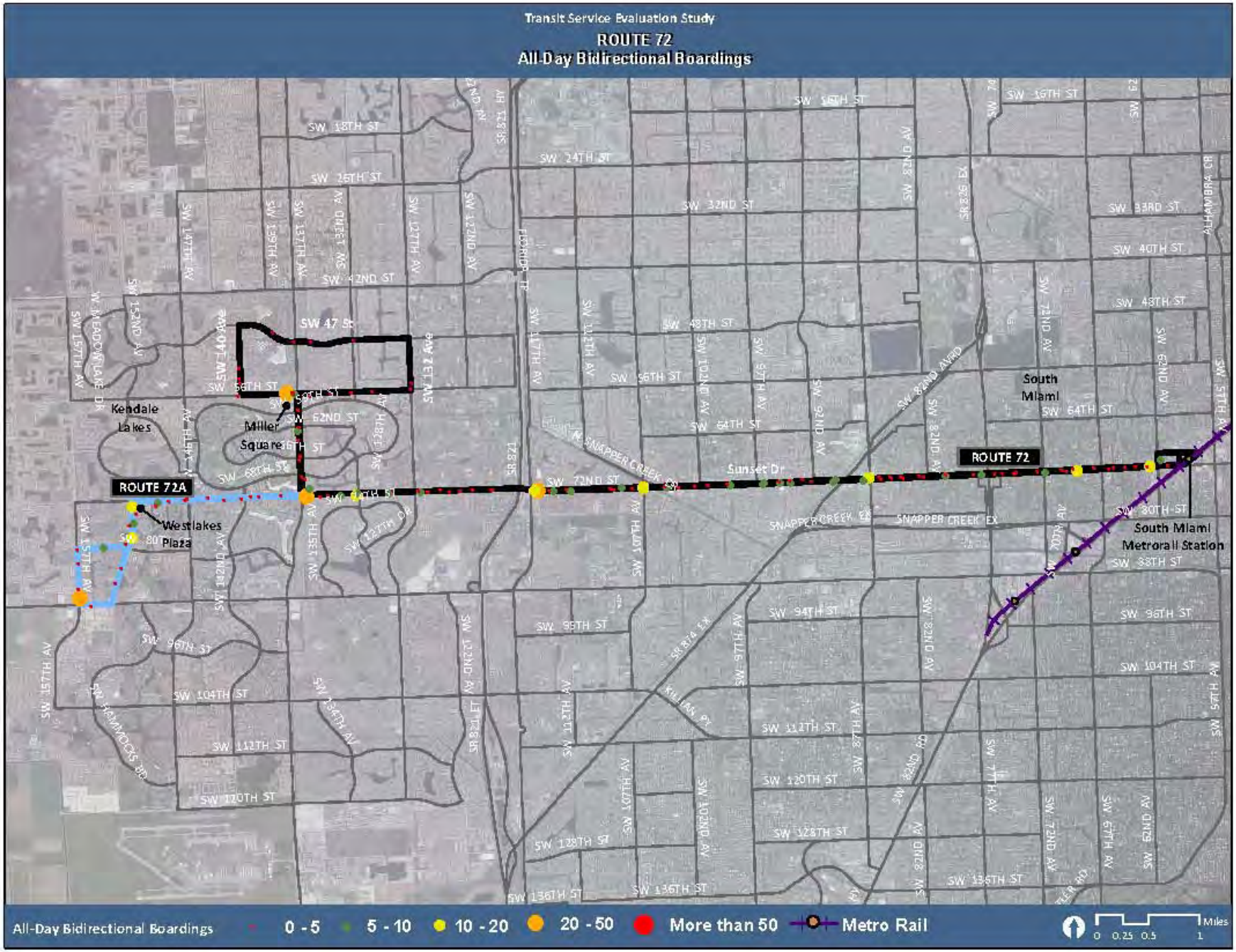
- The current service should be maintained. Further analysis is needed to reduce transfer times at SW 112th Avenue and SW 40th Street.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 71 is a local north-south service that connects the Dolphin Mall and the Westchester area with the Kendall area. It also connects two major educational institutions, the MDC Kendall Campus and the FIU Park Campus. It has an average of 1,080 boardings on a typical weekday. **Figure 32** depicts the average northbound daily passenger load.

The boarding data indicates that a number of passengers are going from the MDC Kendall Campus to the FIU South Campus. The stop at SW 112th Avenue and SW 40th Street (the FIU Park Campus) shows a total of 115 boardings and alightings. An evaluation of boardings and alightings indicate that this stop has significant transfer activity.

Figure 32: Route 71 NB Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 72
All-Day Bidirectional Boardings
ROUTE 72A
ROUTE 72
Kendale Lakes
Miller Square
Westlakes Plaza
South Miami
South Miami Metrorail Station
Sunset Dr
SW 47 St
SW 62ND ST
SW 72ND ST
SW 80TH ST
SW 88TH ST
SW 104TH ST
SW 112TH ST
SW 120TH ST
SW 128TH ST
SW 136TH ST
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.25 0.5 1

Route 72

Route 72 Statistics	
Headway in Minutes (Peak/Off Peak)	30/30
Route Miles	13
Number of Stops	65/74
Ridership	800
Route 72 Performance Measures	
Passengers per Trip	16
Passengers per Revenue Mile	1.2
Passengers per Revenue Hour	21
Farebox Ratio	0.16
Direct Operating Cost per Revenue Mile	$7.9
Direct Operating Cost per Passenger	$6.5
Direct Operating Cost per Trip	$104

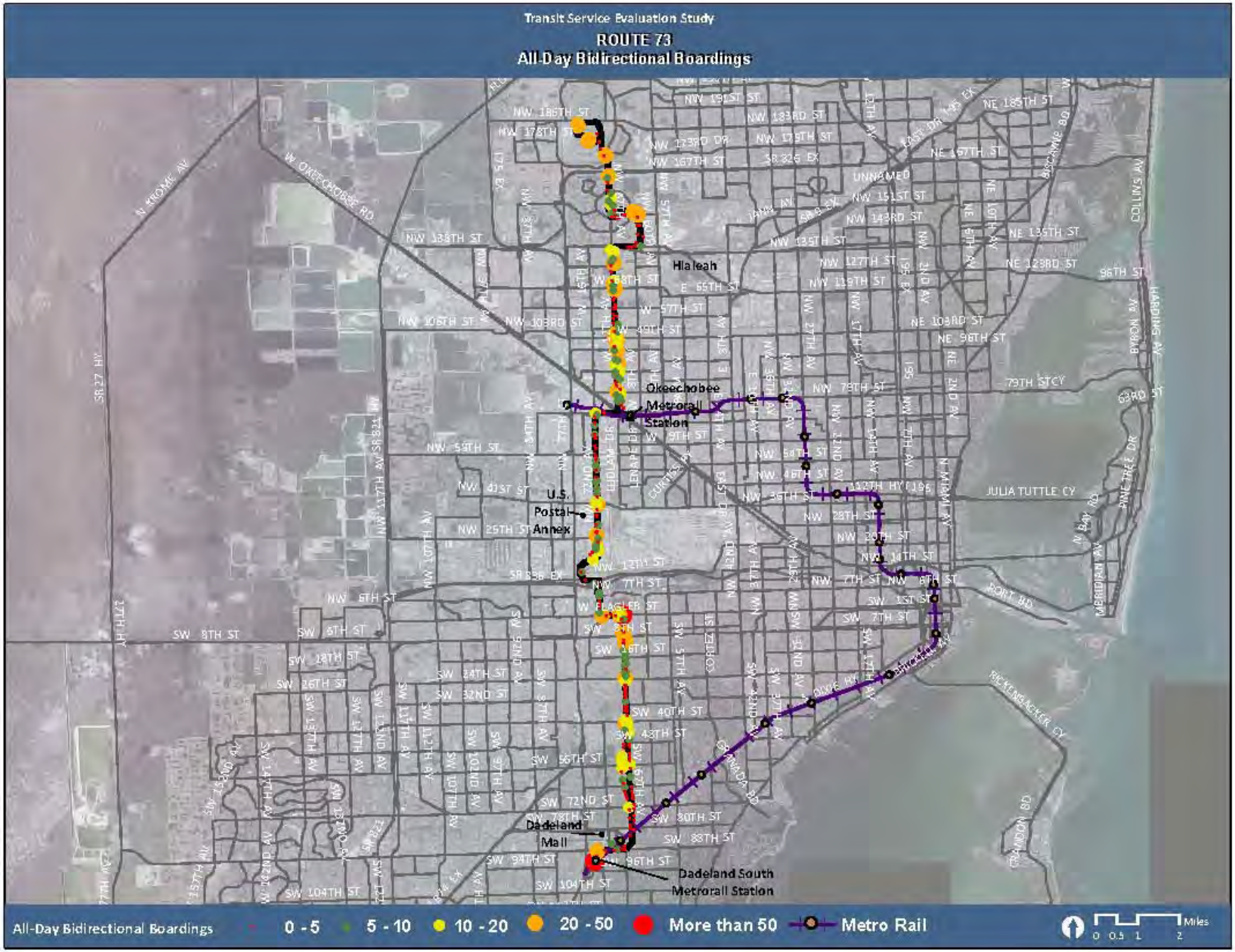
Route 72 is a local east-west service that connects the County's western suburban areas with the Metrorail service and the US-1 corridor via SW 72nd Street. It has nearly 800 boardings on a typical weekday, and currently every other trip goes to the Kendall area. The Route 72A alignment serves the West Kendall Transit Terminal Park-and-Ride in the western portion of the route.

An analysis of segment and passenger loads indicates that the segments west of SW 137th Avenue have the lowest ridership, but they serve the eastbound mobility needs of area residents. This route was recently extended to connect to the West Kendall Park-and-Ride Lot located at SW 162nd Avenue. The terminal was inaugurated on February 27, 2011. A one way trip from SW 72nd Street and SW 137th Avenue to the West Kendall Park-and-Ride Lot takes about 14 minutes.

A review of the loop starting at SW 72nd Street and SW 137th Avenue and wrapping around SW 56th Street, SW 132nd Avenue, and SW 140th Avenue creates a 20 minute time diversion for the route and generates about 65 daily boardings.

Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 73
All-Day Bidirectional Boardings
Hialeah
Okeechobee Metrorail Station
U.S. Postal Annex
Dadeland Mall
Dadeland South Metrorail Station
JULIA TUTTLE CY
RICKENBACKER CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

Route 73

Route 73 Statistics	
Headway in Minutes (Peak/Off Peak)	30/40
Route Miles	23
Number of Stops	128/131
Ridership	2,630
Route 73 Performance Measures	
Passengers per Trip	49
Passengers per Revenue Mile	2.2
Passengers per Revenue Hour	30
Farebox Ratio	0.24
Direct Operating Cost per Revenue Mile	$8.5
Direct Operating Cost per Passenger	$4.0
Direct Operating Cost per Trip	$196

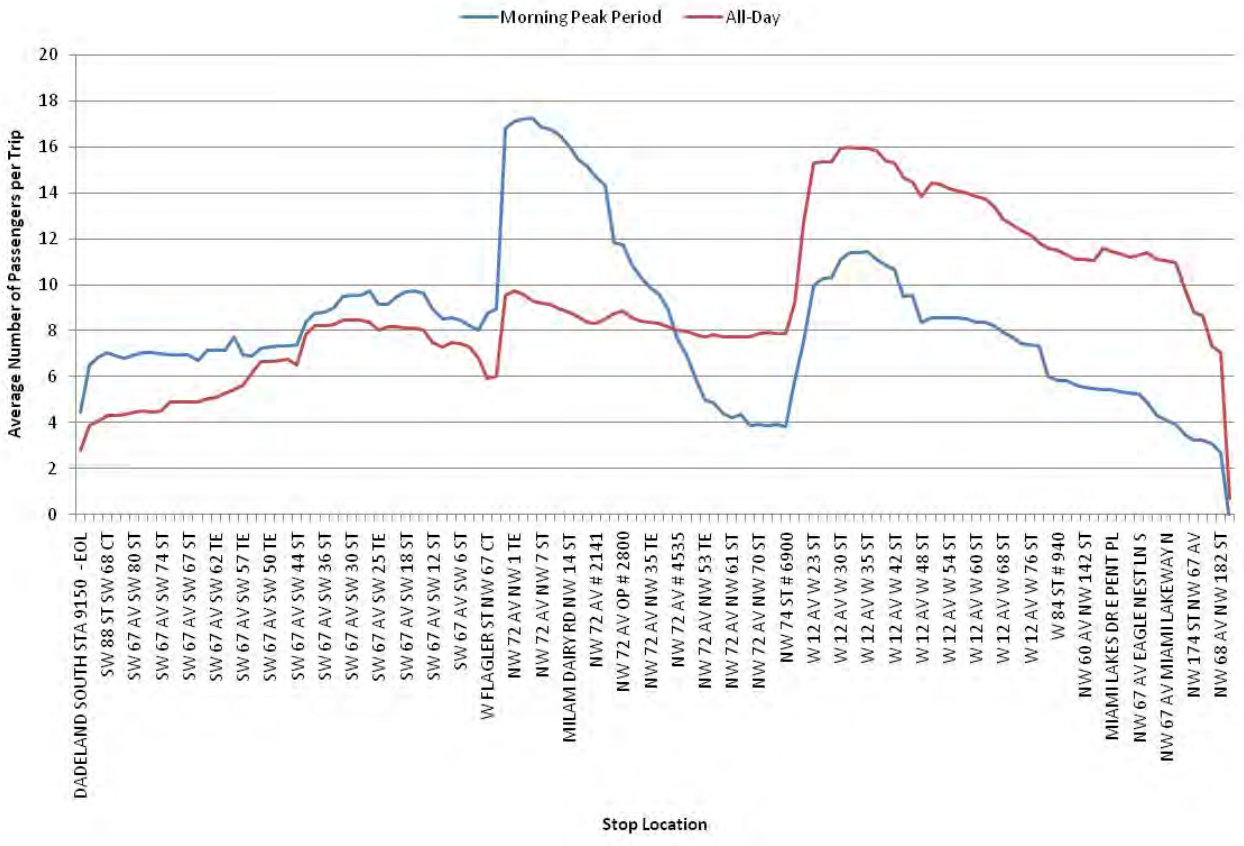
Recommendations:

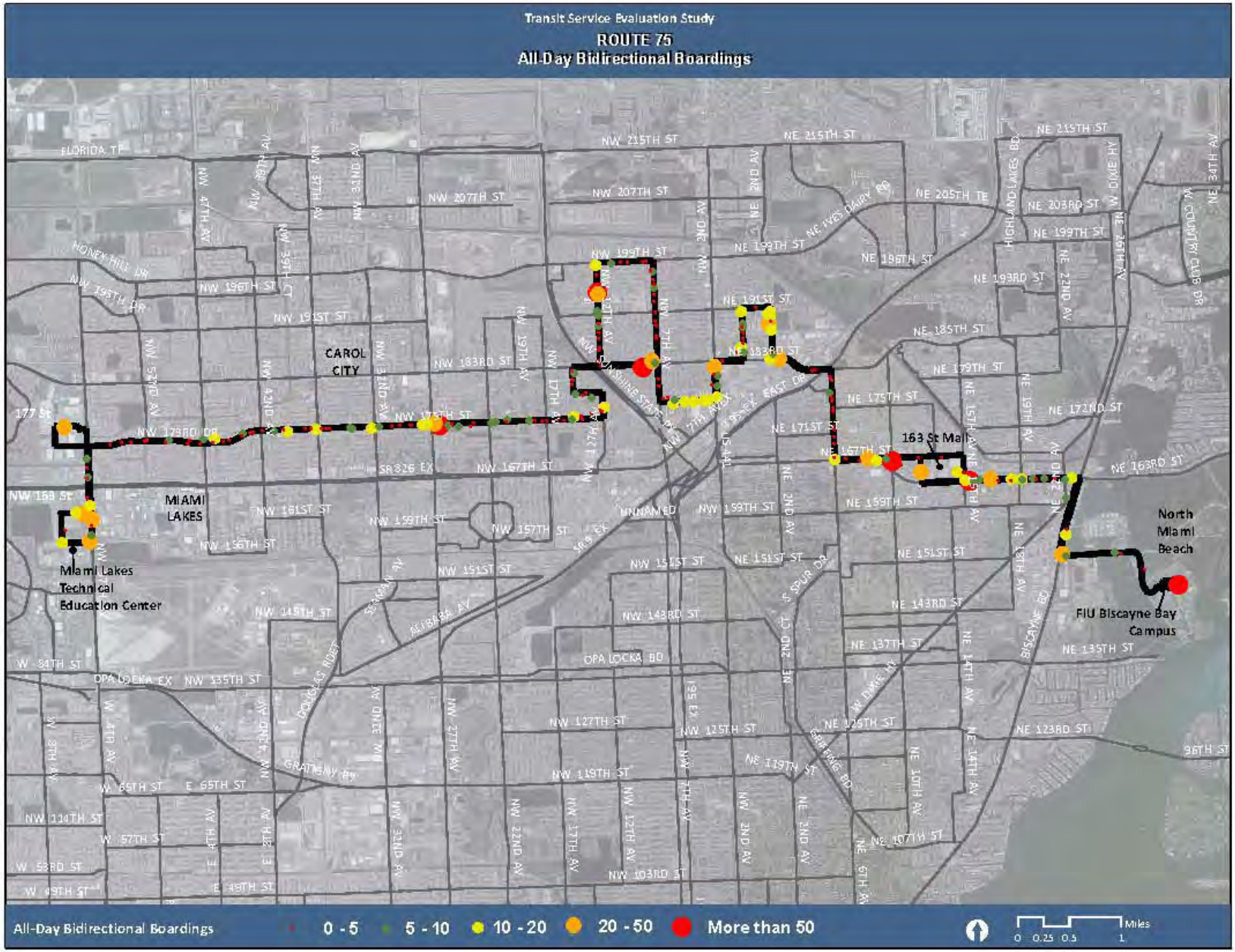
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 73 is a local north-south service that connects the Dadeland South Metrorail Station with residential and business areas along Milam Dairy Road to Miami Gardens Drive and NW 68th Avenue. The route has an average of 2,630 boardings on a typical weekday.

An analysis of segment passenger loads indicates two distinct peaks for morning and all-day periods. The small portion of the route along Flagler Street is the most active segment with nearly 300 boardings and alightings on a typical weekday. This suggests potential transfers to Route 11 and 51 services. **Figure 33** depicts the northbound morning and average passenger load for Route 73.

Figure 33: Route 73 NB Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 75
All-Day Bidirectional Boardings
CAROL CITY
MIAMI LAKES
Miami Lakes Technical Education Center
163 St Mall
North Miami Beach
FIU Biscayne Bay Campus
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0 0.25 0.5 1

Route 75

Route 75 Statistics	
Headway in Minutes (Peak/Off Peak)	30/30
Route Miles	19
Number of Stops	117/109
Ridership	2,300
Route 75 Performance Measures	
Passengers per Trip	37
Passengers per Revenue Mile	1.6
Passengers per Revenue Hour	23
Farebox Ratio	0.24
Direct Operating Cost per Revenue Mile	$8.2
Direct Operating Cost per Passenger	$4.2
Direct Operating Cost per Trip	$154

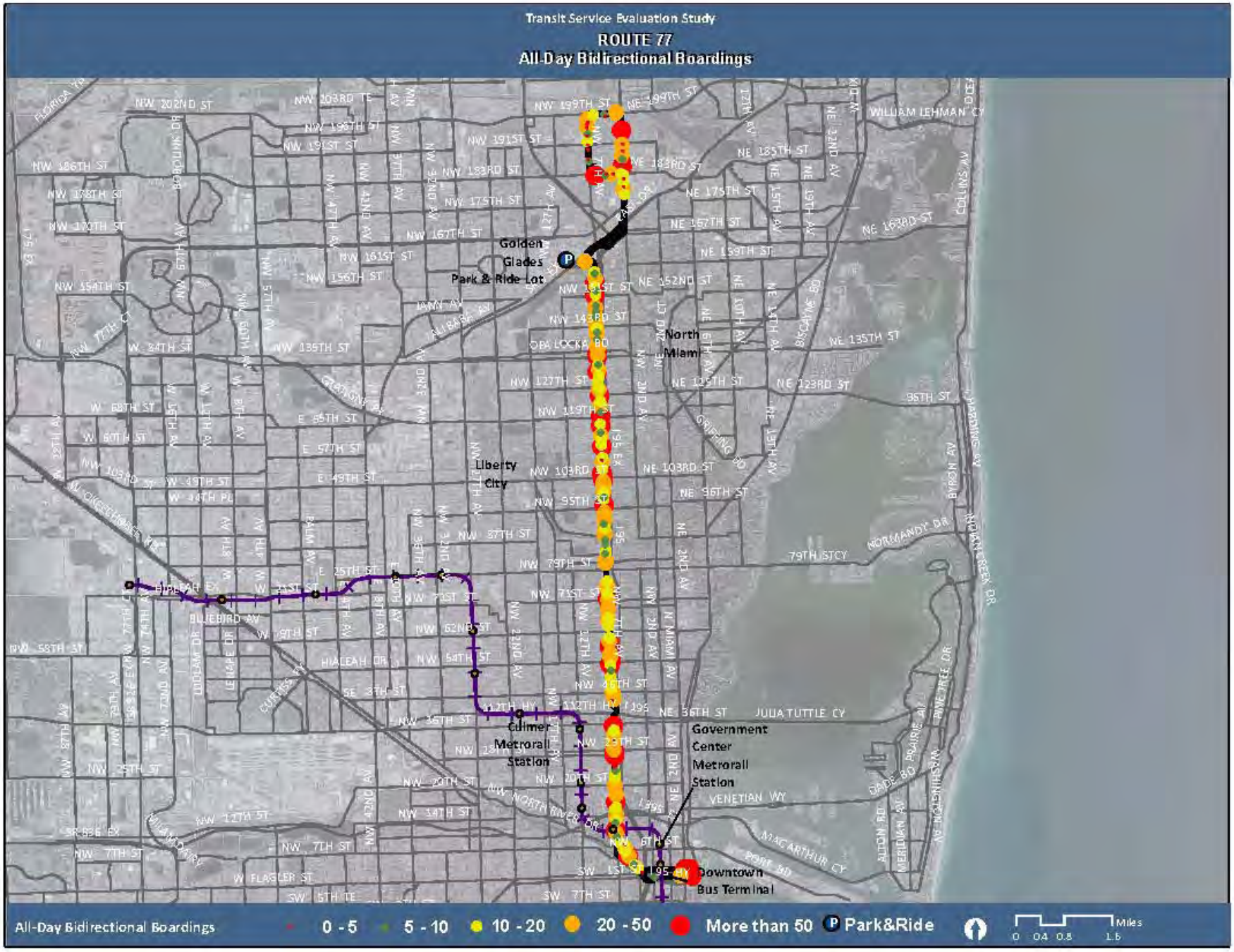
Route 75 is a local east-west service that connects the Miami Lakes Technical Education Center (Miami Lakes) through Carol City and the 163rd Street Mall Transit Hub to the FIU Biscayne Campus in North Miami Beach. It has nearly 2,300 boardings on a typical weekday.

A shuttle service to FIU from the 163rd Street Mall Transit Hub was also evaluated. An analysis of segment passenger loads indicates few passengers are boarding Route 75 at the 163rd Street Mall Transit Hub to go to the FIU Biscayne Campus. Most riders are continuing their trips through the transit hub. Therefore, a shuttle service to the FIU would require a considerably higher number of transfers.

There are various loops/diversions stemming from the service provided on NW 173rd Drive, NW 175th Street, and NE 163rd Street. The loop in the western portion of the route provides connection to the Miami Lakes Technical Education Center, with a one-way time diversion of about 10 minutes and accounts for just over 200 average daily riders. The route also diverts off of 175th Street up NW 12th Avenue to NW 199th Street and back down to 177th Street. This loop serves Miami Northland Senior High School and residential areas, generating more than 375 average daily trips and adding about 10 minutes to route run time. The loop running north on NW 2nd Avenue and North Miami Avenue to NE 191st Street and down NE 2nd Avenue serves the Hibiscus Elementary School, the Church and School of the Visitation, the Miami Gardens Infant and Preschool, and other various retail and residential locations. This loop accounts for about 440 average daily passengers and adds about 15 minutes to route run time.

Recommendations:

- The current service should be maintained. Implementation of a circulator line to serve the loop along NW 2nd Avenue and North Miami Avenue should be further evaluated.
- Due to the number of boardings and facilities, service should be maintained for each of the route diversions along NW 183rd Street.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 77
All-Day Bidirectional Boardings
Golden Glades Park & Ride Lot
North Miami
Liberty City
Culmer Metrorail Station
Government Center Metrorail Station
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Park&Ride
Miles

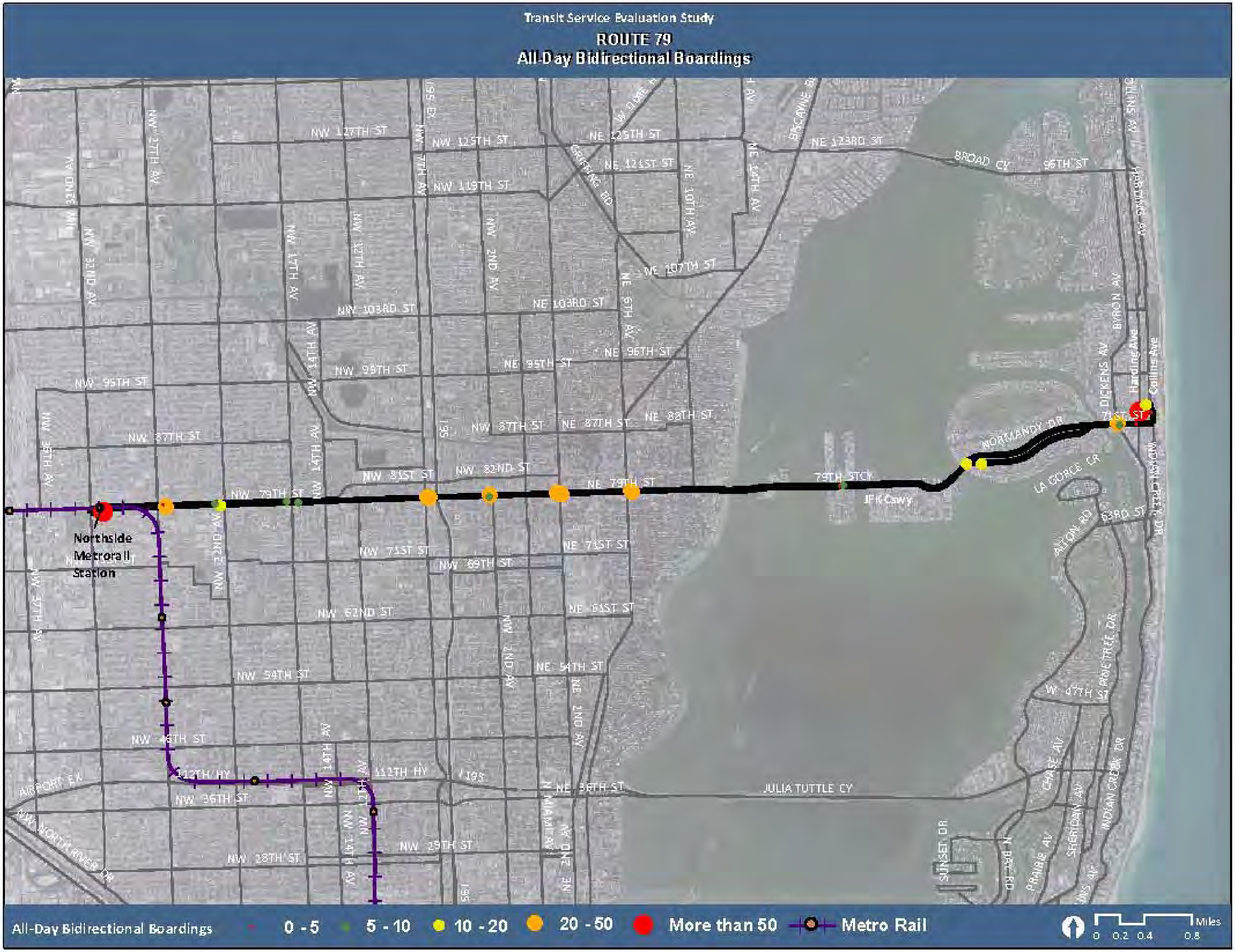
Route 77

Route 77 Statistics	
Headway in Minutes (Peak/Off-Peak)	8/15
Route Miles	16
Number of Stops	114/109
Ridership	9,330
Route 77 Performance Measures	
Passengers per Trip	58
Passengers per Revenue Mile	3.3
Passengers per Revenue Hour	44
Farebox Ratio	0.39
Direct Operating Cost per Revenue Mile	$8.7
Direct Operating Cost per Passenger	$2.7
Direct Operating Cost per Trip	$154

Route 77 has an average of 9,330 riders on a typical weekday. Based on the route ridership, this is one of the best performing routes in the entire system. Nearly 200 riders board this service at NW 79th Street, which indicates potential transfer activity at that stop location. Several other stops along this route also have a high activity.

Recommendations:

- The current service should be maintained.
- A transit hub should be considered where this route meets NW 79th Street due to high patronage and transfer potential in this location.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 79
All-Day Bidirectional Boardings
Northside Metrorail Station
NW 79TH ST
NE 79TH ST
79TH ST CY
JFK Cswy
NORMANDY DR
71ST ST
Harding Ave
Collins Ave
JULIA TUTTLE CY
112TH HY
NW 95TH ST
NW 87TH ST
NW 82ND ST
NW 81ST ST
NW 71ST ST
NW 69TH ST
NW 62ND ST
NW 54TH ST
NW 46TH ST
NW 36TH ST
NW 29TH ST
NW 28TH ST
NE 125TH ST
NE 123RD ST
NW 125TH ST
NW 119TH ST
NE 103RD ST
NW 103RD ST
NE 96TH ST
NE 95TH ST
NW 95TH ST
NE 88TH ST
NE 87TH ST
NE 71ST ST
NE 61ST ST
NE 54TH ST
NE 36TH ST
BROAD CY
96TH ST
LA GORCE CR
ALTON RD
63RD ST
W 47TH ST
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.2 0.4 0.8

Route 79 Street Max

Route 79 Statistics	
Headway in Minutes (Peak)	24
Route Miles	8.5
Number of Stops	15/12
Ridership	490
Route 79 Performance Measures	
Passengers per Trip	19
Passengers per Revenue Mile	2.2
Passengers per Revenue Hour	32
Farebox Ratio	0.23
Direct Operating Cost per Revenue Mile	$10.0
Direct Operating Cost per Passenger	$4.5
Direct Operating Cost per Trip	$85

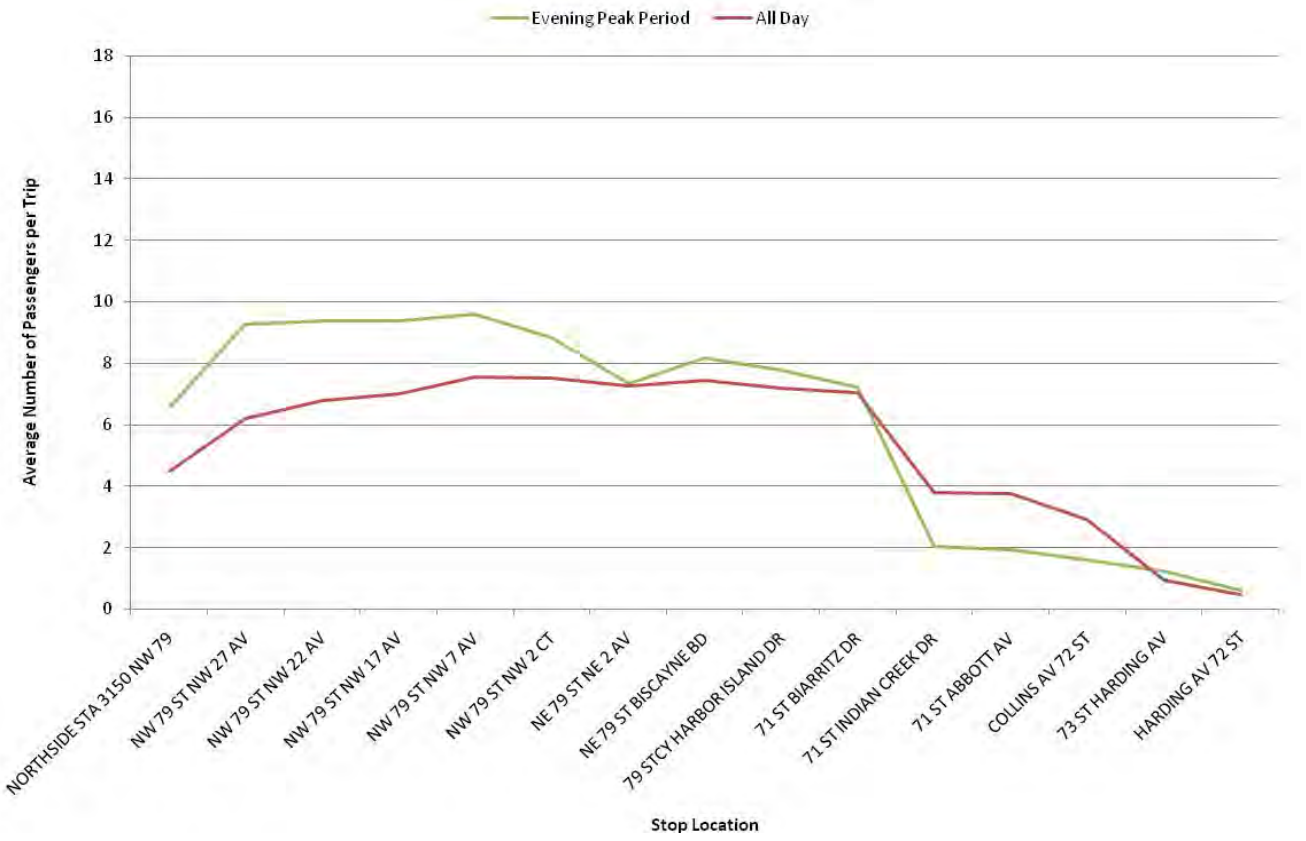
Recommendations:

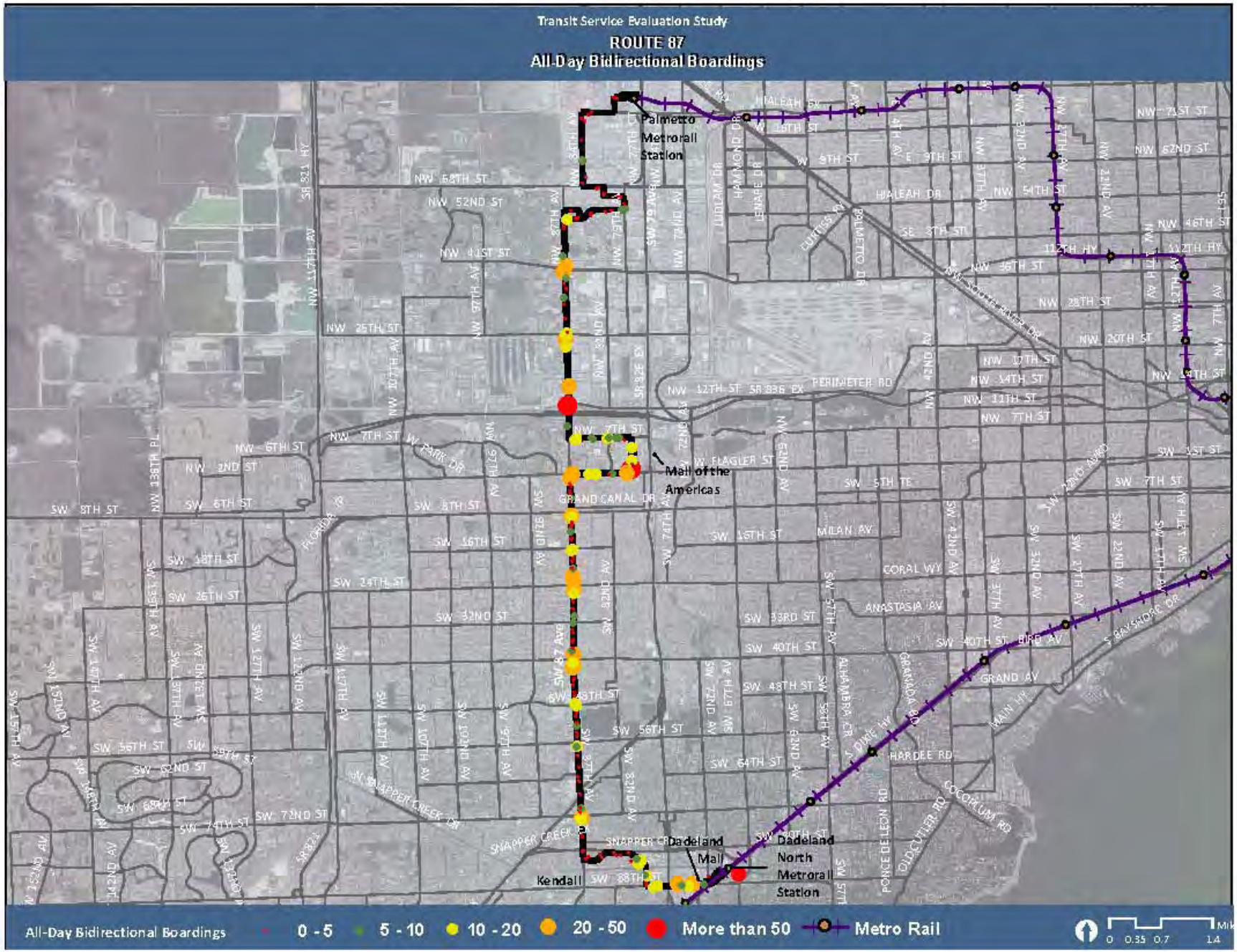
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 79 is a limited-stop service that connects northern parts of Miami Beach with Metrorail service via the JFK Causeway. The route has an average of 490 boardings on a typical weekday. Route 112 also follows the same route alignment but provides local service. The route provides significant time savings compared to Route 112 which is a local service. One-way travel time for this route is approximately 35 minutes. Route 112 takes approximately 56 minutes for the comparable segment. **Figure 34** compares Route 79's eastbound average passenger loads by evening and daily periods.

Passenger loads and boardings data were analyzed for directionality in the AM and PM periods because the route provides express service. The predominant direction was found to be eastbound during the morning peak period and westbound during the evening peak period. The results indicate that directional split is nearly 55 percent in the peak direction.

Figure 34: Route 79 EB PM Peak Period versus Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 87
All-Day Bidirectional Boardings
Palmetto Metrorail Station
Mall of the Americas
Dadeland Mall
Dadeland North Metrorail Station
Kendall
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail

Route 87

Route 87 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/45
Route Miles	16
Number of Stops	84/87
Ridership	1,640
Route 87 Performance Measures	
Passengers per Trip	34
Passengers per Revenue Mile	1.8
Passengers per Revenue Hour	24
Farebox Ratio	0.24
Direct Operating Cost per Revenue Mile	$9.0
Direct Operating Cost per Passenger	$4.3
Direct Operating Cost per Trip	$148

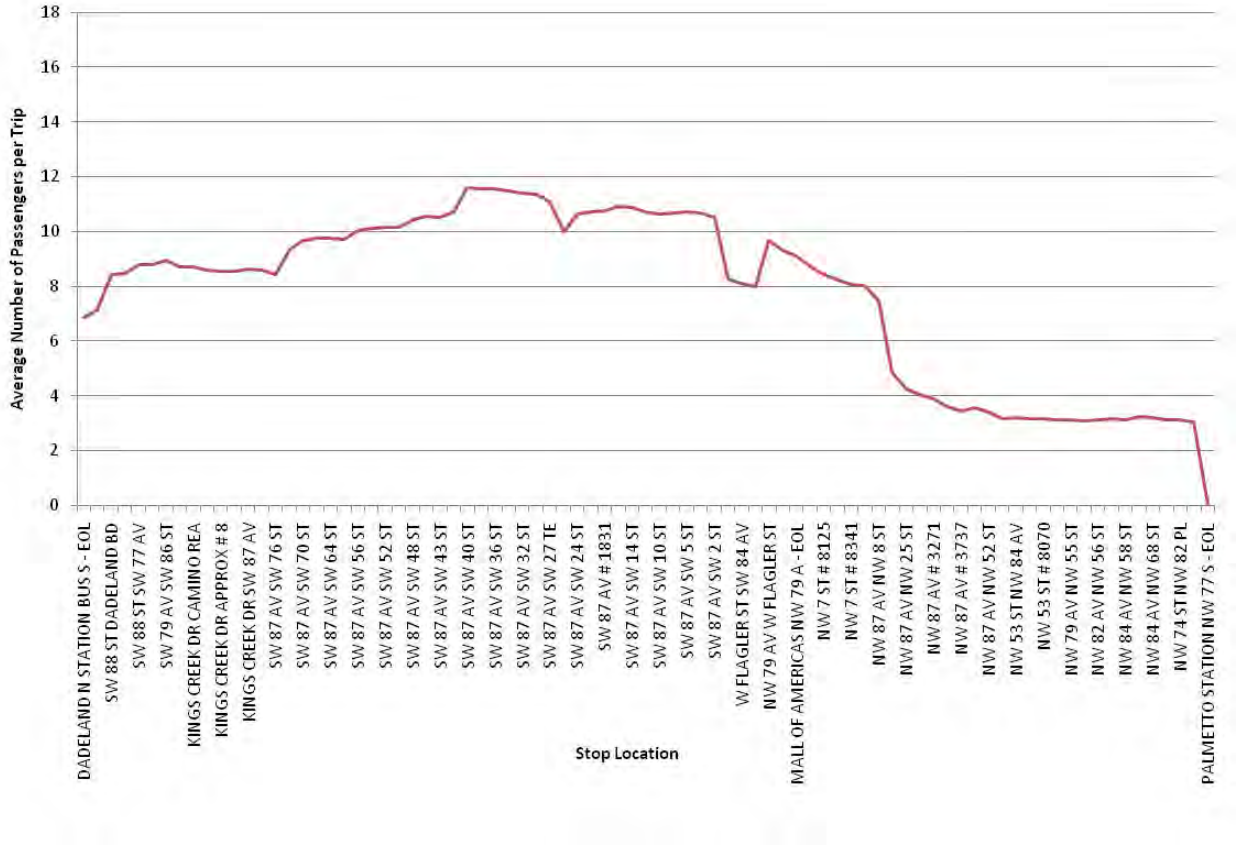
Recommendations:

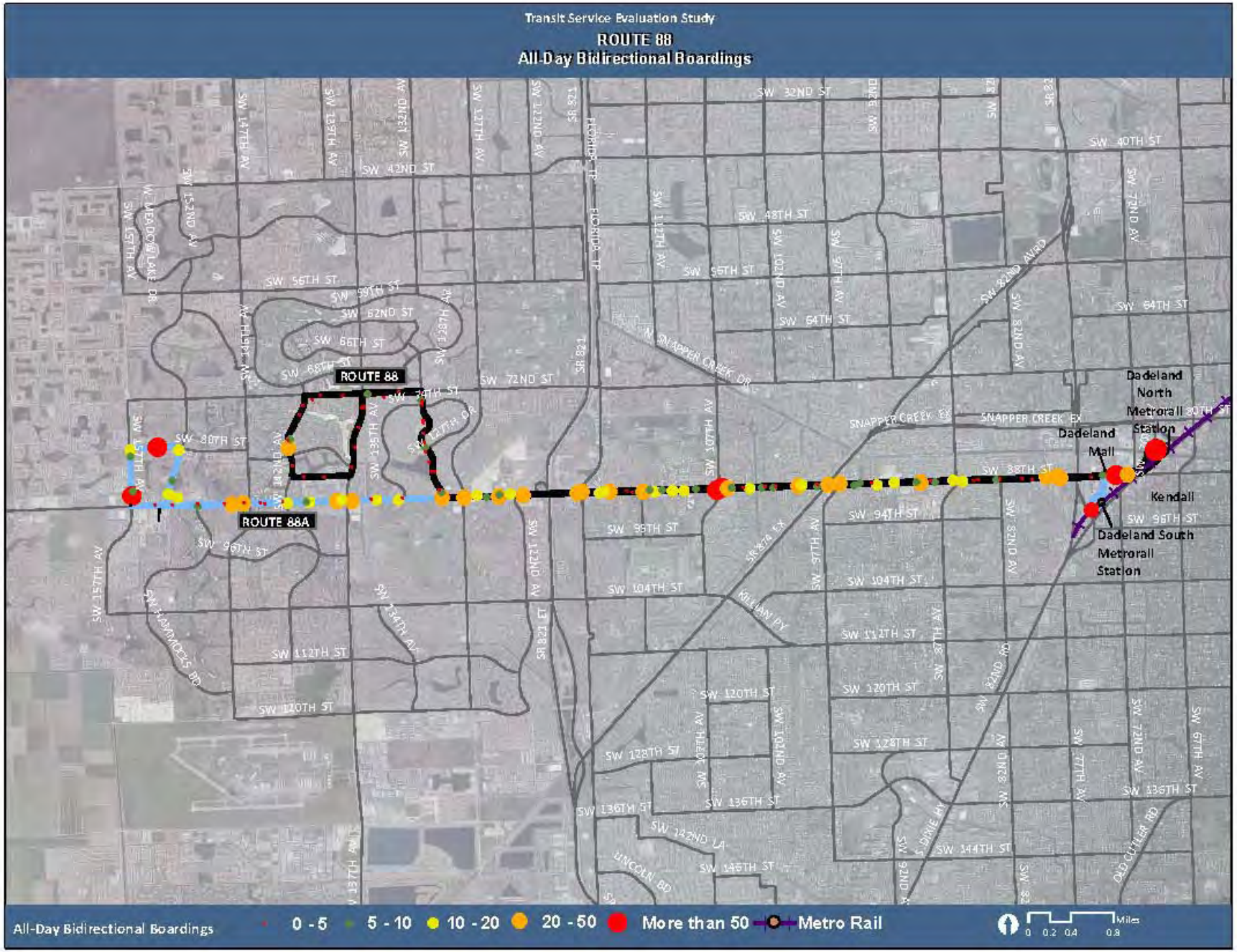
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 87 is a local north-south service and runs along 87th Avenue from Dadeland North Metrorail Station to the Palmetto Metrorail Station. It also connects to the Mall of the Americas Transit Hub. It has nearly 1,650 boardings on a typical weekday. **Figure 35** illustrates the northbound average passenger loadings for Route 87.

The total number of daily boardings and alightings at the Mall of the Americas is 50. This route deviation along Flagler Street and NW 7th Street generates nearly 500 boardings and alightings with majority of activity along Flagler Street. Routes 11 and 51 also operate along Flagler Street and connect to NW 87th Avenue; therefore, passengers on Route 87 have opportunities to transfer to Routes 11 and 51 at those stops.

Figure 35: Route 87 NB Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 88
All-Day Bidirectional Boardings
ROUTE 88
ROUTE 88A
Dadeland North Metrorail Station
Dadeland Mall
Dadeland South Metrorail Station
Kendall
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.2 0.4 0.8

Route 88

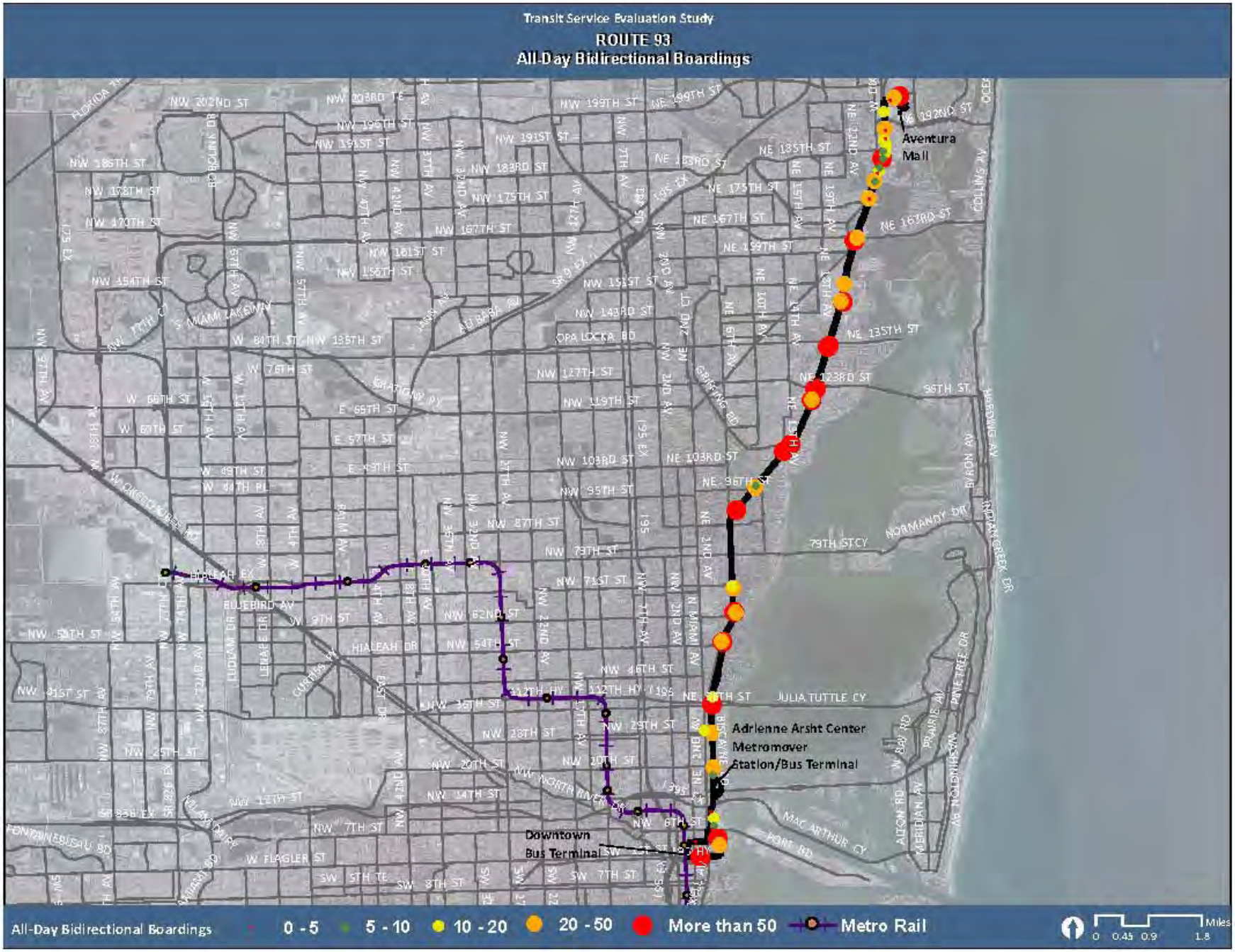
Route 88 Statistics	
Headway in Minutes (Peak/Off-Peak)	15/30
Route Miles	10
Number of Stops	73/62
Ridership	2,100
Route 88 Performance Measures	
Passengers per Trip	22
Passengers per Revenue Mile	2.1
Passengers per Revenue Hour	31
Farebox Ratio	0.33
Direct Operating Cost per Revenue Mile	$10.3
Direct Operating Cost per Passenger	$4.0
Direct Operating Cost per Trip	$90

Route 88 is a local east-west service along Kendall Drive and connects the County's western suburban areas with the Dadeland North Metrorail Station. It has nearly 2,100 boardings on a typical weekday.

The route deviation in the Kendall Lakes area was evaluated. This route deviation takes approximately 15 minutes per directional trip and results in an average total activity of nearly 200 boardings and alightings per day. Currently, every other trip goes to the Kendall Lakes area. There is a greater demand of service along SW 88th Street between SW 142nd Avenue and SW 132nd Avenue. MDT is currently evaluating additional park-and-ride lots along the Kendall Corridor, which will facilitate transfers to Route 88.

Recommendations:

- Elimination or consolidation of the Kendall Lakes route deviation should be considered. New park-and-ride lots along SW 88th Street will provide connection to this service.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 93
All-Day Bidirectional Boardings
Aventura Mall
Adrienne Arsht Center Metromover Station/Bus Terminal
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.45 0.9 1.8

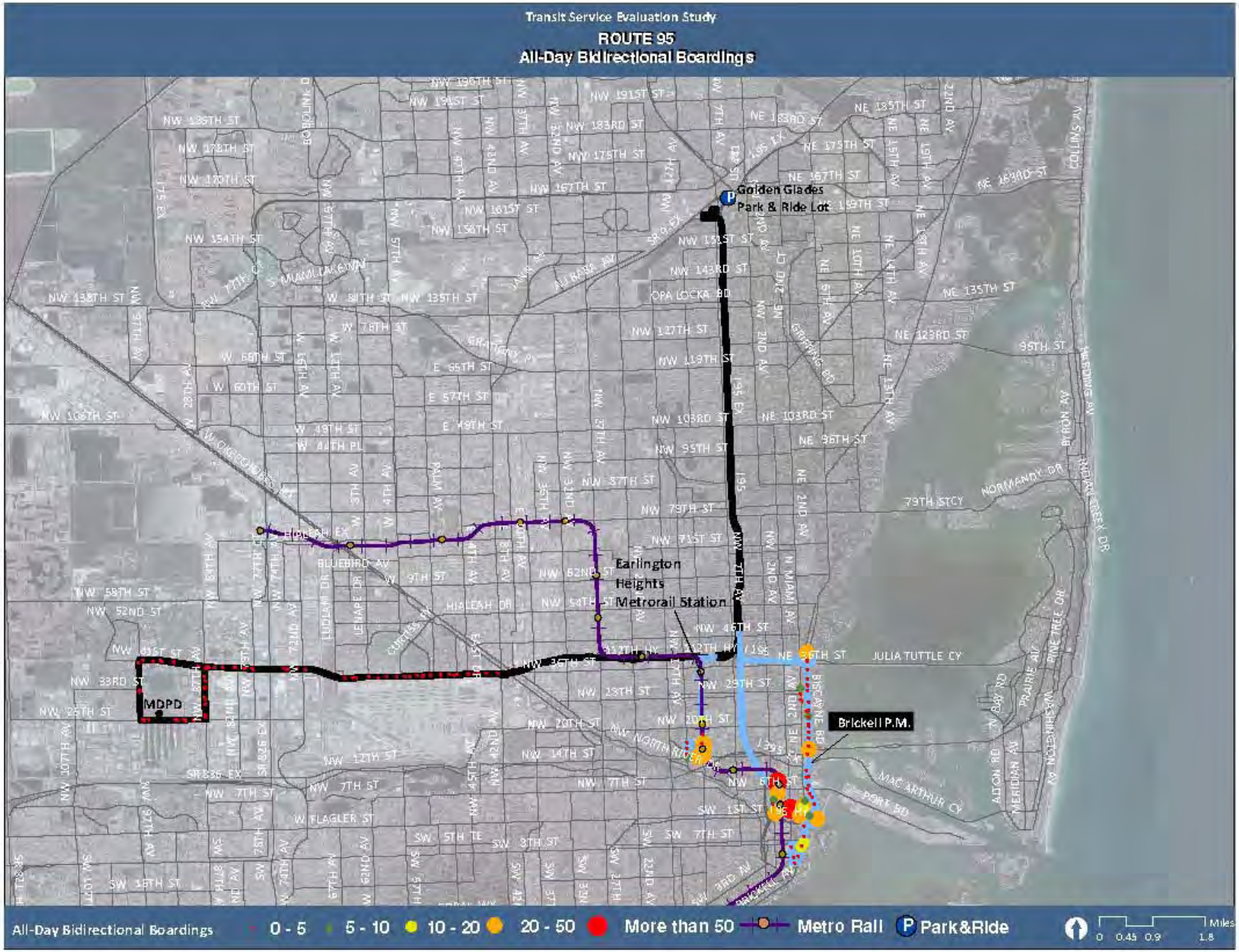
Route 93

Route 93 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/30
Route Miles (Directional)	30
Number of Stops – NB/SB	34/38
Ridership	3,490
Route 93 Performance Measures	
Passengers per Trip	47
Passengers per Revenue Mile	2.6
Passengers per Revenue Hour	35
Farebox Ratio	0.40
Direct Operating Cost per Revenue Mile	$8.4
Direct Operating Cost per Passenger	$2.8
Direct Operating Cost per Trip	$134.0

Route 93 is a limited-stop service that serves the same geographic travel market as Route 3. The route runs along Biscayne Boulevard from the Downtown Bus Terminal north to Aventura Mall Transit Hub. The difference is Route 93 is the Biscayne Max, a limited stop service, and does not serve the 163rd Street Mall Transit Hub. Route 3 has a ridership of 7,580, while Route 93 provides an additional ridership of 3,490 along Biscayne Boulevard.

Recommendations:

- In the short term, this route should be maintained as a limited stop service.
- In the long term, this route should be incorporated into a potential BRT/EBS system along Biscayne Boulevard and combined with Route 3.


Transit Service Evaluation Study
ROUTE 95
All-Day Bidirectional Boardings
Golden Glades Park & Ride Lot
Earlington Heights Metrorail Station
MDPD
Brickell P.M.
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles
0 0.45 0.9 1.8

Route 95 Express

Route 95 Statistics	
Headway in Minutes (Peak)	Varies
Route Miles	Varies
Number of Stops	76/86
Ridership	2,010
Route 95 Performance Measures	
Passengers per Trip	16
Passengers per Revenue Mile	1.2
Passengers per Revenue Hour	26
Farebox Ratio	0.19
Direct Operating Cost per Revenue Mile	$6.1
Direct Operating Cost per Passenger	$5.0
Direct Operating Cost per Trip	$81

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

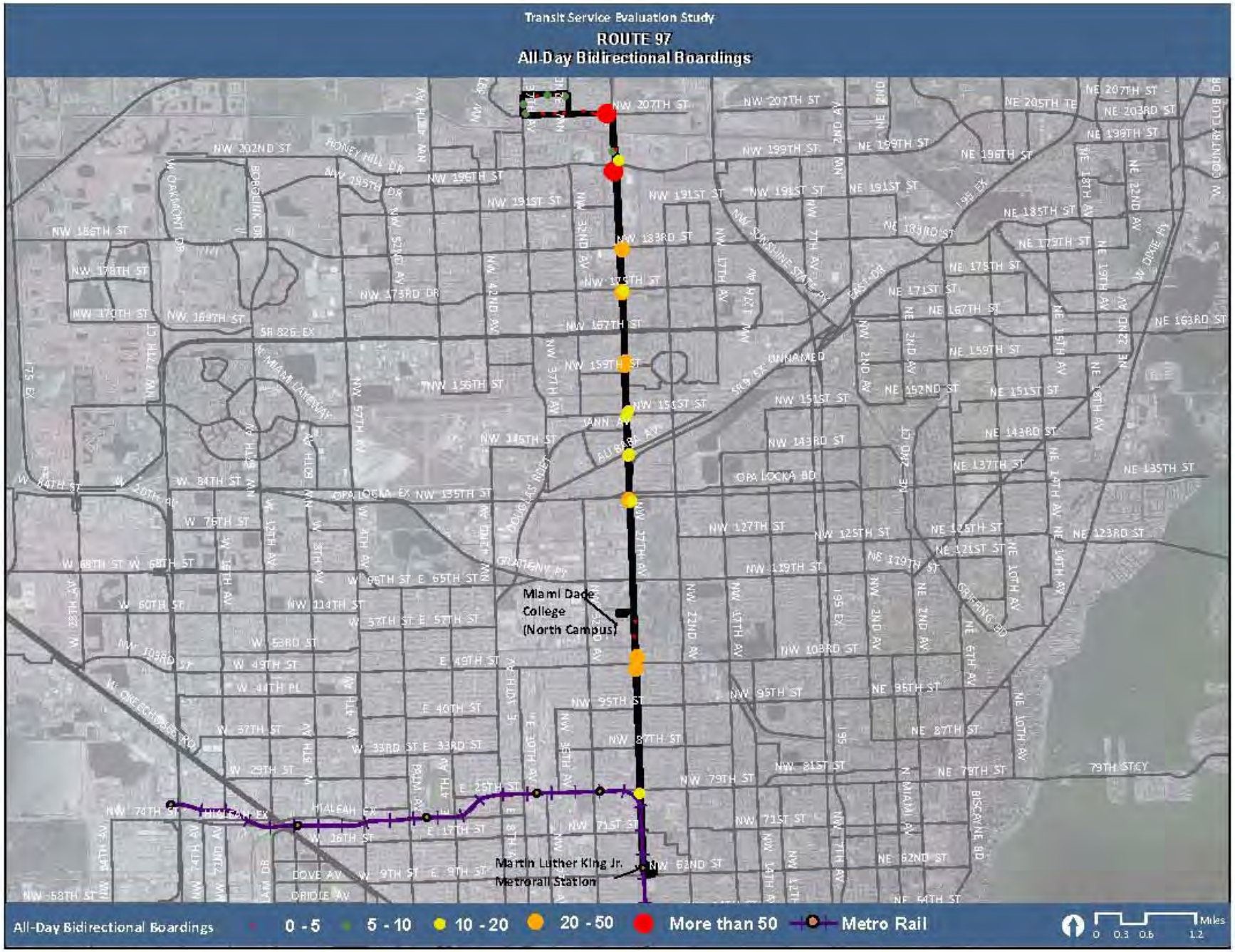
Managed lanes along I-95 opened in January 2010. The I-95 Express service was modified to reflect that change. The available data does not allow analysis of ridership of the modified route. The Miami-Dade MPO recently conducted an on-board survey of all I-95 Express services, which will provide more detailed counts and travel data.

Route 95 Express includes different alignment variations each utilizing the I-95 Express Lanes. These alignments include:

- Route 95 Golden Glades, a weekday rush-hour service that provides access to the Golden Glades Park-and-Ride Lot, Civic Center, Veterans Hospital, Jackson Memorial Hospital, Norwood, Earlington Heights Metrorail Station, Downtown Miami, and Brickell;
- Southbound AM - 95 Dade-Broward Express, a weekday rush-hour service that provides access from Broward Boulevard in Downtown Fort Lauderdale to Downtown Miami; and
- Northbound PM - 95 Dade-Broward Express, a weekday rush-hour service that provides access from Downtown Hollywood at and the Sheridan Street Tri-Rail Station to Downtown Miami.

Recommendations:

- The data collected by the MPO on-board survey should be analyzed to evaluate all I-95 Express routes once available.


Transit Service Evaluation Study
ROUTE 97
All-Day Bidirectional Boardings
Miami Dade College (North Campus)
Martin Luther King Jr. Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.3 0.6 1.2

Route 97

Route 288 Statistics	
Headway in Minutes (Peak)	20/40
Route Miles	18.5
Number of Stops	30/16
Ridership	1,260
Route 288 Performance Measures	
Passengers per Trip	20
Passengers per Revenue Mile	1.5
Passengers per Revenue Hour	29
Farebox Ratio	0.29
Direct Operating Cost per Revenue Mile	$7.5
Direct Operating Cost per Passenger	$3.9
Direct Operating Cost per Trip	$77

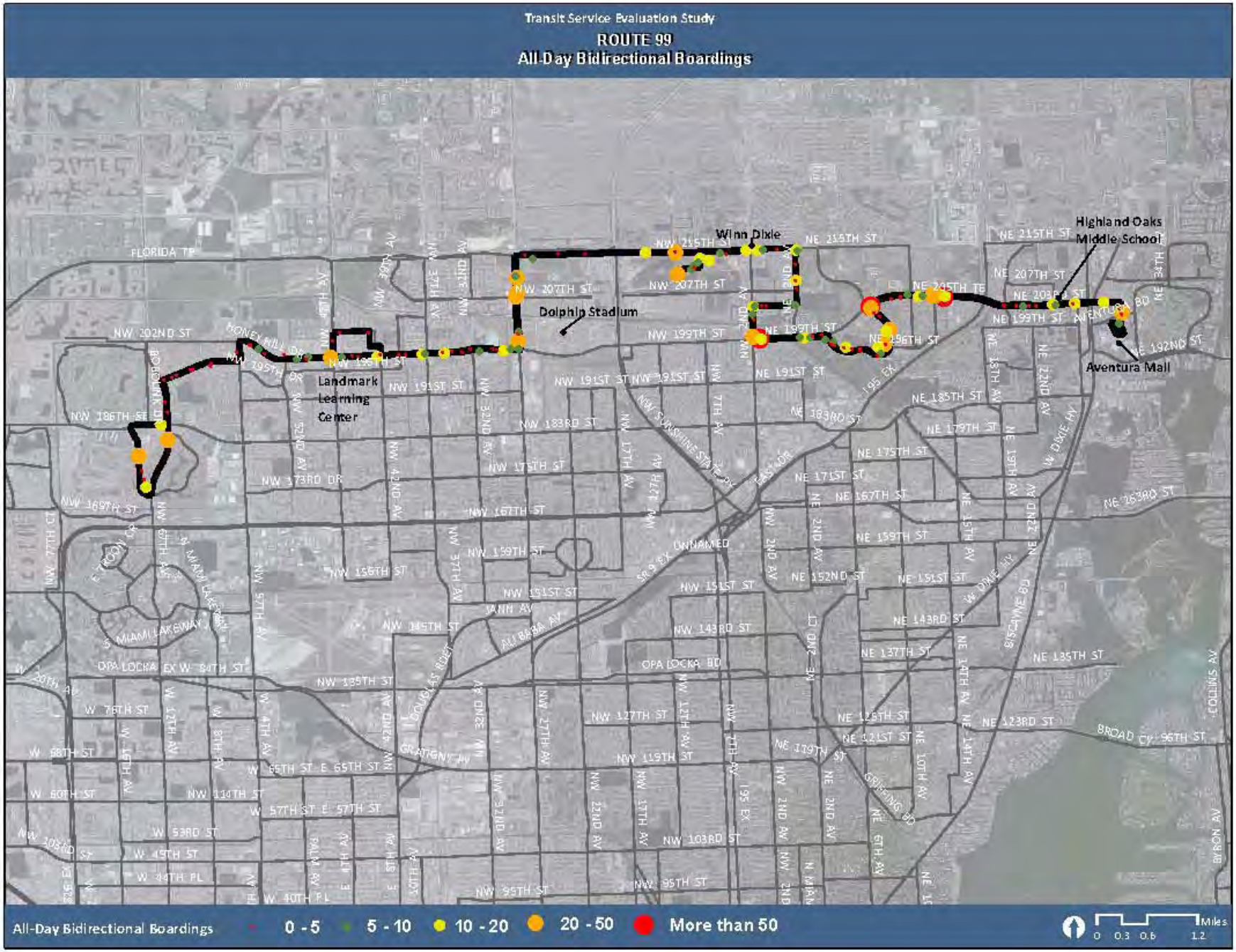
Route 97 is a limited-stop service that also runs along NW 27th Avenue and connects the Martin Luther King, Jr. Metrorail Station with Opa-Locka and Miami Gardens. This route is branded as a premium service and includes improved amenities. It has 1,259 boardings on a typical weekday.

MDT is currently developing a plan for incrementally enhanced bus service along this corridor. The enhanced service will include distinct branding, environmentally-friendly sixty-foot diesel/electric hybrid buses, Transit Signal Priority, Wi-Fi, real time bus location information, branded stations, and strategically located park-and-ride lot facilities. The park-and-ride lot located at NW 27th Avenue and 215th Street, the northern terminus of this service, has been purchased by MDT to attract more choice riders. MDT will promote Transit Oriented Development at this location and have the developer fund the construction of the station and park-and-ride facility.

Long-term plans for the corridor include an extension of Metrorail service. While the existing ridership is relatively low, this premium service can build ridership for future Metrorail service.

Recommendations:

- In the short term, Route 97 should be further promoted to highlight amenities and infrastructure available for this route.
- In the long term, Route 97 should be considered for consolidation with Route 27 in a BRT/EBS project along NW 27th Street.


Transit Service Evaluation Study
ROUTE 99
All-Day Bidirectional Boardings
Winn Dixie
Highland Oaks Middle School
Dolphin Stadium
Landmark Learning Center
Aventura Mall
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0 0.3 0.6 1.2

Route 99

Route 99 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	18
Number of Stops	75/84
Ridership	1,830
Route 99 Performance Measures	
Passengers per Trip	31
Passengers per Revenue Mile	3.7
Passengers per Revenue Hour	62
Farebox Ratio	0.27
Direct Operating Cost per Revenue Mile	$7.2
Direct Operating Cost per Passenger	$4.1
Direct Operating Cost per Trip	$124

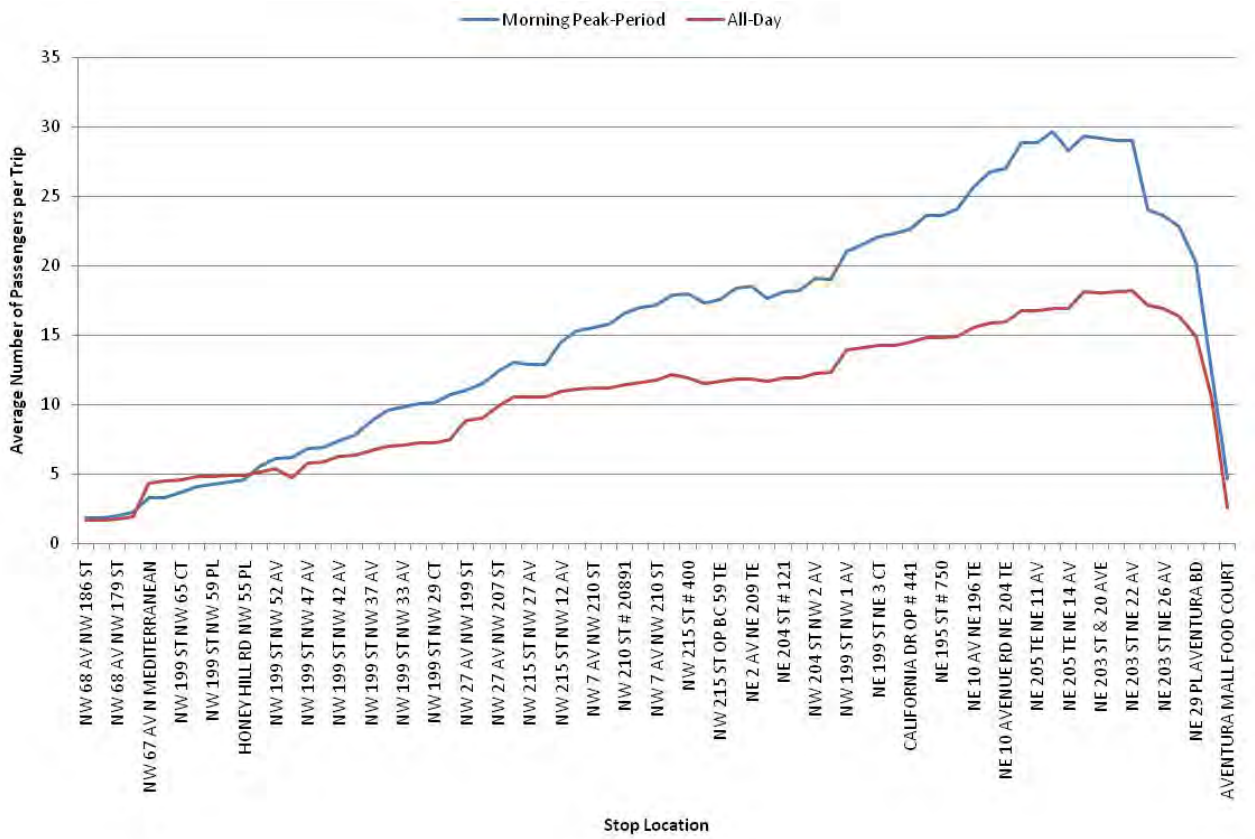
Recommendations:

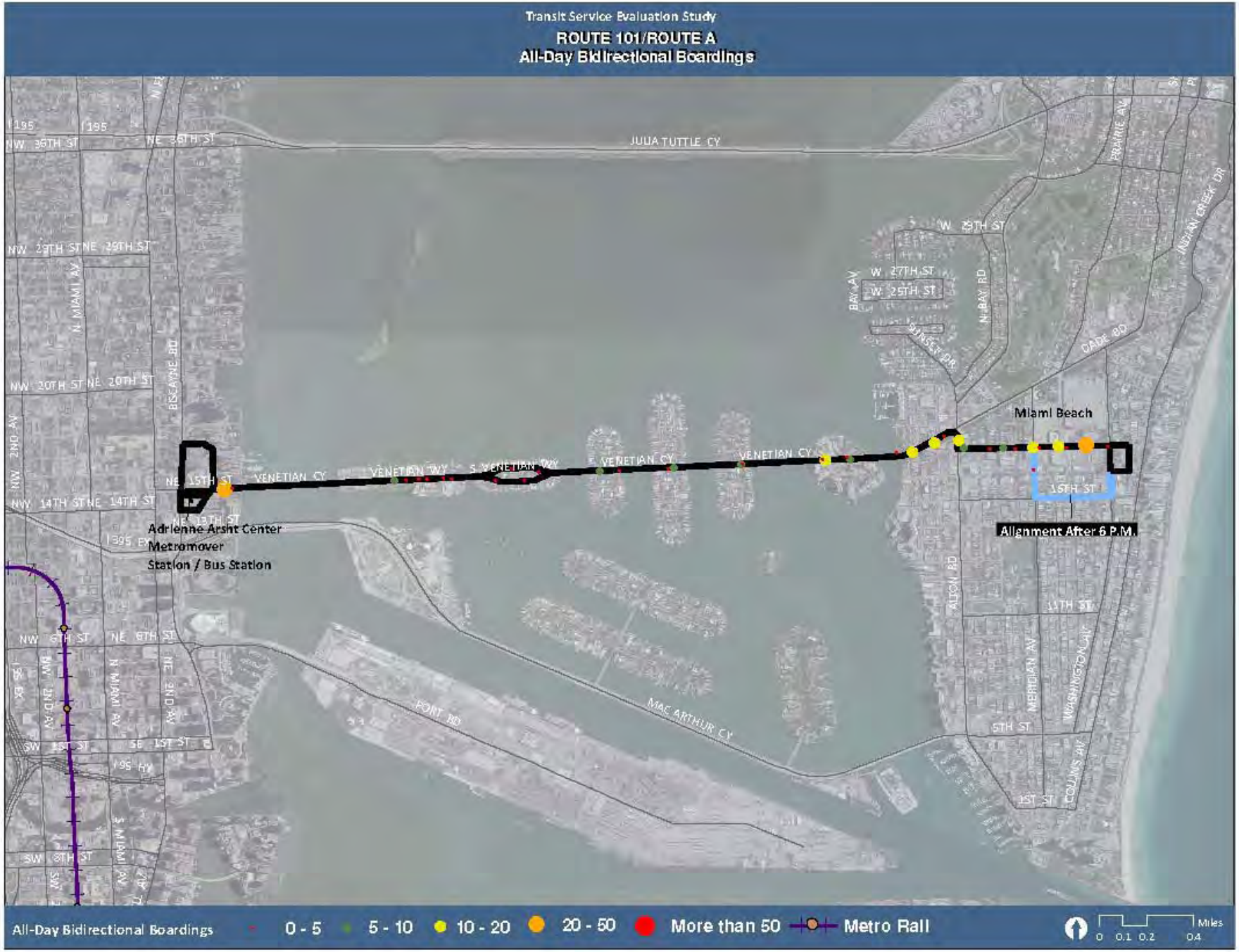
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 99 is a local east-west service that runs parallel to the Broward-Miami-Dade County line and connects Miami Gardens with the US-1 Corridor and the Aventura Mall Transit Hub. It has an average of 1,830 boardings on a typical weekday. **Figure 36** compares the eastbound average passenger load by morning peak period and daily trips.

The route performs well based on the route performance measures. The ridership east of State Road 7 (NE 2nd Avenue) increases during peak periods.

Figure 36: Route 99 EB Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 101/ROUTE A
All-Day Bidirectional Boardings
JULIA TUTTLE CY
VENETIAN CY
VENETIAN WY
S VENETIAN WY
E VENETIAN CY
Miami Beach
15TH ST
Alignment After 6 P.M.
Adrienne Arsht Center
Metromover
Station / Bus Station
MAC ARTHUR CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.1 0.2 0.4

Route 101 (A)

Route 101 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/45
Route Miles	4
Number of Stops	24/20
Ridership	590
Route 101 Performance Measures	
Passengers per Trip	8
Passengers per Revenue Mile	1.9
Passengers per Revenue Hour	32
Farebox Ratio	0.26
Direct Operating Cost per Revenue Mile	$8.8
Direct Operating Cost per Passenger	$4.3
Direct Operating Cost per Trip	$36

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

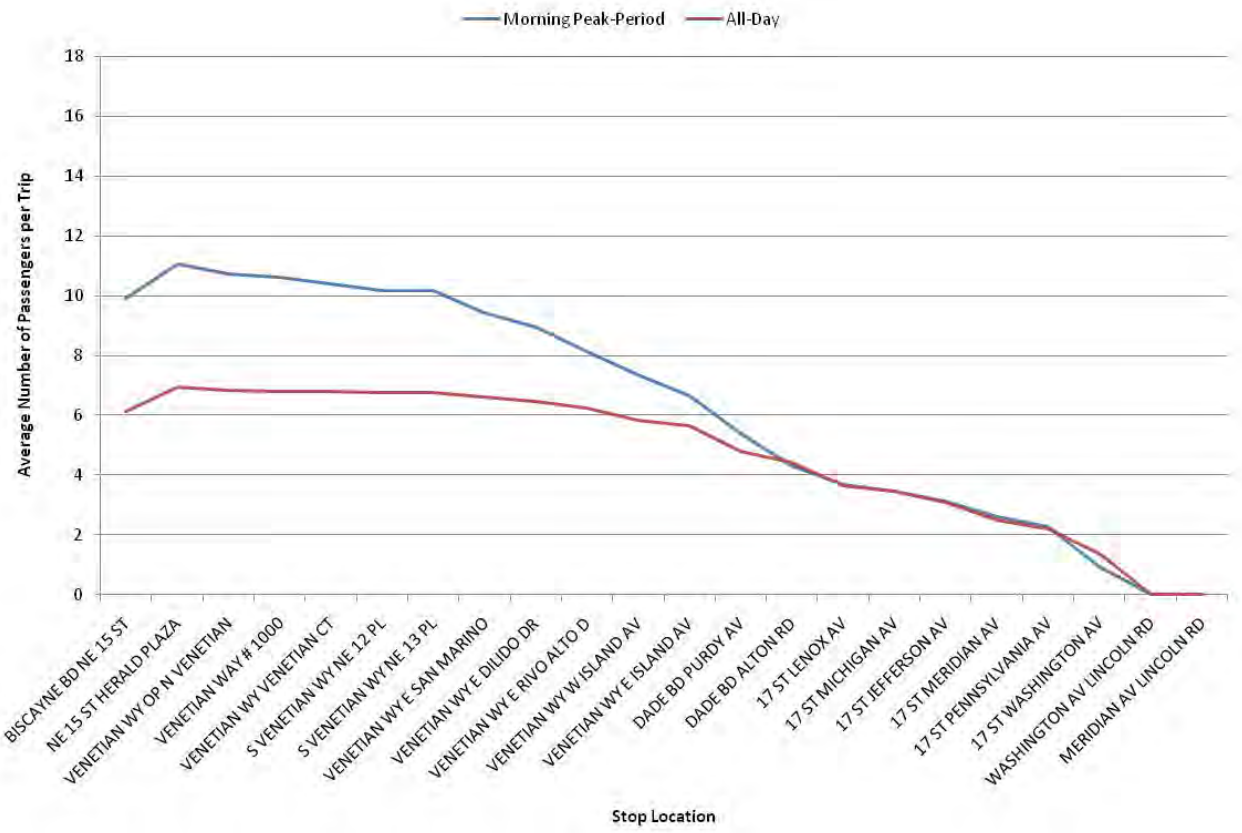
Recommendations:

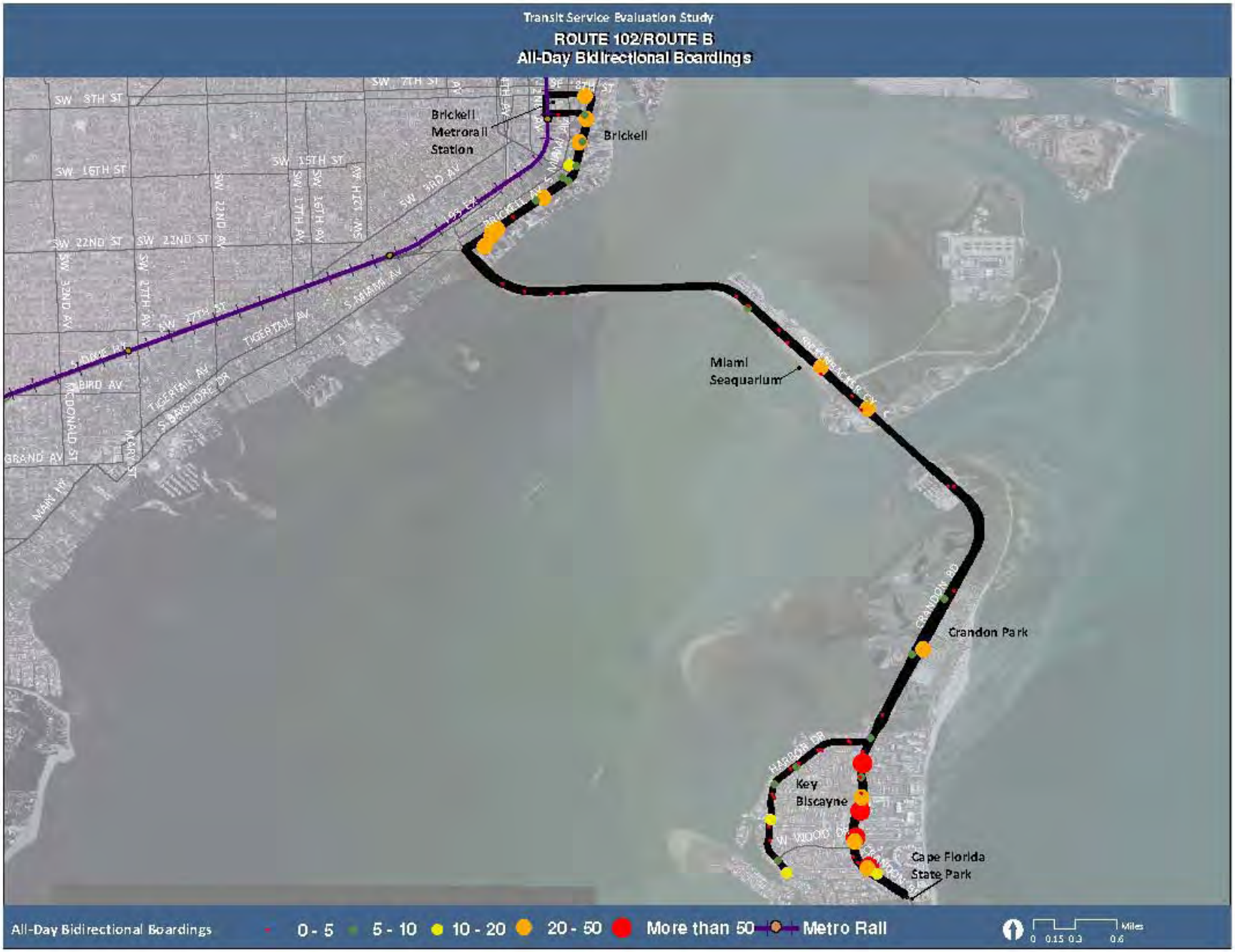
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 101 (Route A) is a local east-west service that runs along Venetian Causeway and connects the Adrienne Arsht Center Metromover Station with Miami Beach. It has an average of 590 boardings on a typical weekday. **Figure 37** shows both the morning peak period and daily average eastbound passenger loads for Route 101.

The route performs well based on performance measures. This is the only service providing direct connection to the Lincoln Road Mall area.

Figure 37: Route 101 EB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 102/ROUTE B
All-Day Bidirectional Boardings
Brickell Metrorail Station
Brickell
Miami Seaquarium
Crandon Park
Key Biscayne
Cape Florida State Park
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles

Route 102 (B)

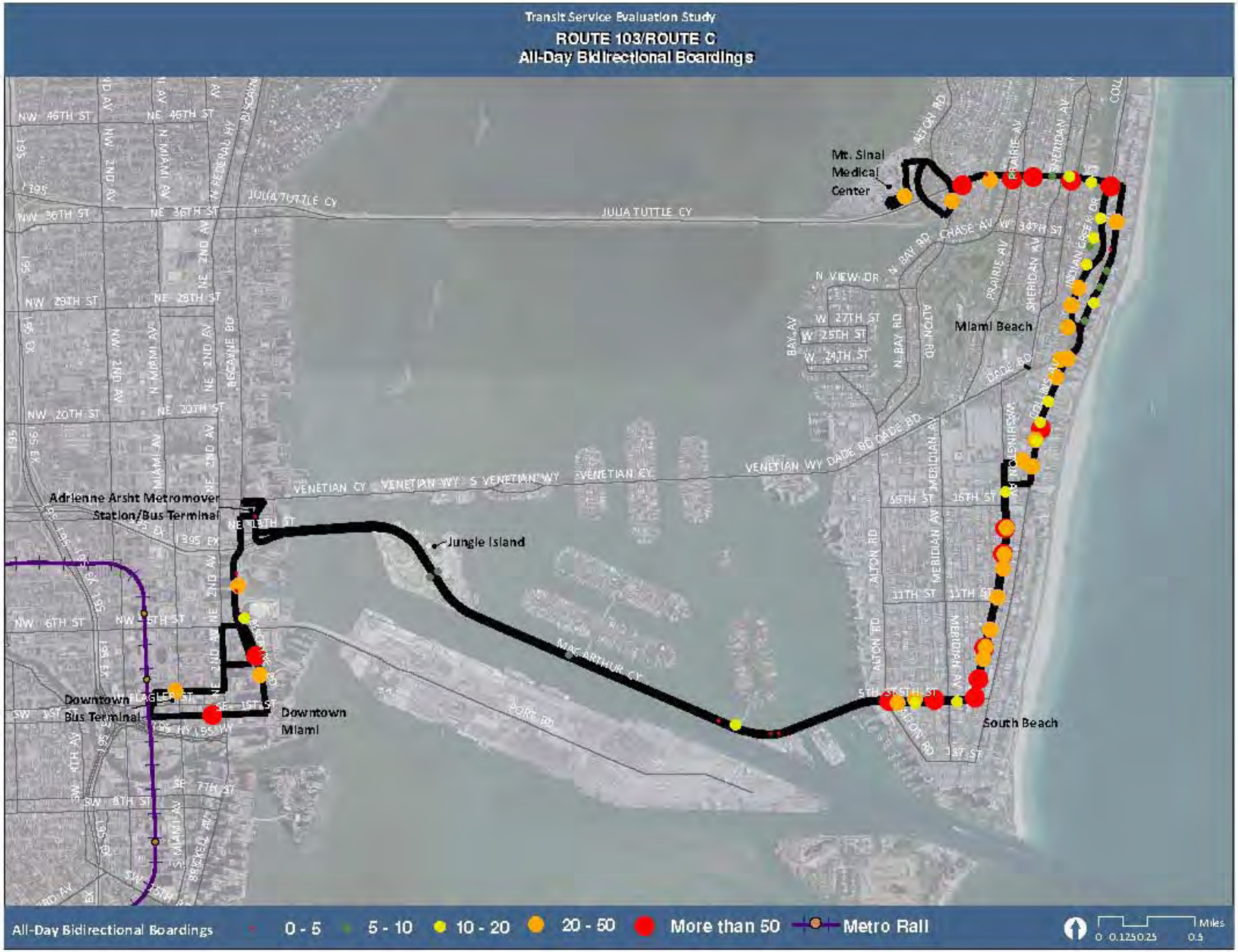
Route 102 Statistics	
Headway in Minutes (Peak/Off-Peak)	10/30
Route Miles	9
Number of Stops	38/41
Ridership	1,600
Route 102 Performance Measures	
Passengers per Trip	17
Passengers per Revenue Mile	1.9
Passengers per Revenue Hour	43
Farebox Ratio	0.38
Direct Operating Cost per Revenue Mile	$6.8
Direct Operating Cost per Passenger	$3.7
Direct Operating Cost per Trip	$62

Route 102 (Route B) is a local north-south service that connects Cape Florida State Park and the Village of Key Biscayne to the Brickell Metrorail Station with stops at several tourist attractions, including Crandon Park and the Miami Seaquarium. It has an average of 1,600 boardings on a typical weekday.

The route performs well based on the performance measures. This is the only service providing direct connection to Key Biscayne. There are 28 trips between the Brickell Metrorail Station and Miami Seaquarium during peak periods at 10-minute headways.

Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 103/ROUTE C
All-Day Bidirectional Boardings
Mt. Sinai Medical Center
Miami Beach
Adrienne Arsht Metromover Station/Bus Terminal
Jungle Island
Downtown Bus Terminal
Downtown Miami
South Beach
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.125 0.25 0.5

Route 103 (C)

Route 103 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/20
Route Miles	11
Number of Stops	45/47
Ridership	4,240
Route 103 Performance Measures	
Passengers per Trip	41
Passengers per Revenue Mile	3.8
Passengers per Revenue Hour	42
Farebox Ratio	0.43
Direct Operating Cost per Revenue Mile	$9.7
Direct Operating Cost per Passenger	$2.5
Direct Operating Cost per Trip	$104

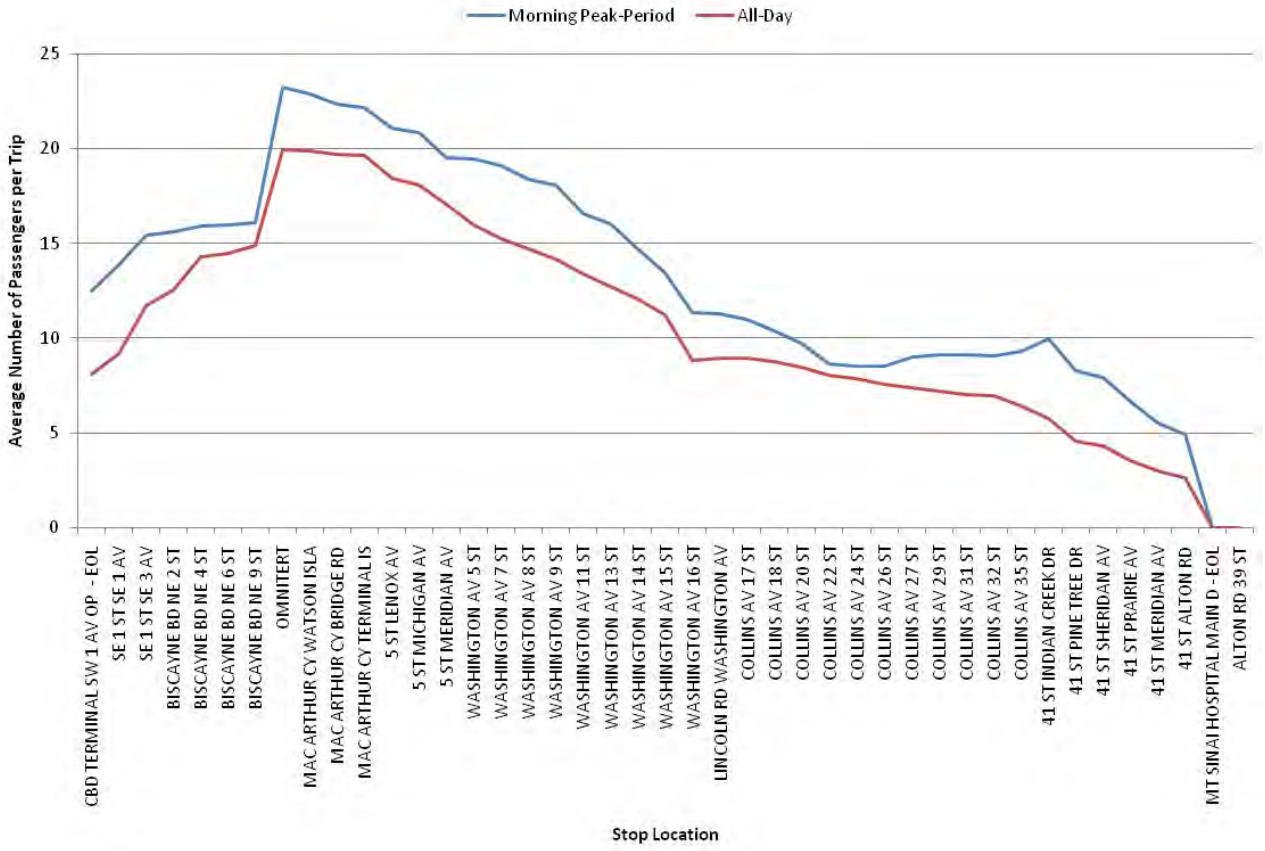
Recommendations:

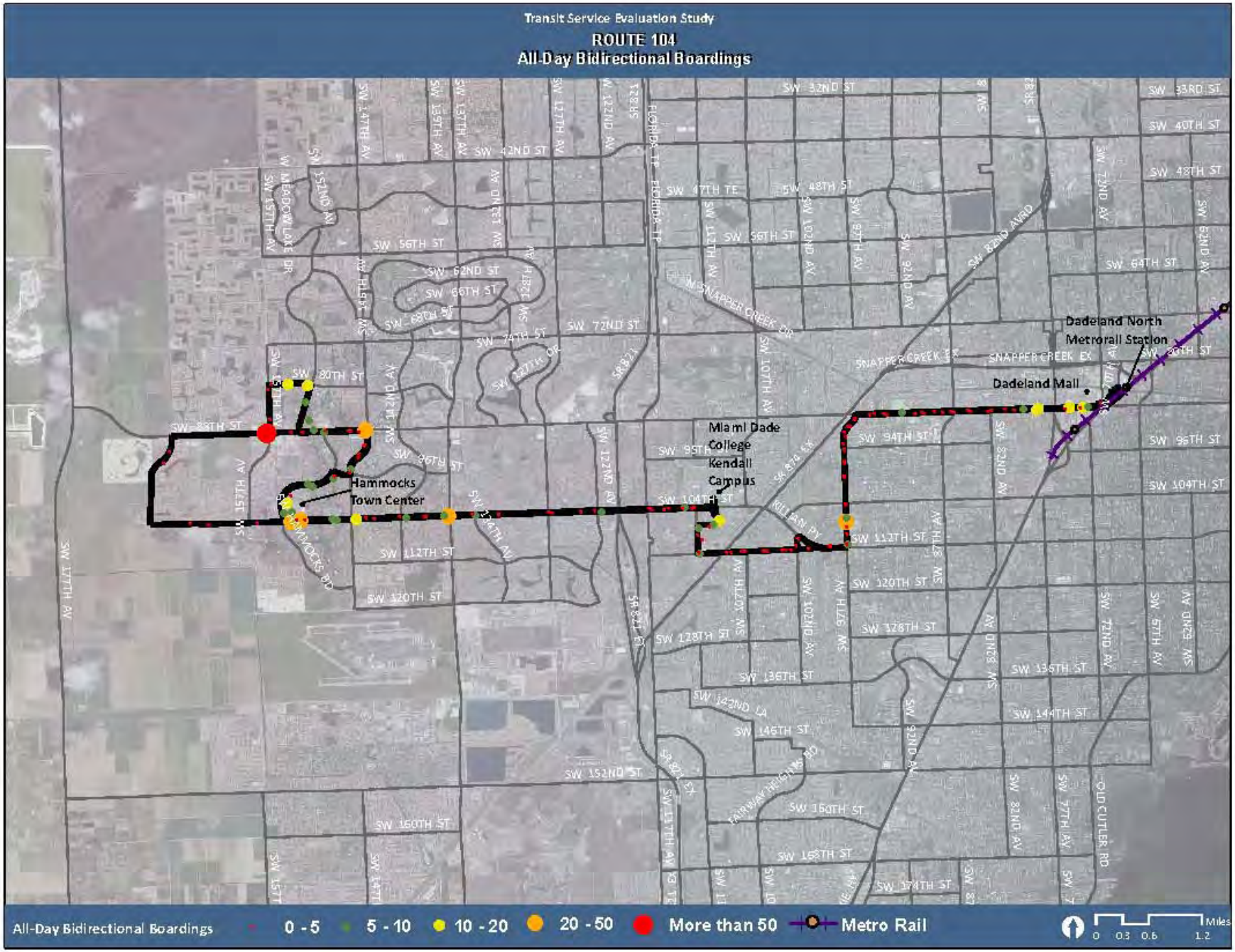
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 103 (Route C) is a local north-south service that connects the Adrienne Arsht Center Metromover Station with Mount Sinai Hospital located in Miami Beach. The route has an average of 4,240 boardings on a typical weekday.

An analysis of segment passenger loads indicates a high level of activity along the entire route. The route is used as a local service between the Downtown Bus Terminal and the Adrienne Arsht Center/Omni Metromover Station. There are nearly 450 boardings and alightings at Mount Sinai Hospital. **Figure 38** depicts both the average eastbound morning peak period and daily passenger loads for Route 103.

Figure 38: Route 103 EB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 104
All-Day Bidirectional Boardings
Dadeland North Metrorail Station
Dadeland Mall
Miami Dade College Kendall Campus
Hammocks Town Center
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.3 0.6 1.2

Route 104

Route 104 Statistics	
Headway in Minutes (Peak/Off-Peak)	24/60
Route Miles	15
Number of Stops	78/68
Ridership	1,090
Route 104 Performance Measures	
Passengers per Trip	27
Passengers per Revenue Mile	1.5
Passengers per Revenue Hour	25
Farebox Ratio	0.24
Direct Operating Cost per Revenue Mile	$8.0
Direct Operating Cost per Passenger	$4.8
Direct Operating Cost per Trip	$127

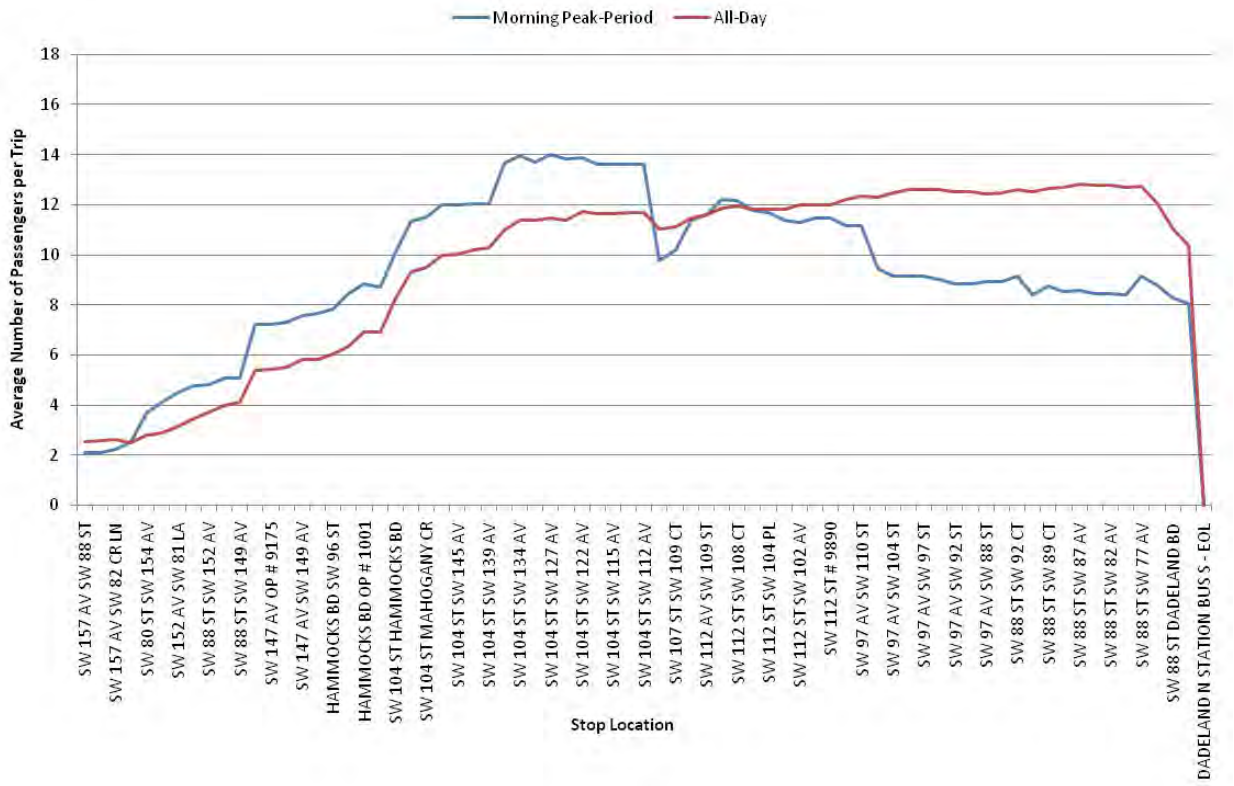
Recommendations:

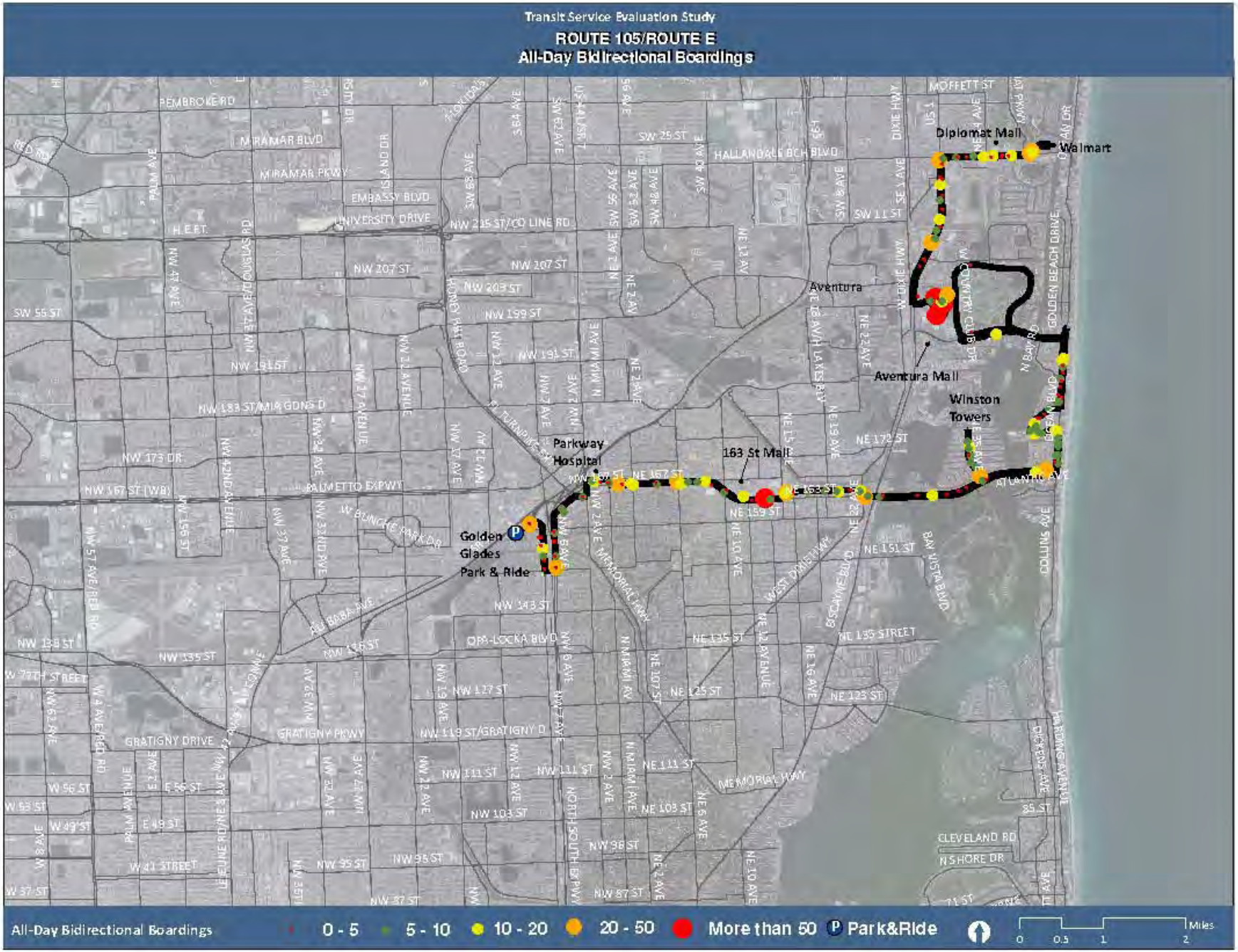
- The combination of Route 104 and Route 204 services along SW 140th Street and Hammonds Boulevard should be evaluated to create a circulator route to both serve this area and feed into both routes.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 104 is a local east-west service that connects SW 88th Street and SW 157th Avenue to the Dadeland North Metrorail Station with connection to the Hammocks Towncenter, MDC Kendall Campus, and Baptist Hospital. It has nearly 1,100 boardings on a typical weekday. **Figure 39** depicts both the average eastbound morning peak period and daily passenger loads for Route 104.

The segment west of SW 104th Street and Hammocks Boulevard has the lowest ridership along this route. These segments are also served by Route 204 which serves the same geographic market and provides connection to MDC Kendall Campus and to the Dadeland North Metrorail Station. Route 204 is a limited-stop route, but it is a designated local service in the Hammocks area.

Figure 39: Route 104 EB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 105/ROUTE E
All-Day Bidirectional Boardings
Diplomat Mall
Walmart
Aventura
Aventura Mall
Winston Towers
Parkway Hospital
163 St Mall
Golden Glades Park & Ride
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Park&Ride
Miles
0
0.5
1
2

Route 105 (E)

Route 105 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/45
Route Miles	20
Number of Stops	89/85
Ridership	1,630
Route 105 Performance Measures	
Passengers per Trip	34
Passengers per Revenue Mile	1.5
Passengers per Revenue Hour	21
Farebox Ratio	0.22
Direct Operating Cost per Revenue Mile	$7.9
Direct Operating Cost per Passenger	$5.0
Direct Operating Cost per Trip	$169

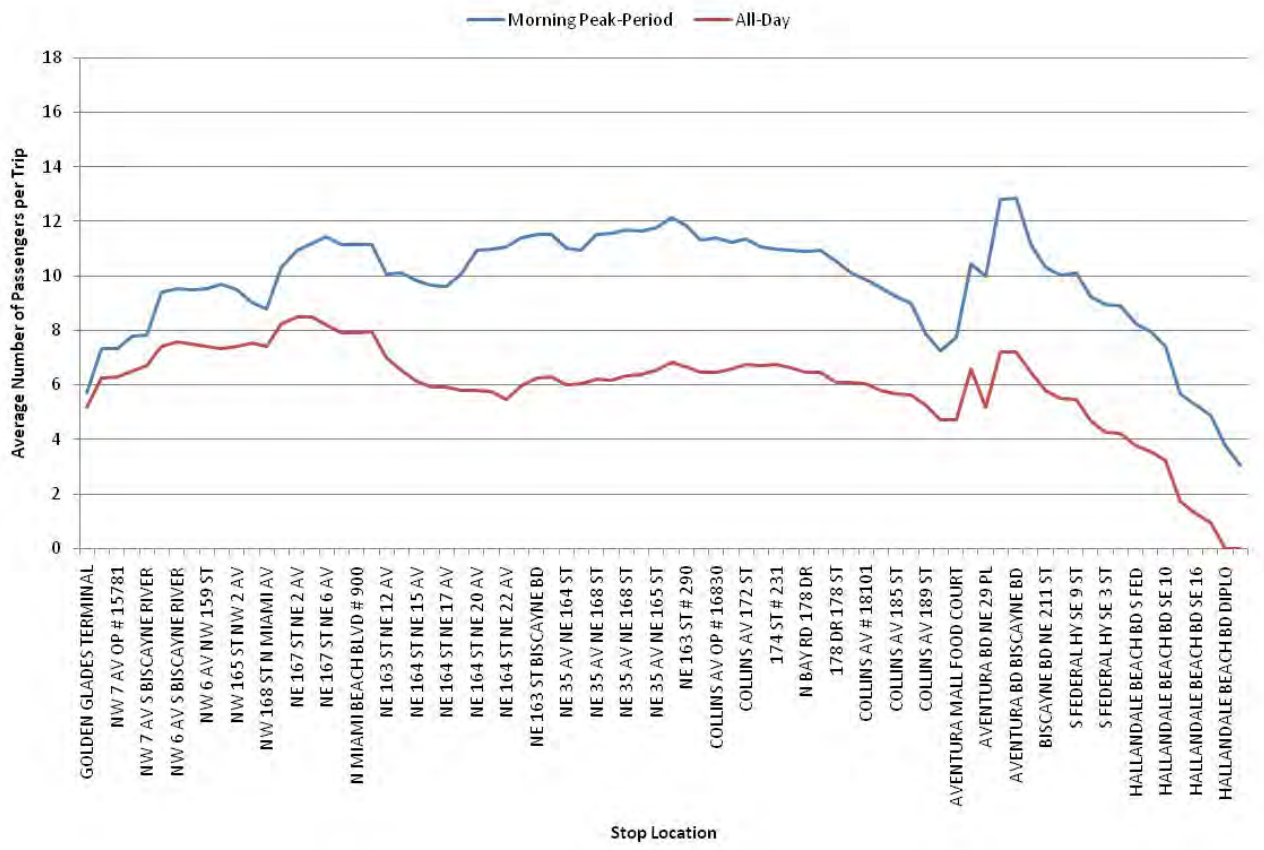
Recommendations:

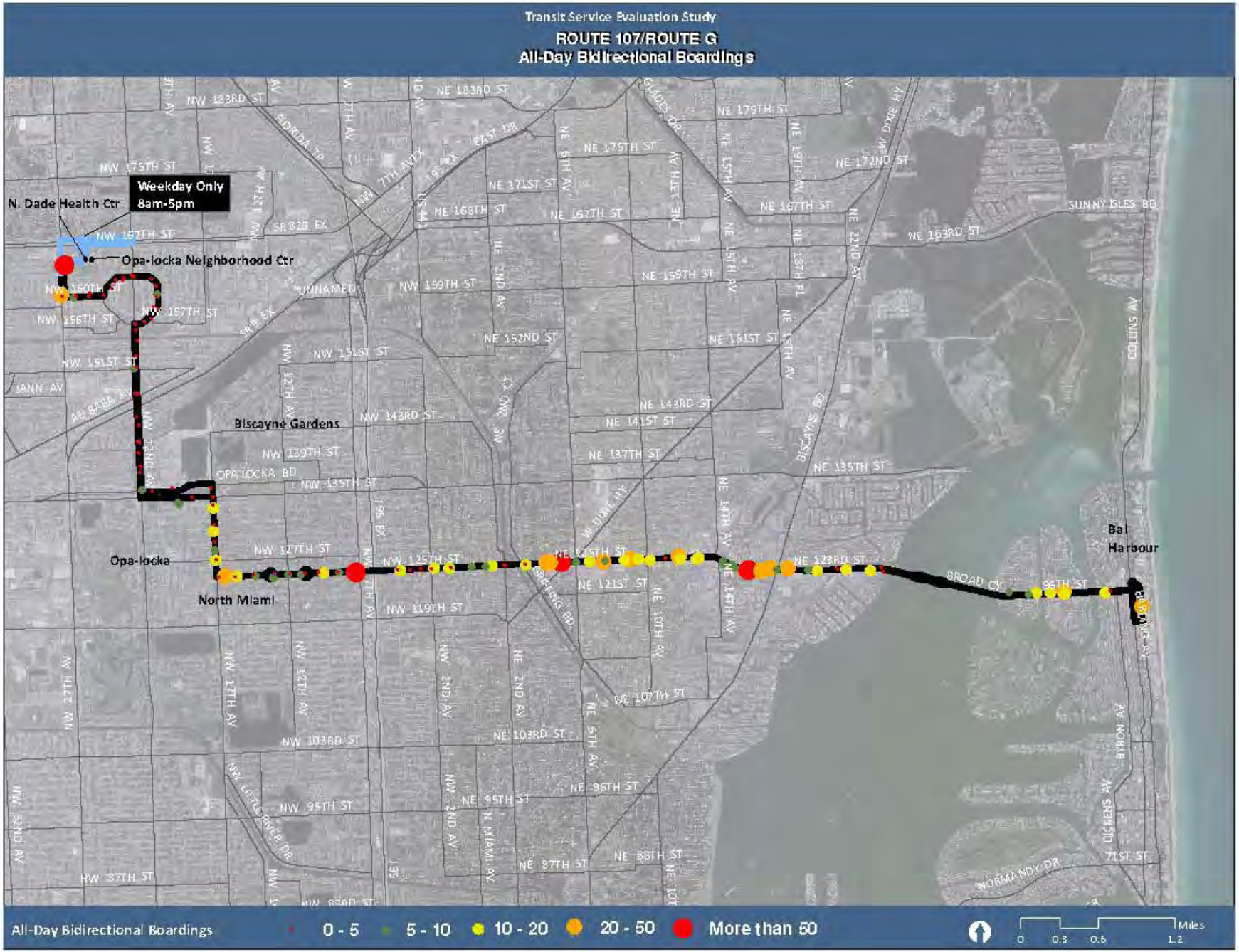
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 105 (Route E) is a local east-west service from Golden Glades Park-and-Ride Lot to the Wal-Mart in Hallandale Beach in Broward County. It has just over 1,600 boardings on a typical weekday. **Figure 40** depicts the average eastbound daily passenger loads for Route 105.

The route performs well based on the performance measures. The segments between the Golden Glades stop and the 163rd Street Mall Transit Hub have the highest level of activity, indicating transfers to other services. There is a high level of activity between the Aventura Mall Transit Hub and the Wal-Mart located in Hallandale Beach. The loop to the east of Aventura Mall circumvents the Turnberry Isle Golf and Country Club, as a roadway is not provided through the club area.

Figure 40: Route 105 EB Average Daily Passenger Load




Transit Service Evaluation Study
ROUTE 107/ROUTE G
All-Day Bidirectional Boardings
Weekday Only
8am-5pm
N. Dade Health Ctr
Opa-locka Neighborhood Ctr
Biscayne Gardens
Opa-locka
North Miami
Bal Harbour
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0
0.3
0.6
1.2

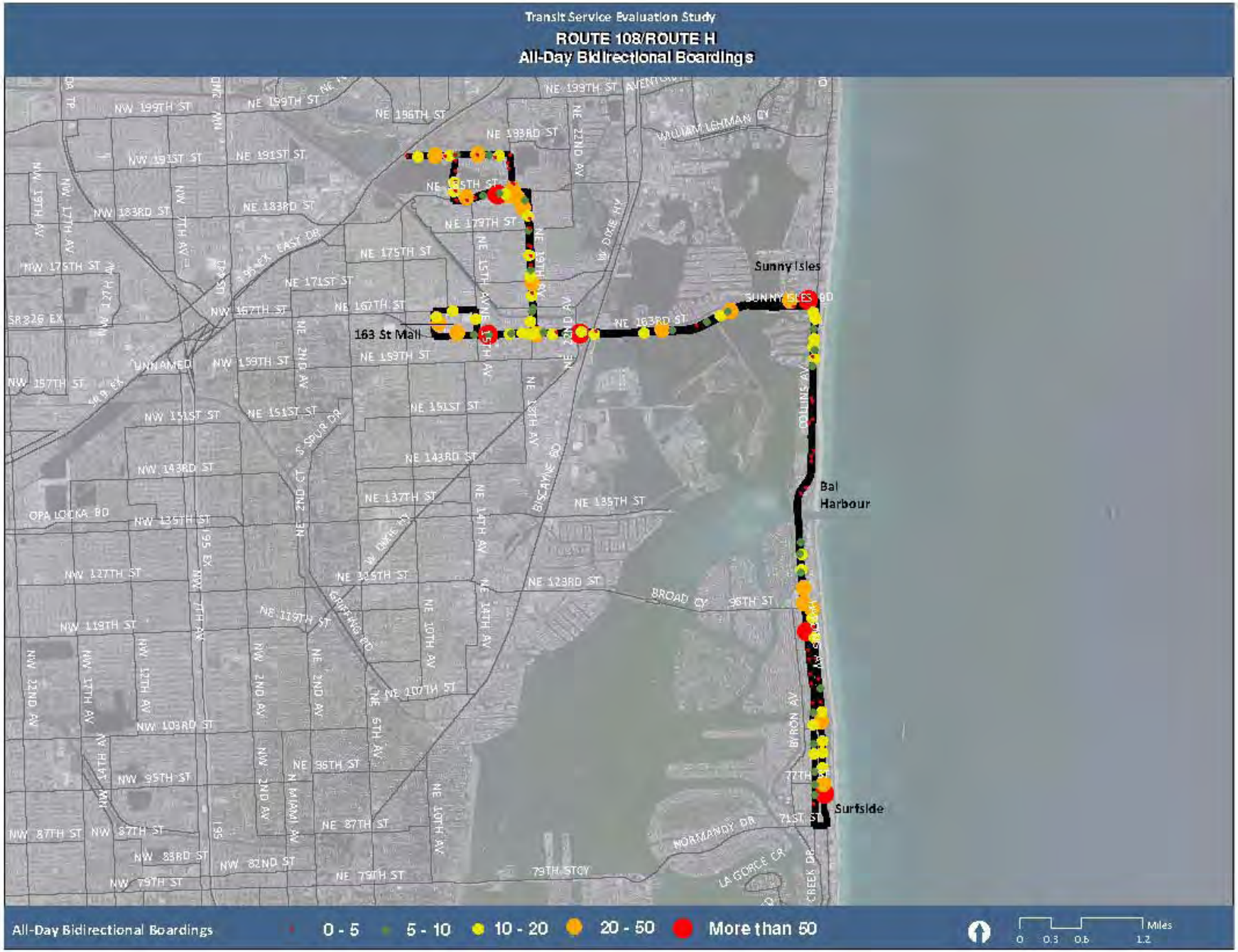
Route 107 (G)

Route 107 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/30
Route Miles	12
Number of Stops	70/71
Ridership	1,940
Route 107 Performance Measures	
Passengers per Trip	30
Passengers per Revenue Mile	1.5
Passengers per Revenue Hour	21
Farebox Ratio	0.36
Direct Operating Cost per Revenue Mile	$7.8
Direct Operating Cost per Passenger	$3.2
Direct Operating Cost per Trip	$96

Route 107 (Route G) is a local east-west service that connects Bal Harbor with North Miami and Opa-Locka via NW 22nd Avenue. The route has an average of 1,940 boardings on a typical weekday. The route performs well based on the performance measures. The boarding and alighting activity is concentrated near the east and west termini of the route indicating that the route serves one well-defined travel market.

Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 108/ROUTE H
All-Day Bidirectional Boardings
Sunny Isles
163 St Mall
Bal Harbour
Surfside
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0 0.3 0.6 1.2

Route 108 (H)

Route 108 Statistics	
Headway in Minutes (Peak/Off-Peak)	24/24
Route Miles	15
Number of Stops	82/88
Ridership	2,430
Route 108 Performance Measures	
Passengers per Trip	30
Passengers per Revenue Mile	1.2
Passengers per Revenue Hour	16
Farebox Ratio	0.28
Direct Operating Cost per Revenue Mile	$7.9
Direct Operating Cost per Passenger	$3.9
Direct Operating Cost per Trip	$117

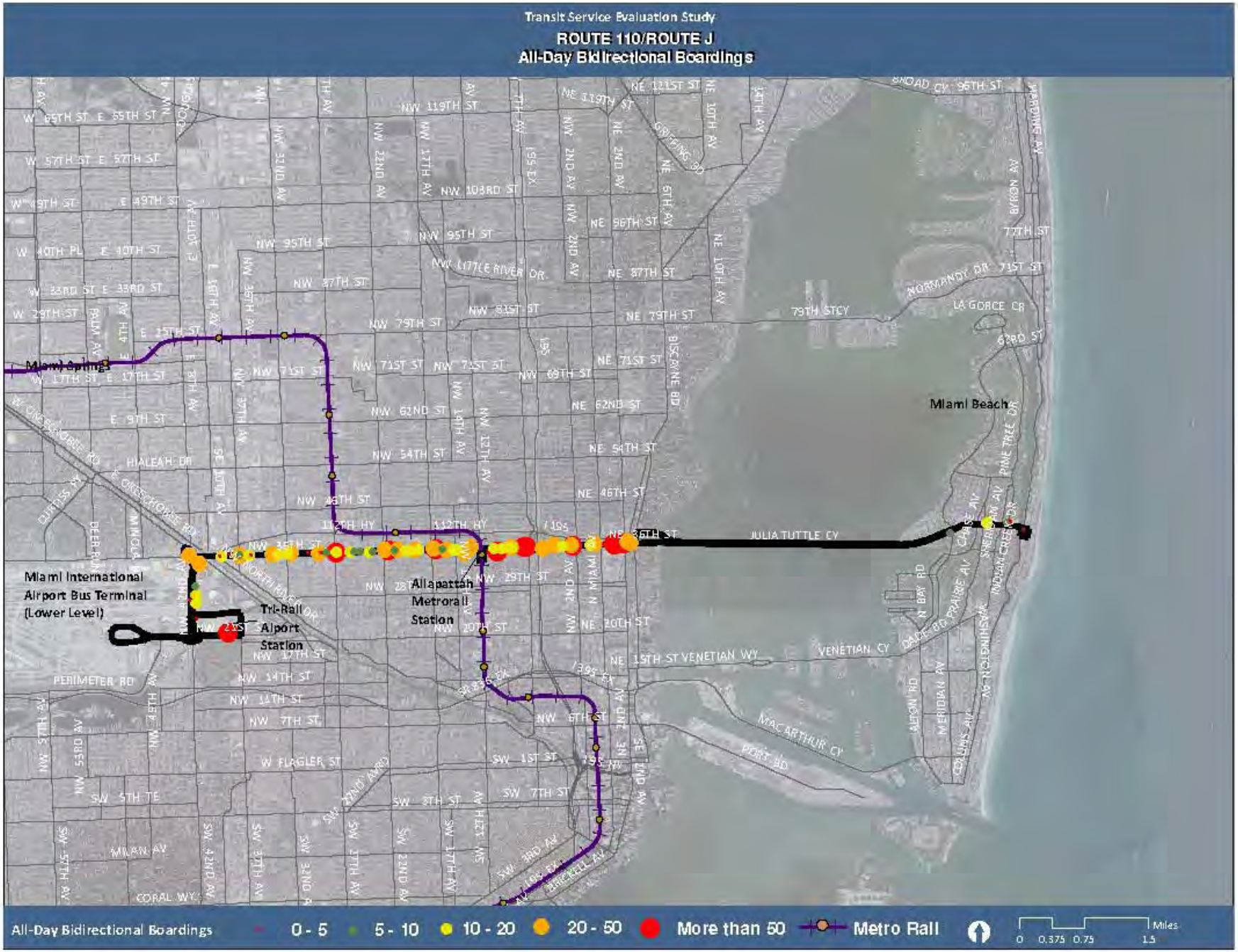
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 108 (Route H) is a local north-south service that connects Surfside with the 163rd Street Mall Transit Hub. It has an average of 2,430 boardings on a typical weekday. The loop around NE 12th Avenue, NE 167th Avenue, and NE 15th Avenue from NE 163rd Street, which serves the 163rd Street Mall, accounts for over 550 of these average daily trips, adding about 15 minutes to route run time.

This route was modified as part of the December 2009 lineup changes. This route is one of the routes that connects the 163rd Street Mall Transit Hub with the Sunny Isle area. Route 105 (E) serves areas north of NE 163rd Street in Sunny Isle, while this route serves areas south of NE 163rd Street. Stop activity and passenger load data were analyzed to identify segments north of NE 163rd Street along NE 19th Avenue. Due to the recent changes, the segments north of NE 163rd Street should be closely monitored.

Recommendations:

- The current service should be maintained, but monitored in lieu of recent changes.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 110/ROUTE J
All-Day Bidirectional Boardings
Miami Springs
Miami International Airport Bus Terminal (Lower Level)
Tri-Rail Airport Station
Allapattah Metrorail Station
Miami Beach
JULIA TUTTLE CY
VENETIAN CY
MACARTHUR CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.375 0.75 1.5

Route 110 (J)

Route 110 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/30
Route Miles	13
Number of Stops	39/44
Ridership	3,030
Route 110 Performance Measures	
Passengers per Trip	35
Passengers per Revenue Mile	1.5
Passengers per Revenue Hour	21
Farebox Ratio	0.40
Direct Operating Cost per Revenue Mile	$8.1
Direct Operating Cost per Passenger	$3.1
Direct Operating Cost per Trip	$110

Route 110 (Route J) is a local east-west service that connects Miami International Airport and the Tri-Rail Station with the Miami Beach area. The route also provides transfer opportunities to the Metrorail service at Allapattah Metrorail Station. It has an average of 3,030 boardings on a typical weekday. The loop from NW 36th Street to Miami International Airport and the Tri-Rail Airport Station in the eastern portion of the route accounts for about 425 daily trips and takes about 7 minutes of run time. The portion of the route west of Biscayne Boulevard adds about 14 minutes one way to the route, and accounts for about 750 average daily passengers, indicating that these markets are significant to the total route ridership. **Figure 41** depicts both the average eastbound morning peak period and daily passenger loads for Route 110.

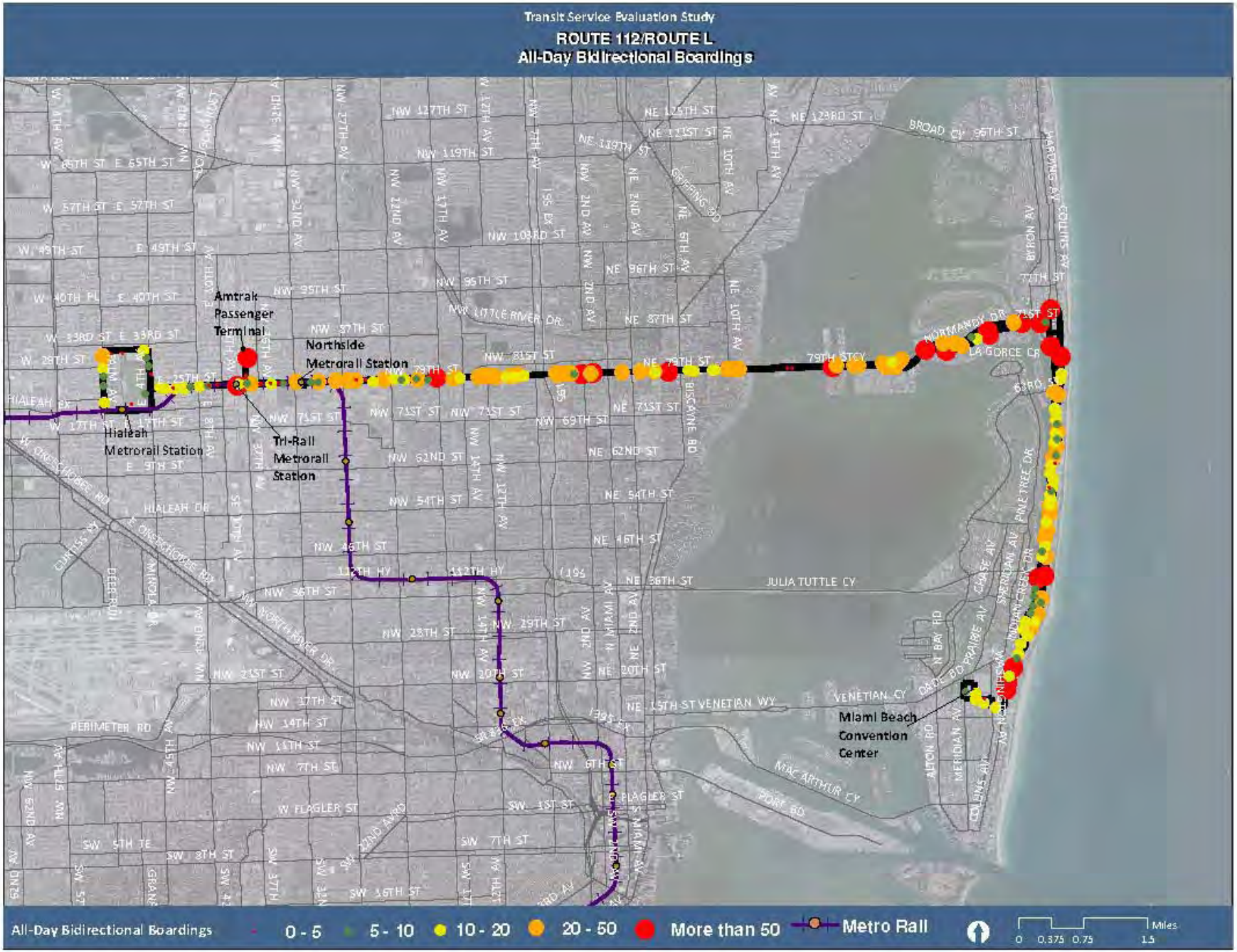
Stop activity and passenger load data were analyzed to identify patterns to optimize service. There is considerable activity along the entire length of the route. The stops at Allapattah Metrorail Station and Biscayne Boulevard are the busiest stops in terms of total activity. Route 62, which also serves the segments east of Biscayne Boulevard in peak periods, is recommended for consolidation with this route.

Figure 41: Route 110 EB AM Peak Period and Daily Average Passenger Load

The Airport Extension Metrorail project is scheduled for opening in the spring of 2012. This connection will allow Metrorail passengers to board at the Miami Intermodal Center, allowing for the deletion of the loop to Miami International Airport. Given the considerable activity at the Tri-Rail Airport Station, this stop should be maintained.

Recommendations:

- Consolidation with Route 62 should be considered.
- The Miami International Airport Segment of this route should be realigned to serve the Miami Intermodal Center once its construction is complete.
- Additional service between Allapattah Metrorail Station and Collins Avenue should be considered.


Transit Service Evaluation Study
ROUTE 112/ROUTE L
All-Day Bidirectional Boardings
Amtrak Passenger Terminal
Northside Metrorail Station
Hialeah Metrorail Station
Tri-Rail Metrorail Station
Miami Beach Convention Center
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.375 0.75 1.5

Route 112 (L)

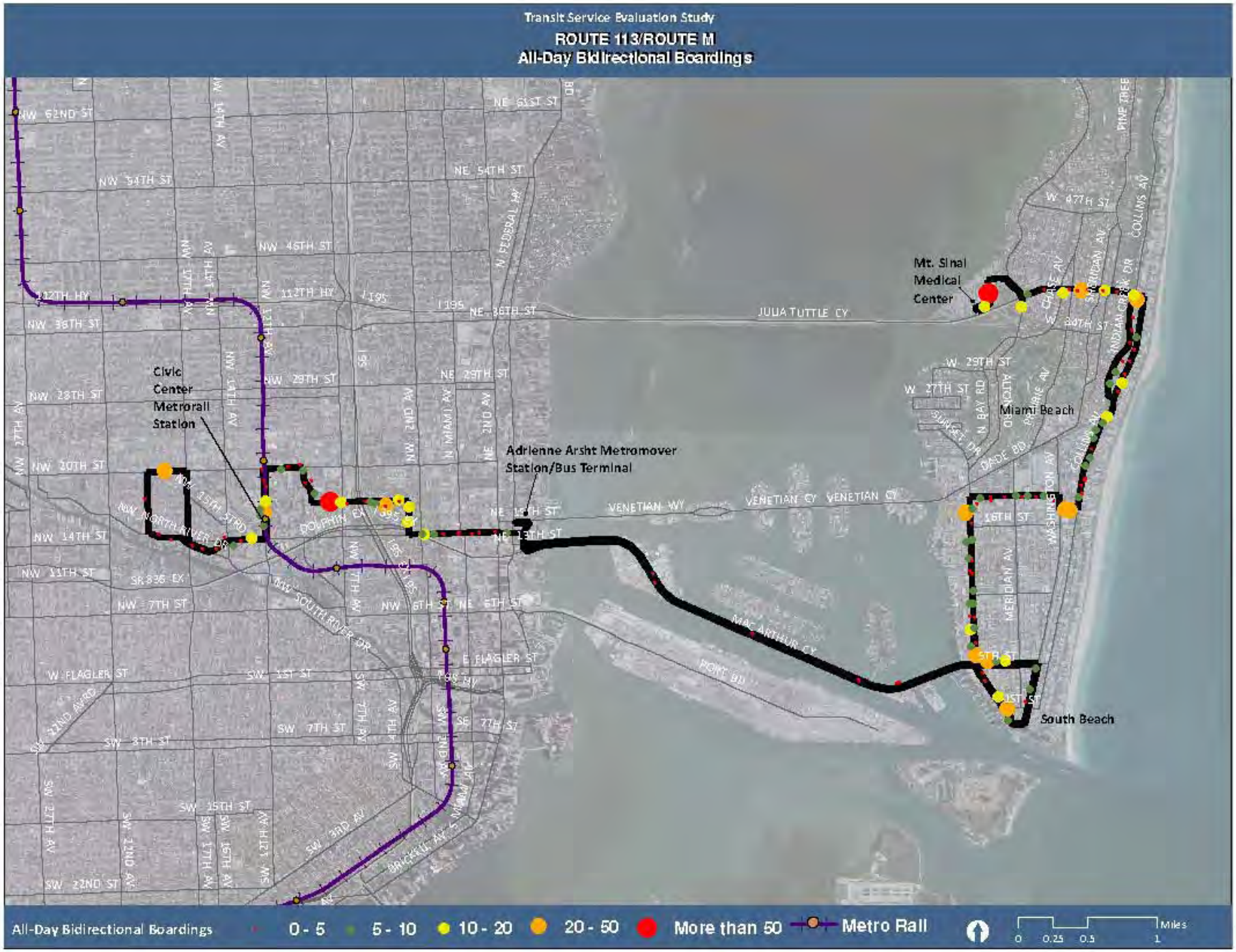
Route 112 Statistics	
Headway in Minutes (Peak/Off-Peak)	12/12
Route Miles	12
Number of Stops	110/108
Ridership	10,570
Route 112 Performance Measures	
Passengers per Trip	63
Passengers per Revenue Mile	3.9
Passengers per Revenue Hour	49
Farebox Ratio	0.47
Direct Operating Cost per Revenue Mile	$9.0
Direct Operating Cost per Passenger	$2.3
Direct Operating Cost per Trip	$145

Route 112 (Route L) is a local east-west service from Hialeah to the Miami Beach area with connections to Metrorail service (Hialeah, Tri-Rail, and Northside Metrorail Stations) and Amtrak Passenger service. Route 79 also follows the same alignment but provides limited-stop service. Route 112 has an average of 10,570 boardings on a typical weekday.

The loop in the western portion of the route serving the Hialeah Metrorail Station, as well as E 21st Street, Palm Avenue, E 32nd Street, and E 4th Avenue, accounts for a total of 300 riders per day and has a run time of about eight minutes. The second loop in the western portion of the route serving the Amtrak Passenger Terminal accounts for about 75 average daily riders and takes about five minutes of run time. The route performs well and is one of the best performing routes in terms of passenger per vehicle mile and farebox collection ratio.

Recommendations:

- Due to lower frequency of trips, low travel times, and relatively high boardings along both loops in the western portion of this route, it is recommended that these services are maintained.
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 113/ROUTE M
All-Day Bidirectional Boardings
Civic Center Metrorail Station
Adrienne Arsht Metromover Station/Bus Terminal
Mt. Sinai Medical Center
Miami Beach
South Beach
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.25
0.5
1

Route 113 (M)

Route 113 Statistics	
Headway in Minutes (Peak/Off-Peak)	45/60
Route Miles	15
Number of Stops	80/76
Ridership	1,230
Route 113 Performance Measures	
Passengers per Trip	31
Passengers per Revenue Mile	2.3
Passengers per Revenue Hour	26
Farebox Ratio	0.19
Direct Operating Cost per Revenue Mile	$9.3
Direct Operating Cost per Passenger	$4.4
Direct Operating Cost per Trip	$137

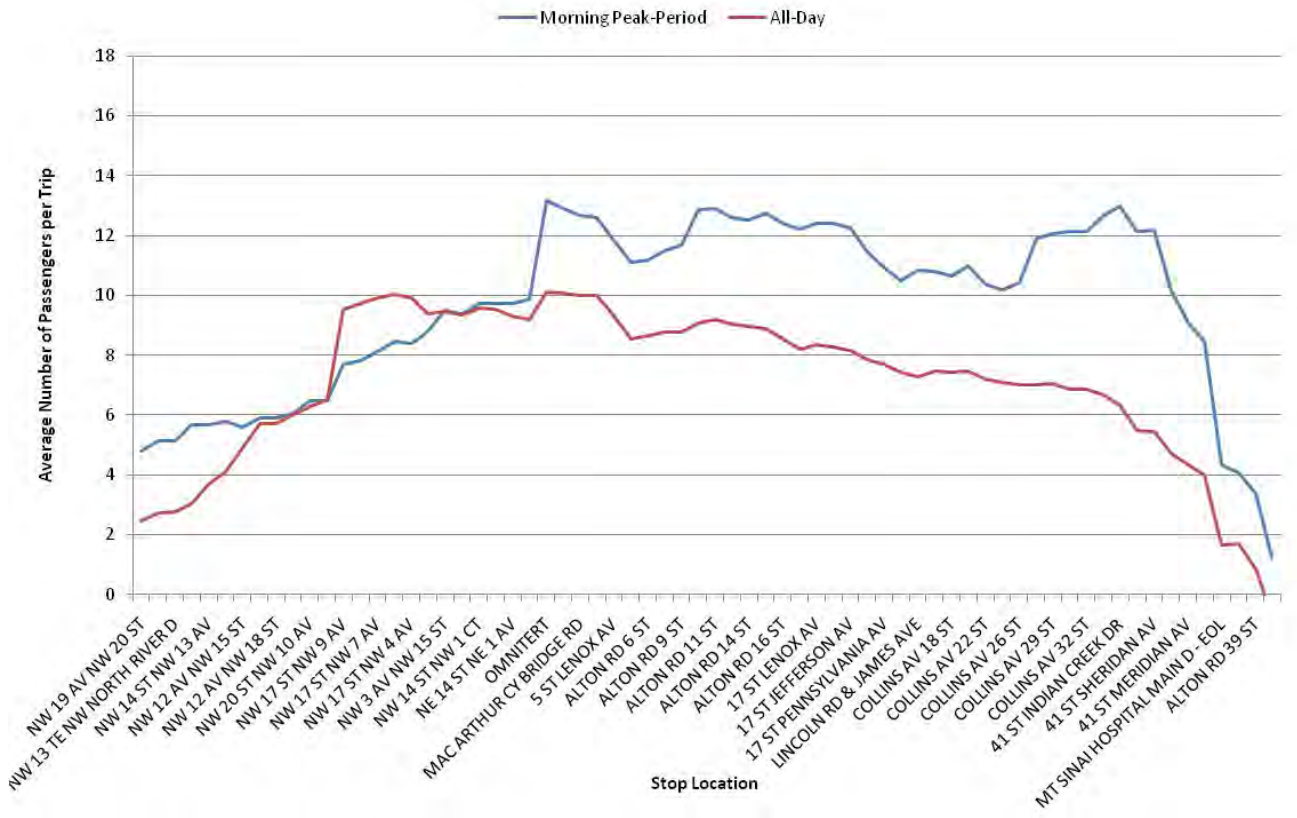
Recommendations:

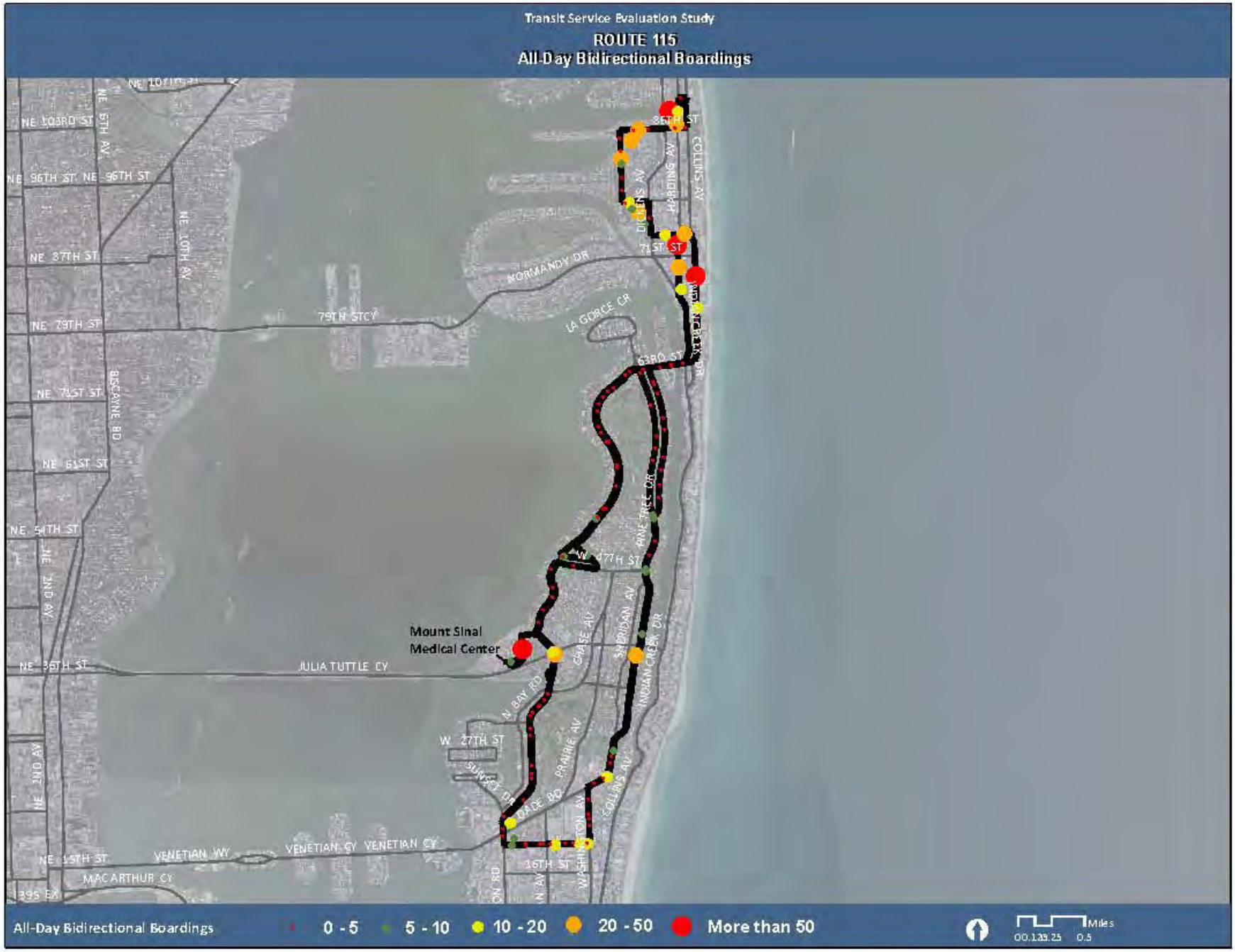
- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 113 (Route M) is a local east-west service that connects the Civic Center Metrorail Station and Adrienne Arsht Center Metromover Station to the Miami Beach area. Route 113 also is one of three services that connect the City of Miami with the South Beach area. The route has an average of 1,230 boardings on a typical weekday.

An analysis of stop activity and passenger load data indicates that activity is mainly concentrated between the Adrienne Arsht Center Metromover Station and Miami Beach. The segments west of the Adrienne Arsht Center Metromover Station appear to serve as a feeder service to the station. On an average, only six passengers who board west of the Adrienne Arsht Center Metromover Station continue past the station. **Figure 42** depicts both the average eastbound morning peak and daily passenger loads for Route 113.

Figure 42: Route 113 EB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 115
All-Day Bidirectional Boardings
NE 103RD ST
NE 96TH ST
NE 87TH ST
NE 79TH ST
NE 71ST ST
NE 61ST ST
NE 54TH ST
NE 36TH ST
NE 15TH ST
NE 10TH AV
NE 5TH AV
NE 2ND AV
BISCAYNE BD
NORMANDY DR
79TH ST CY
LA GORCE CR
71ST ST
63RD ST
COLLINS AV
HARDING AV
DICKENS AV
PINE TREE DR
W 47TH ST
Mount Sinai
Medical Center
JULIA TUTTLE CY
CHASE AV
SAN MARINO AV
INDIAN CREEK DR
N BAY RD
W 27TH ST
SUNSET DR
PRAIRIE AV
MADE RD
COLLINS AV
WASHINGTON AV
16TH ST
VENETIAN WY
VENETIAN CY
VENETIAN CY
MAC ARTHUR CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0 0.125 0.25 0.5

Route 115 (Mid/North Beach Connection)

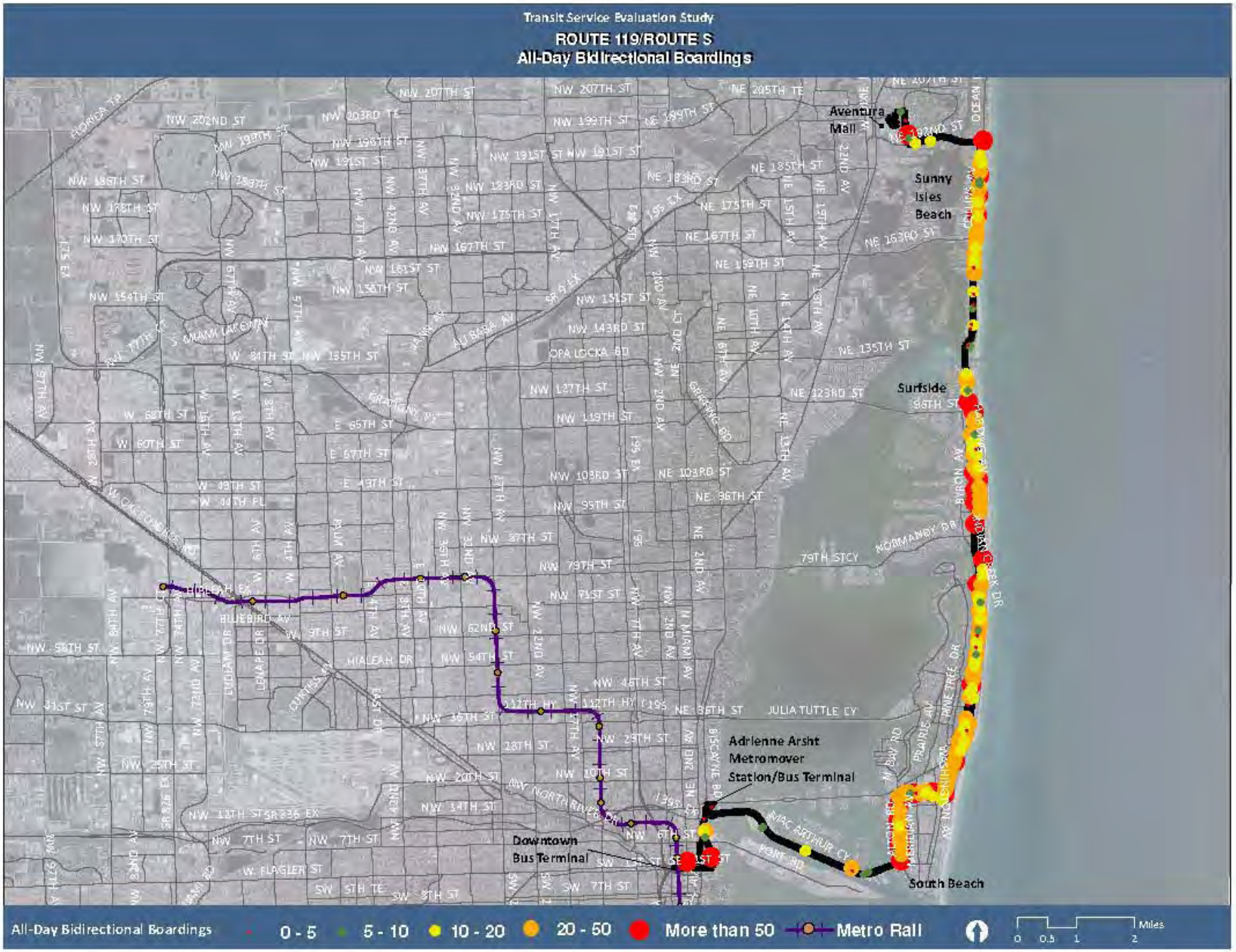
Route 115 Statistics	
Headway in Minutes (Peak/Off-Peak)	40/40
Route Miles	15.5
Number of Stops	87/87
Ridership	970
Route 115 Performance Measures	
Passengers per Trip	22
Passengers per Revenue Mile	N/A
Passengers per Revenue Hour	N/A
Farebox Ratio	0.17
Direct Operating Cost per Revenue Mile	$19.3
Direct Operating Cost per Passenger	$6.1
Direct Operating Cost per Trip	$135

N/A = Not Applicable

Route 115 is a local north-south service that connects mid and North Miami Beach areas. It has close to 1,000 boardings on a typical weekday. This route was started as part of the December 2009 lineup changes.

Recommendations:

- Recent information should be obtained and evaluated to determine performance of this route.


Transit Service Evaluation Study
ROUTE 119/ROUTE S
All-Day Bidirectional Boardings
Aventura Mall
Sunny Isles Beach
Surfside
South Beach
Adrienne Arsht Metromover Station/Bus Terminal
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

Route 119 (S)

Route 119 Statistics	
Headway in Minutes (Peak/Off-Peak)	12/12
Route Miles	21
Number of Stops	107/112
Ridership	12,400
Route 119 Performance Measures	
Passengers per Trip	80
Passengers per Revenue Mile	3.2
Passengers per Revenue Hour	42
Farebox Ratio	0.61
Direct Operating Cost per Revenue Mile	$8.4
Direct Operating Cost per Passenger	$2.7
Direct Operating Cost per Trip	$211

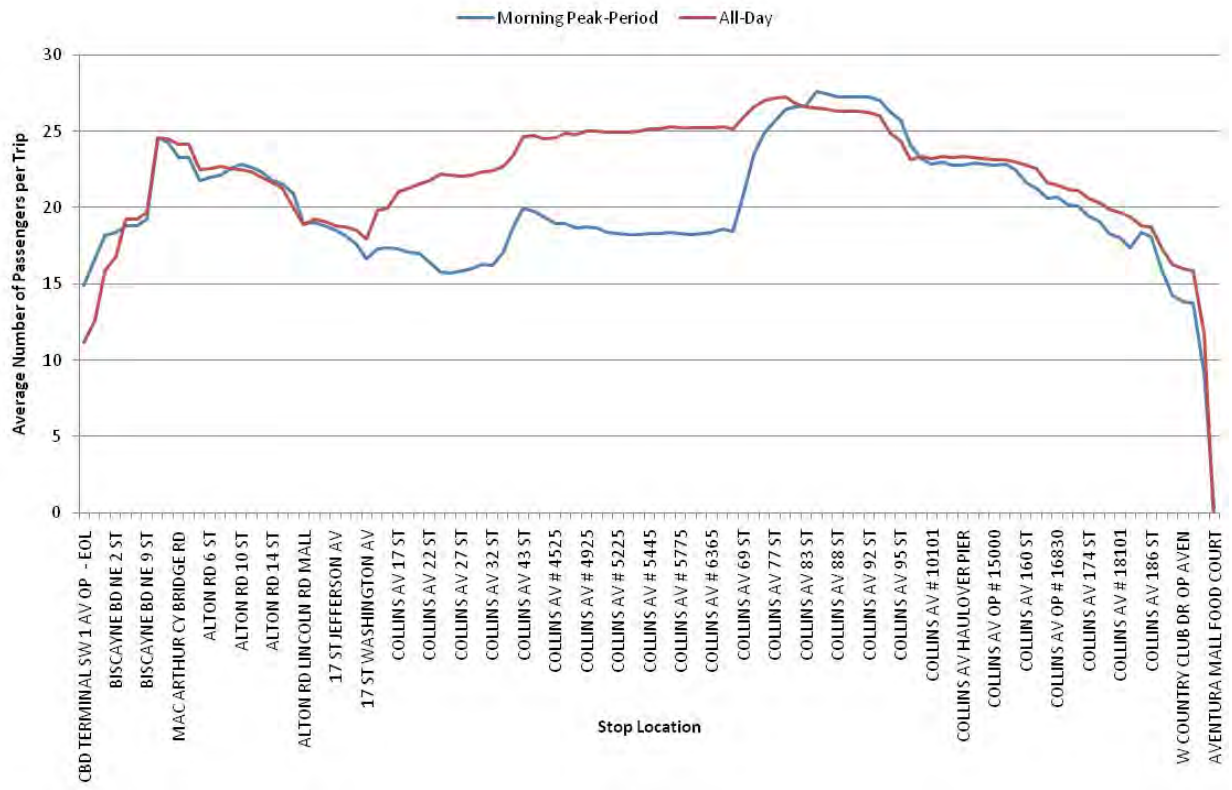
Recommendations:

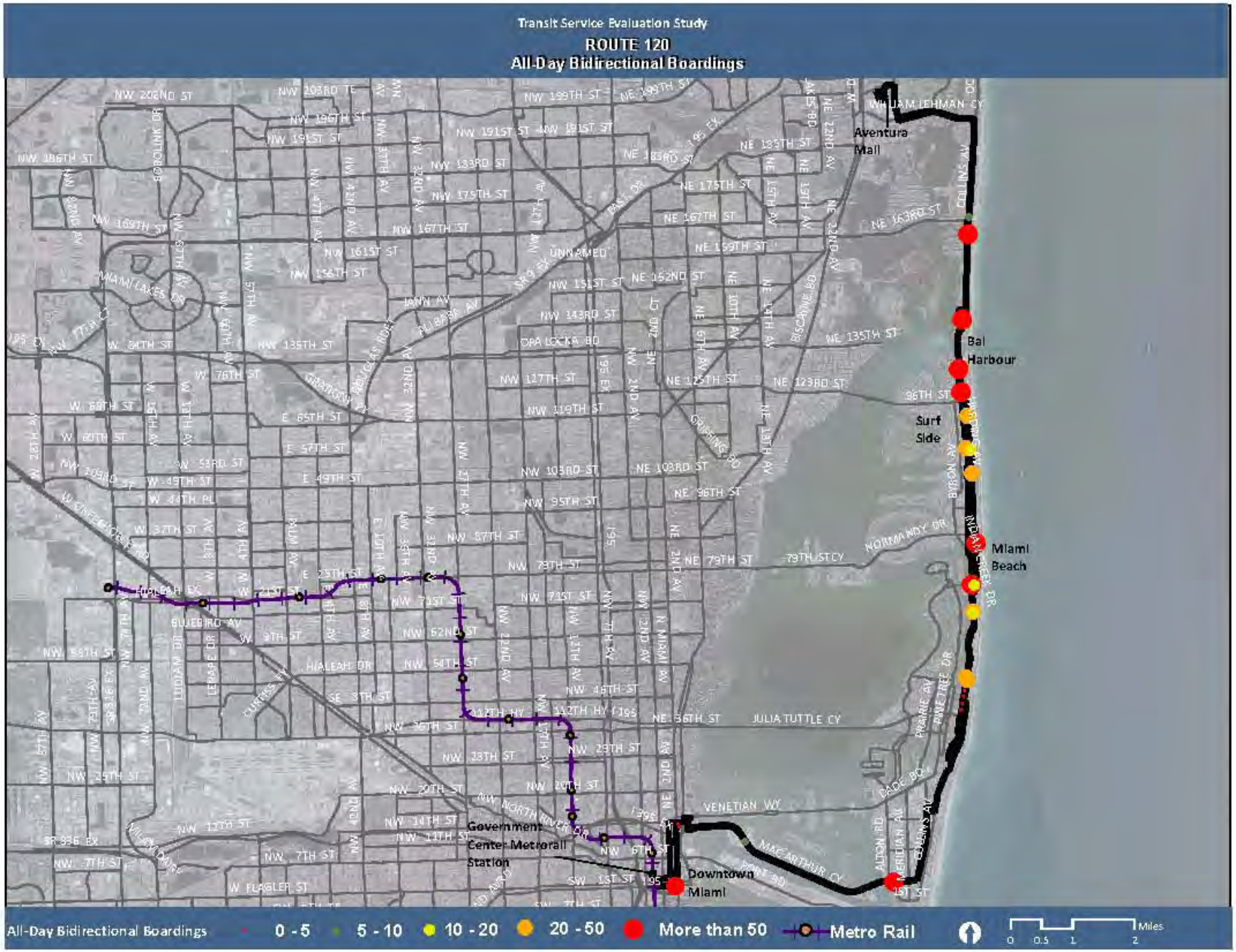
- The current service should be maintained.
- Collins Avenue should be considered for BRT/EBS implementation in the future, in which case it would replace this route.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 119 (Route S) is a local north-south service from the Downtown Bus Terminal to Aventura Mall Transit Hub via Biscayne Boulevard and Collins Avenue with connections to the Adrienne Arsht Center Metromover Station. Route 119 is one of the three services that connect the City of Miami with the South Beach area. It has an average of 12,400 boardings on a typical weekday. **Figure 43** depicts both the average northbound morning peak period and daily passenger loads for Route 119.

An analysis of stop activity and passenger load data indicates activity along the entire length of the route throughout the day. The data indicates that there are more people boarding at the Downtown Bus Terminal compared to the Adrienne Arsht Center Metromover Station. The stop at Washington Avenue and Lincoln Road also indicates high mid-day activity.

Figure 43: Route 119 NB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 120
All-Day Bidirectional Boardings
Aventura Mall
Bal Harbour
Surf Side
Miami Beach
Government Center Metrorail Station
Downtown Miami
JULIA TUTTLE CY
VENETIAN WY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

Route 120 Beach Max

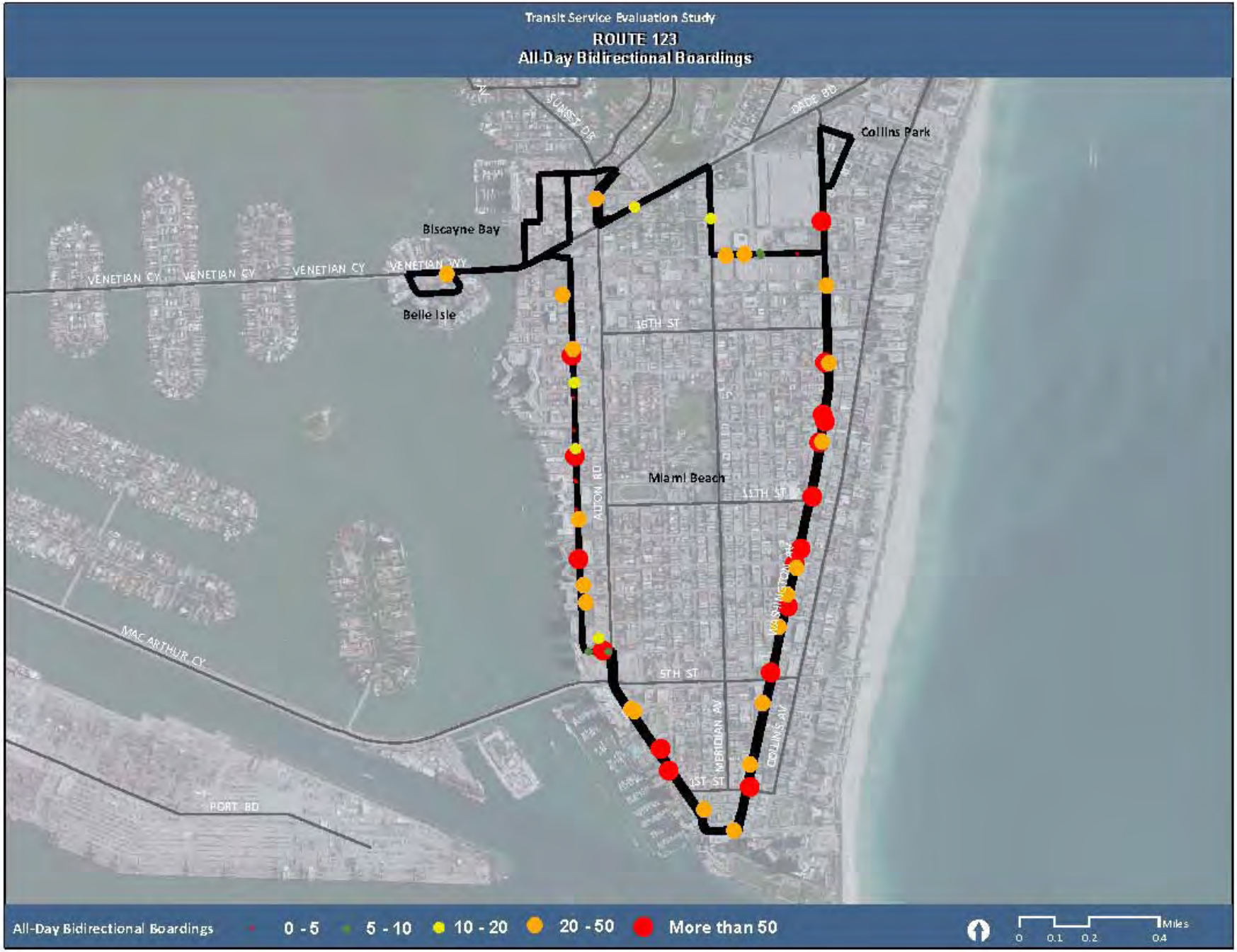
Route 120 Statistics	
Headway in Minutes (Peak/Off-Peak)	12/12
Route Miles	21
Number of Stops	20/21
Ridership	5,410
Route 120 Performance Measures	
Passengers per Trip	39
Passengers per Revenue Mile	5.4
Passengers per Revenue Hour	91
Farebox Ratio	0.40
Direct Operating Cost per Revenue Mile	$7.8
Direct Operating Cost per Passenger	$3.6
Direct Operating Cost per Trip	$141

Route 120 is a limited-stop north-south service from the Downtown Bus Terminal to the Aventura Mall Transit Hub with service to the Adrienne Arsht Center Metromover Station. Route 120 also connects businesses along Collins Avenue with Downtown Miami. Route 120 follows the same alignment as the Route 119 and has fewer stops. The route has an average of 5,410 boardings on a typical weekday.

The travel time for a one-way trip is approximately 80 minutes compared to 98 minutes for Route 113. The route was restructured as part of the December 2009 lineup changes. Recent data is not available to evaluate performance of this restructured route.

Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 123
All-Day Bidirectional Boardings
Collins Park
Biscayne Bay
VENETIAN CY
VENETIAN CY
VENETIAN CY
VENETIAN WY
Belle Isle
16TH ST
Miami Beach
15TH ST
ALTON RD
MERIDIAN AV
COLLINS AV
5TH ST
1ST ST
MAC ARTHUR CY
PORT BD
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0
0.1
0.2
0.4

Route 123 South Beach Local

Route 123 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/12
Route Miles	7
Number of Stops	35/39
Ridership	3,730
Route 123 Performance Measures	
Passengers per Trip	27
Passengers per Revenue Mile	4.5
Passengers per Revenue Hour	33
Farebox Ratio	0.13
Direct Operating Cost per Revenue Mile	$11.4
Direct Operating Cost per Passenger	$3.2
Direct Operating Cost per Trip	$86

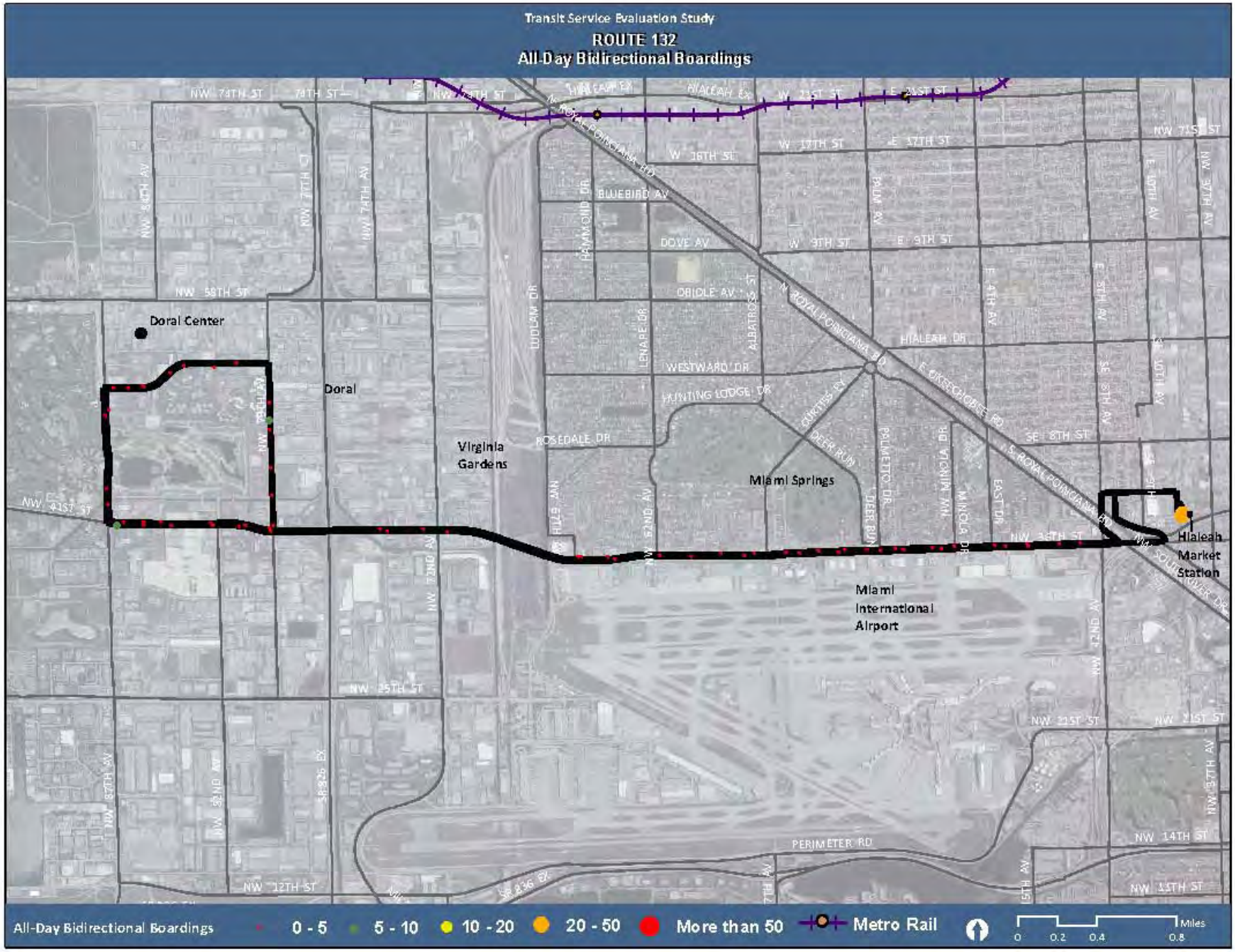
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 123 is a circulator service that connects commercial and residential areas in the South Beach area. The route has nearly 3,700 boardings on a typical weekday.

The fares for this route were recently revised ($0.25 per trip), which may have an impact on the number of boardings. The route had low passenger loads, but boarding and alighting activity was steady along the entire length of the route. The ridership for the late-evening service is very modest. This route mainly serves tourists and local service workers.

Recommendations:

- Reduction of service during mid-day and late-evening periods should be considered to match the lower demand during these periods.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 132
All-Day Bidirectional Boardings
Doral Center
Doral
Virginia Gardens
Miami Springs
Hialeah Market Station
Miami International Airport
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.2
0.4
0.8

Route 132 Tri-Rail Doral Shuttle

Route 132 Statistics	
Headway in Minutes (AM Peak/PM Peak)	80/60
Route Miles	7
Number of Stops	34/32
Ridership	50
Route 132 Performance Measures	
Passengers per Trip	4
Passengers per Revenue Mile	0.7
Passengers per Revenue Hour	9
Farebox Ratio	0.00
Direct Operating Cost per Revenue Mile	$9.6
Direct Operating Cost per Passenger	$14.2
Direct Operating Cost per Trip	$62

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 132 is a morning and evening shuttle service that connects the Doral Center with the Tri-Rail service at the Hialeah Market Tri-Rail Station. The route has an average of 50 daily boardings on a typical weekday out of a total of 10 daily trips. Passengers per mile and daily ridership are low for this route. Currently, Route 36 serves the same areas in Downtown Doral but does not connect to the Tri-Rail service.

Recommendations:

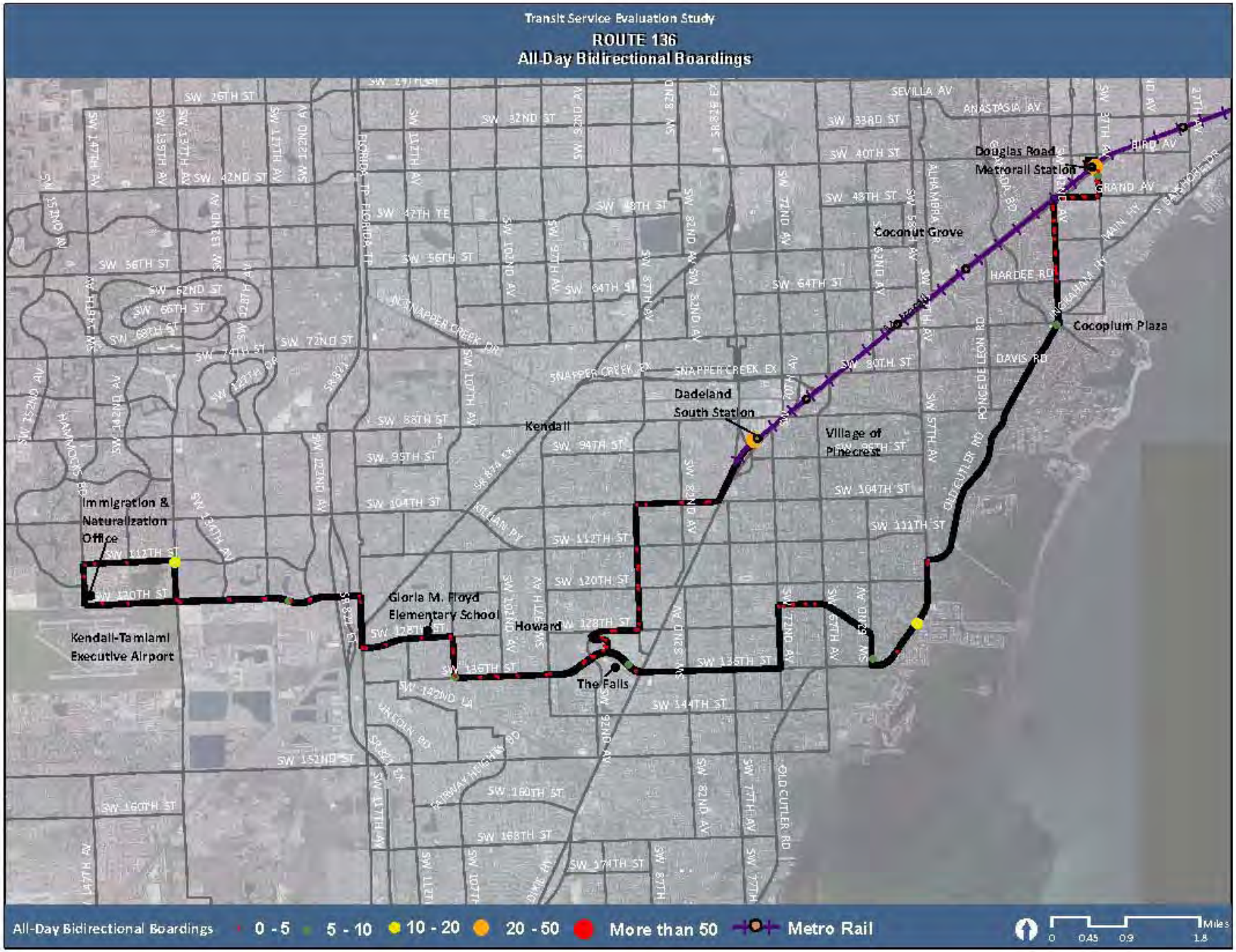
- Elimination or consolidation of this route with Route 36 should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 133 Tri-Rail Airport Shuttle

Route 133 is a shuttle service that connects the Miami International Airport with the Tri-Rail service. Currently, a Metromover connection is being constructed between the Airport and the Airport Tri-Rail Station at the Miami Intermodal Center. This service will be replaced by Metromover.

Route 135

Route 135 provides service to the Hialeah Metrorail Station, the Opa-Locka Tri-Rail Station, North Miami Beach, and the FIU Biscayne Bay Campus. Data is currently not available for this route. This route was started as part of the December 2009 lineup changes. Recent information should be evaluated to determine performance of this route.


Transit Service Evaluation Study
ROUTE 136
All-Day Bidirectional Boardings
Douglas Road Metrorail Station
Coconut Grove
Cocoplum Plaza
Dadeland South Station
Kendall
Village of Pinecrest
Immigration & Naturalization Office
Gloria M. Floyd Elementary School
Howard
The Falls
Kendall-Tamiami Executive Airport
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.45
0.9
1.8

Route 136

Route 136 Statistics	
Headway in Minutes (Peak)	50
Route Miles	19
Number of Stops	65/76
Ridership	240
Route 136 Performance Measures	
Passengers per Trip	14
Passengers per Revenue Mile	0.8
Passengers per Revenue Hour	14
Farebox Ratio	0.19
Direct Operating Cost per Revenue Mile	$7.6
Direct Operating Cost per Passenger	$9.7
Direct Operating Cost per Trip	$135

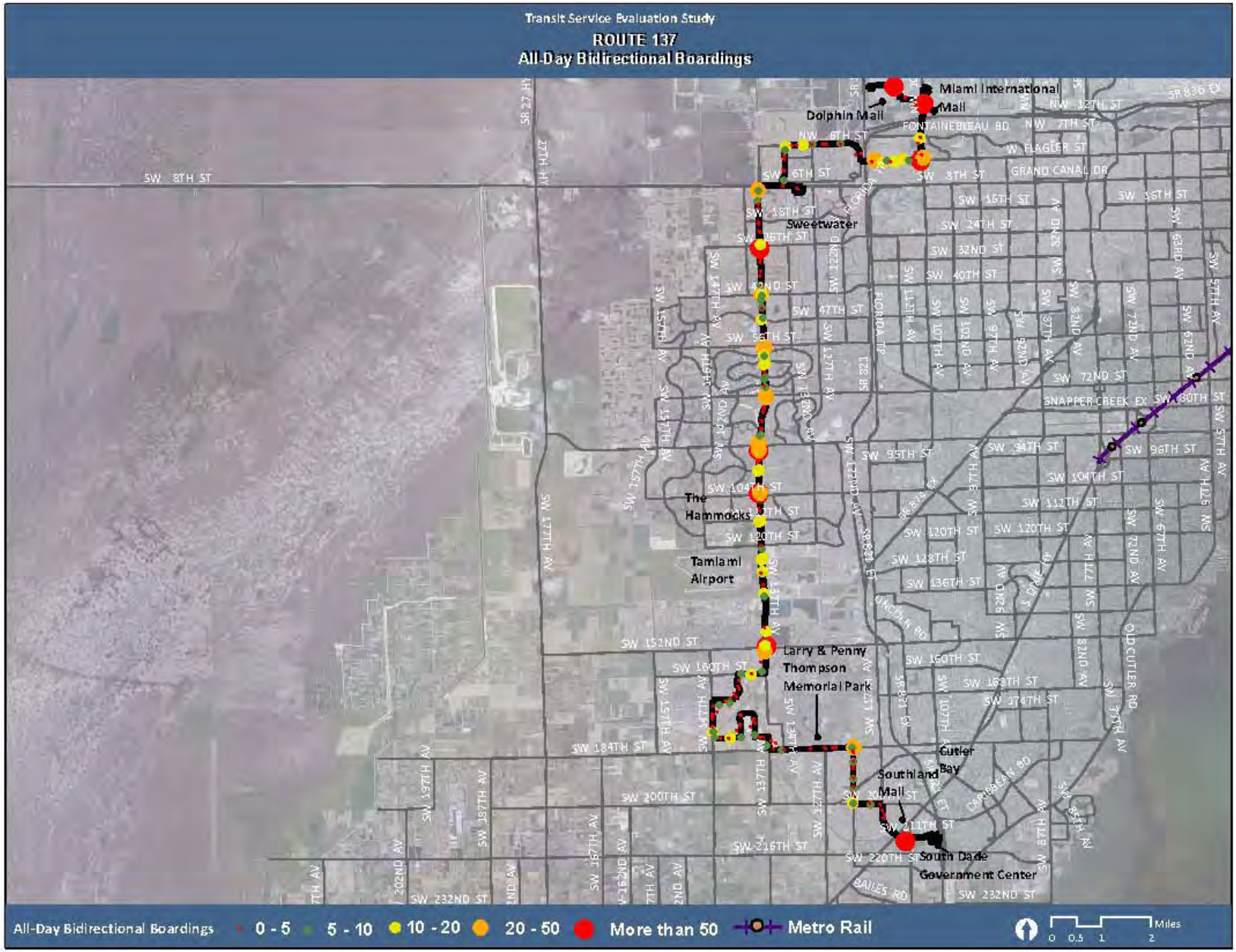
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 136 is a local morning and evening east-west service that connects communities east of US-1 in the southern portion of the County and serves both the Dadeland South and Douglas Road Metrorail Stations. The route has an average of 240 boardings on a typical weekday. This is the only route serving Old Cutler Road.

The route does not perform well based on the passengers per vehicle mile performance measure. An analysis of boardings data and passenger loads indicates that the passenger line loads fluctuate along the route.

Recommendations:

- Elimination of the entire route or consolidation with Route 57 and elimination of segments east of US-1 should be considered.
- The route should be considered for a possible shuttle service to Metrorail service.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 137
All-Day Bidirectional Boardings
Miami International Mall
Dolphin Mall
Sweetwater
The Hammocks
Tamiami Airport
Larry & Penny Thompson Memorial Park
Cutler Bay
Southland Mall
South Dade Government Center
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.5 1 2

Route 137 West Dade Connection

Route 137 Statistics	
Headway in Minutes (Peak/Off-Peak)	30/45
Route Miles	26
Number of Stops	108/108
Ridership	1,990
Route 137 Performance Measures	
Passengers per Trip	42
Passengers per Revenue Mile	1.6
Passengers per Revenue Hour	29
Farebox Ratio	0.25
Direct Operating Cost per Revenue Mile	$7.4
Direct Operating Cost per Passenger	$4.6
Direct Operating Cost per Trip	$194

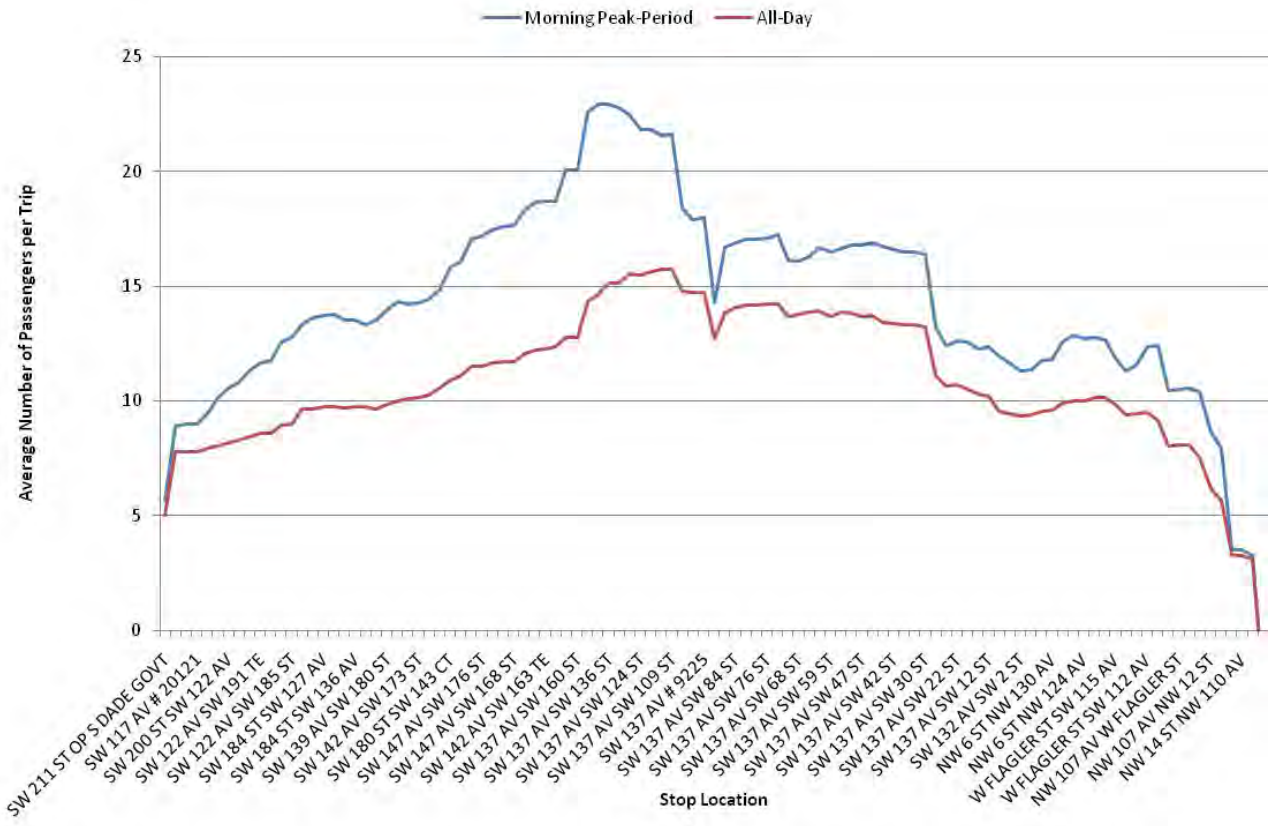
Recommendations:

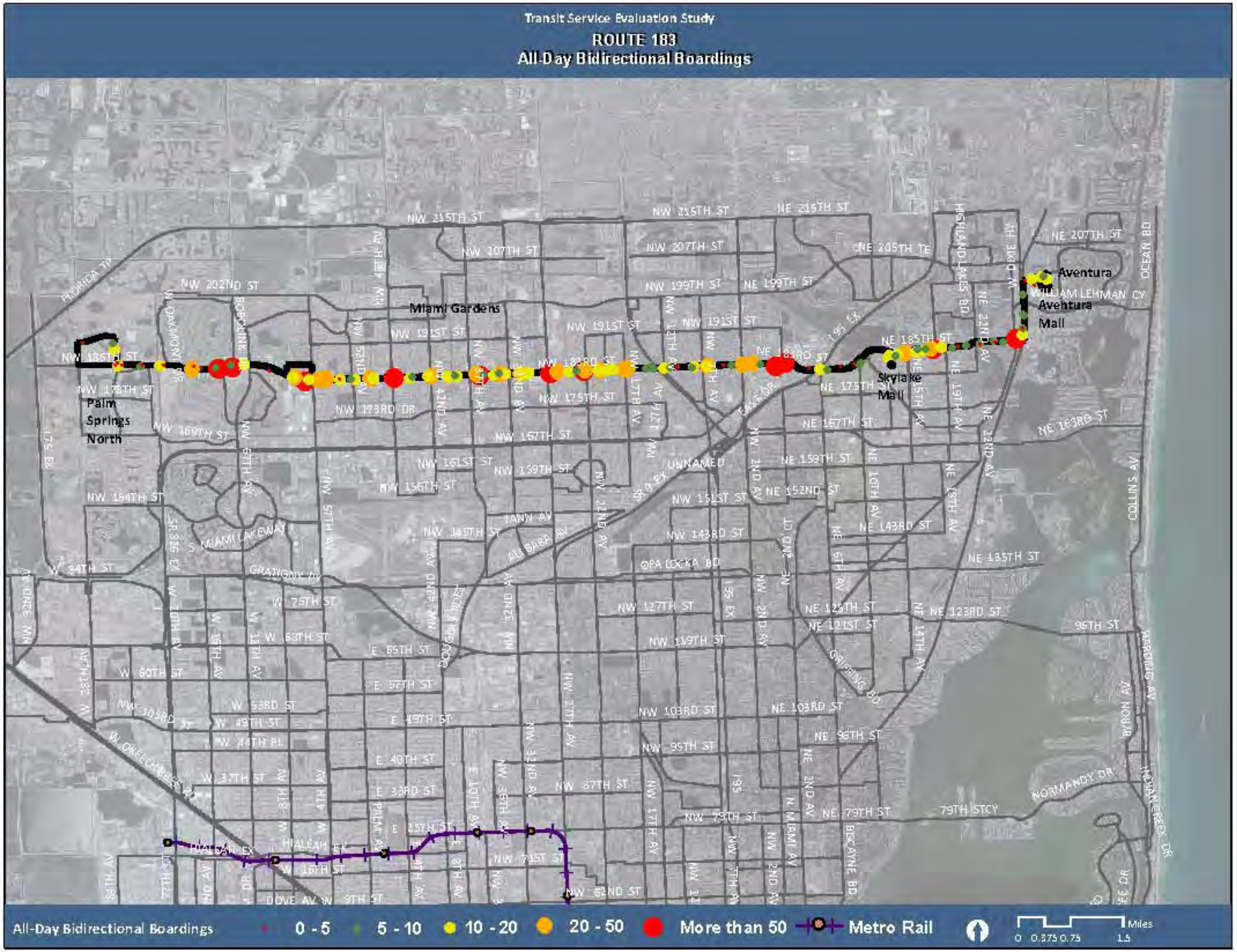
- The route should be further examined for to determine the impacts of shortening the route or dividing the route into two routes, possibly around or near the SW 160th Street diversion.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 137 is a local north-south service that connects Cutler Bay and Kendall with Doral via SW 137th and 107th Avenue and provides service to the South Dade Government Center, Southland Mall, Tamiami Airport, Miami International Mall, and Dolphin Mall. The route has close to 2,000 boardings on a typical weekday. This is one of the longest routes in the system, with 26 route miles. The diversion off of SW 137th Street at SW 160th Street serves large residential neighborhoods and two middle schools. Through observing the boardings map above, it is clear that this portion of the route has the lowest ridership. **Figure 44** depicts both the average northbound morning peak period and daily passenger loads for Route 137.

Route performance data indicates that there few route-long trips. The boardings data indicate considerable activity at all stops along the route.

Figure 44: Route 137 NB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 183
All-Day Bidirectional Boardings
Miami Gardens
Palm Springs North
Aventura
Aventura Mall
Skylake Mall
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.375 0.75 1.5

Route 183

Route 183 Statistics	
Headway in Minutes (Peak/Off-Peak)	12/20
Route Miles	14.5
Number of Stops	67/73
Ridership	3,910
Route 183 Performance Measures	
Passengers per Trip	32
Passengers per Revenue Mile	5.3
Passengers per Revenue Hour	99
Farebox Ratio	0.31
Direct Operating Cost per Revenue Mile	$8.7
Direct Operating Cost per Passenger	$3.6
Direct Operating Cost per Trip	$114

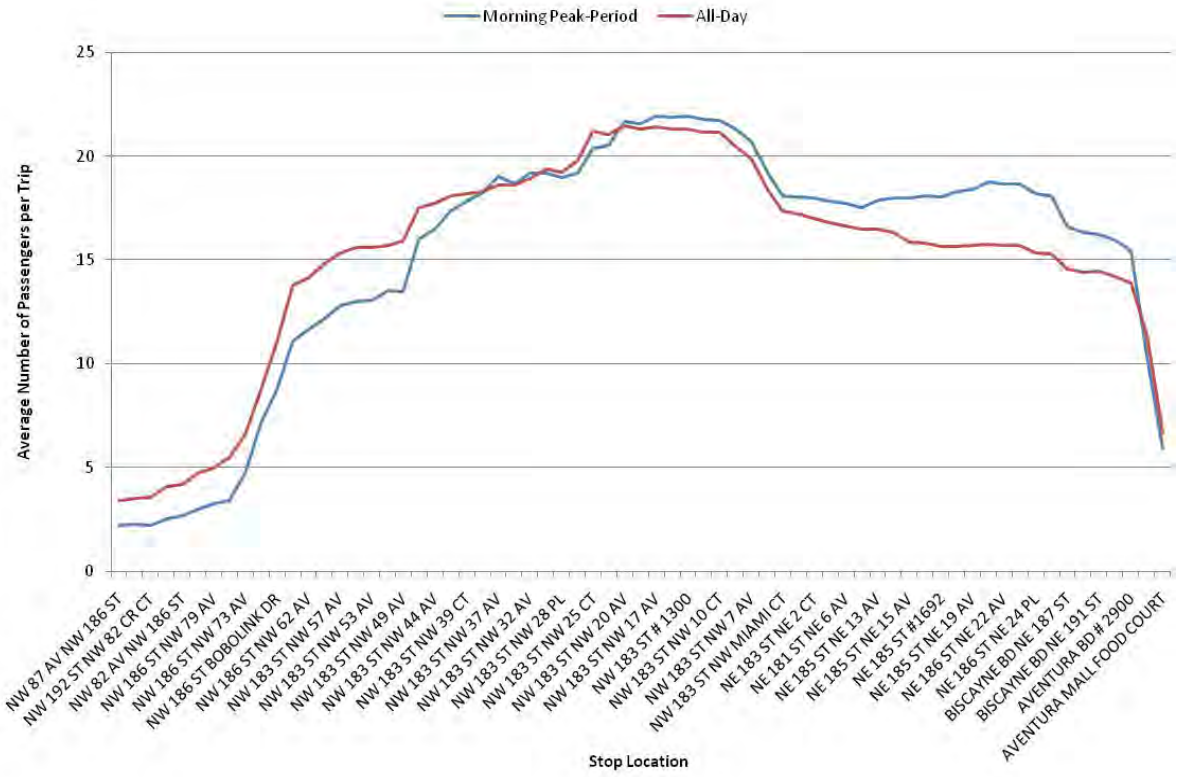
Recommendations:

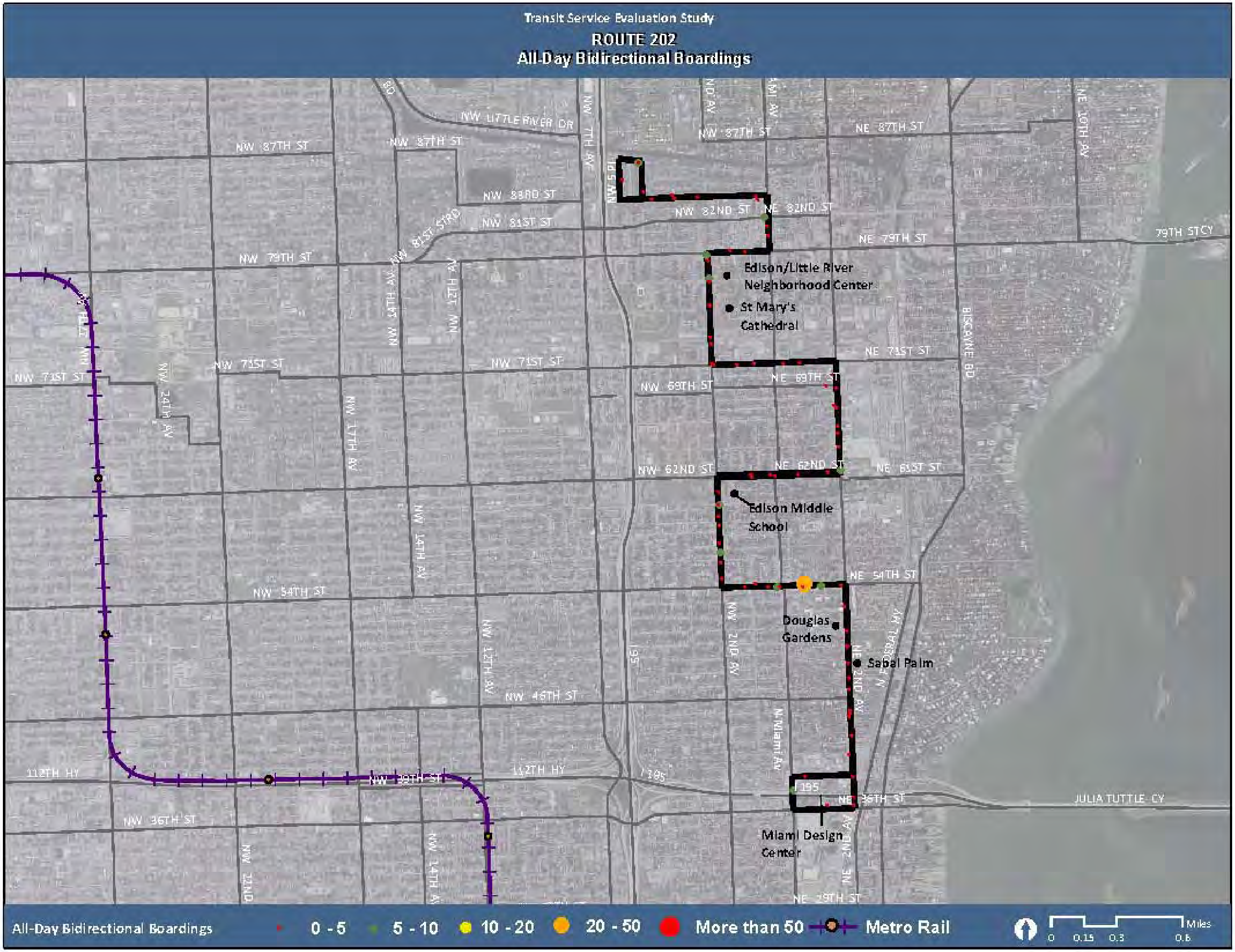
- The current service should be maintained.
- Consolidation with Route 49 should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 183 is a local east-west service that connects the City of Miami Gardens with the Aventura Mall Transit Hub. The route has an average of 3,910 boardings on a typical weekday.

The boarding and passenger load data indicates that residents living in the western suburban areas are taking longer trips to connect to the eastern portions of the County. Route performance data indicates a significant number of boardings along the route and fewer alightings in the morning peak period. **Figure 45** illustrates eastbound morning peak period and daily average passenger loads for Route 183. About 66 percent of all morning peak-period alightings occur west of NW Miami Court.

Figure 45: Route 183 EB AM Peak Period and Daily Average Passenger Load




Transit Service Evaluation Study
ROUTE 202
All-Day Bidirectional Boardings
Edison/Little River Neighborhood Center
St Mary's Cathedral
Edison Middle School
Douglas Gardens
Sabal Palm
Miami Design Center
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.15 0.3 0.6

Route 202 Little Haiti Connection

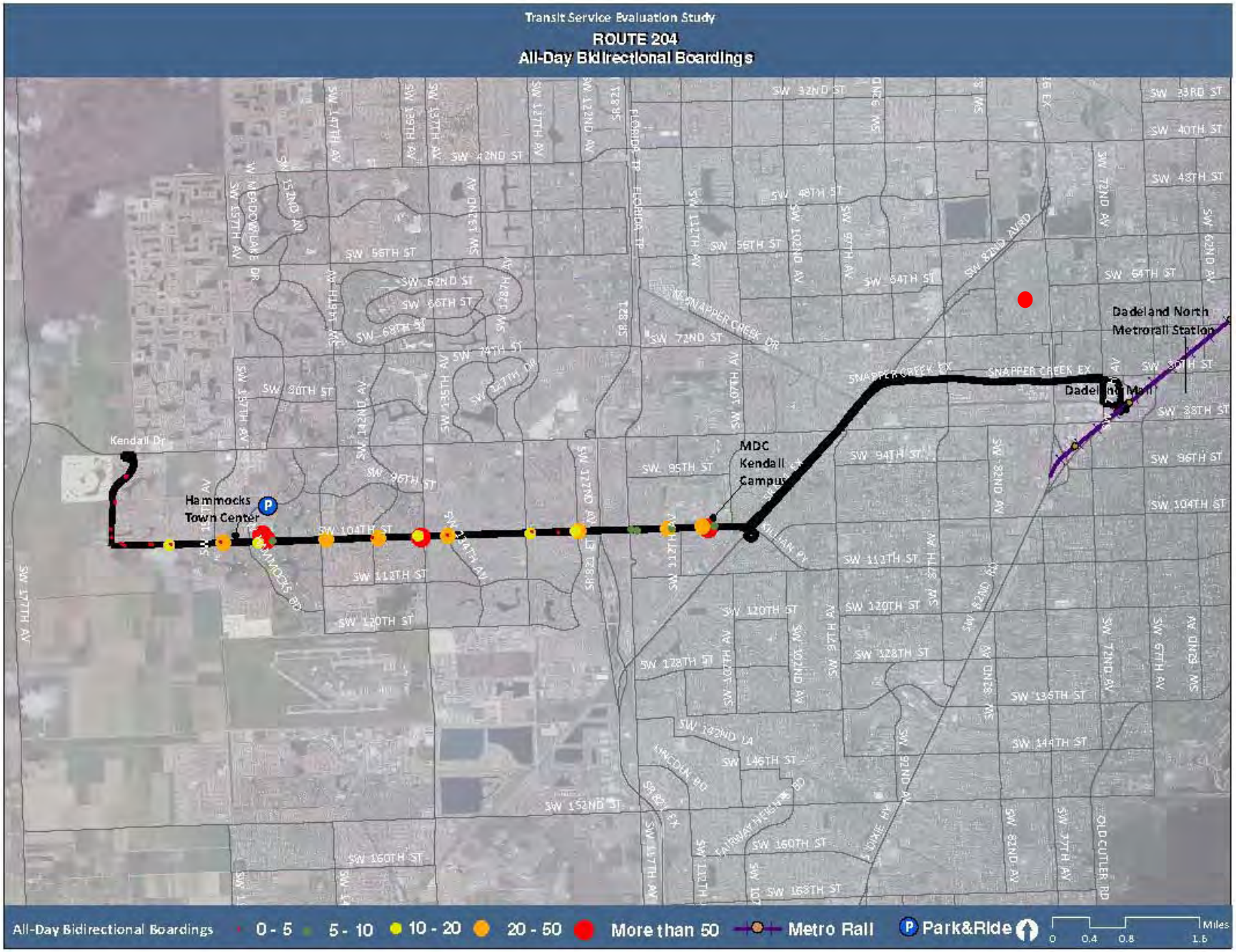
Route 202 Statistics	
Headway in Minutes (Peak/Off-Peak)	60/60
Route Miles	5.5
Number of Stops	52/41
Ridership	230
Route 202 Performance Measures	
Passengers per Trip	9
Passengers per Revenue Mile	0.8
Passengers per Revenue Hour	10
Farebox Ratio	0.14
Direct Operating Cost per Revenue Mile	$8.7
Direct Operating Cost per Passenger	$5.6
Direct Operating Cost per Trip	$49

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 202 is a local north-south service that connects residential areas with community facilities in the Little Haiti area. It operates from NE 36th Street and N. Miami Avenue to NW 85th Street and NW 5 Place. The route has about 230 boardings on a typical weekday. The route ridership does not perform well based on the passengers per vehicle mile measure. The route serves transit-dependent populations. There are some jitney services in the area that could potentially provide service to the area residents.

Recommendations:

- Coordination with local jitney service operating in the area should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 204
All-Day Bidirectional Boardings
Kendall Dr
Hammocks Town Center
MDC Kendall Campus
Dadeland North Metrorail Station
SW 96TH ST
SW 104TH ST
SW 112TH ST
SW 120TH ST
SW 128TH ST
SW 136TH ST
SW 144TH ST
SW 152ND ST
SW 160TH ST
SW 168TH ST
SW 72ND ST
SW 80TH ST
SW 88TH ST
SW 56TH ST
SW 64TH ST
SNAPPER CREEK EX
SNAPPER CREEK DR
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles
0
0.4
0.8
1.6

Route 204 Killian Kat

Route 204 Statistics	
Headway in Minutes (Peak)	7.5
Route Miles	13
Number of Stops	22/22
Ridership	1,210
Route 204 Performance Measures	
Passengers per Trip	11
Passengers per Revenue Mile	0.9
Passengers per Revenue Hour	18
Farebox Ratio	0.09
Direct Operating Cost per Revenue Mile	$8.2
Direct Operating Cost per Passenger	$8.4
Direct Operating Cost per Trip	$95

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 204 is a limited-stop east-west service that connects the Hammocks area and MDC Kendall Campus with the Metrorail and the Busway via SW 104th Street. The route has nearly 1,210 boardings on a typical weekday with a total of 108 trips.

This route provides premium-service that can be accessed by both the West Kendall Transit Terminal and the Hammocks Town Center Park-and-Ride Lot. The current ridership does not support the frequent service. To increase public awareness of the existing transit service, the County is considering a public information campaign to potentially boost ridership for this route.

Recommendations:

- Consolidation of Route 204 service west of SW 146th Street with Route 104 service west of SW 146th Street should be evaluated to create an independent circulator to feed into both Route 104 and Route 204.
- The most recent data should be evaluated, and awareness of this service should be increased.


Transit Service Evaluation Study
ROUTE 207
All-Day Bidirectional Boardings
NW 11TH ST
NW 7TH ST
NW 6TH ST
Downtown Miami
Government Center Metrorail Station
W FLAGLER ST
SW 1ST ST
Riverside Center
Little Havana
Brickell
MDC Interamerican Campus
SW 8TH ST
ROUTE 208
All-Day Bidirectional Boardings
City of Miami Police Sub Station
SW 15TH ST
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles

Routes 207/208

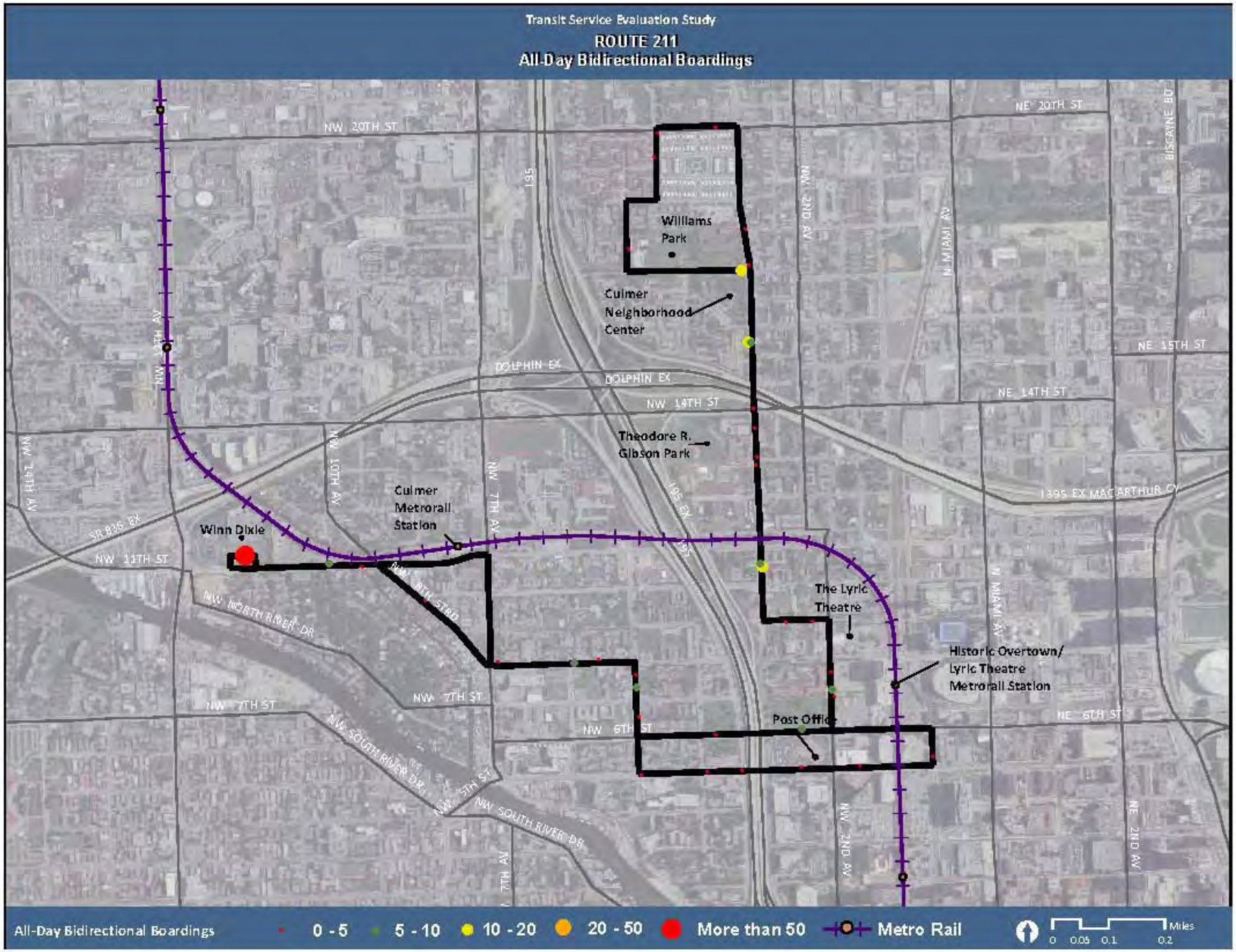
Routes 207/208 Statistics	207	208
Headway in Minutes (Peak/Off-Peak)	15/20	15/20
Route Miles (Directional)	6.4	6.7
Number of Stops	42	39
Ridership	1,760	2,050
Routes 207/208 Performance Measures		
Passengers per Trip	36	42
Passengers per Revenue Mile	5.6	6.2
Passengers per Revenue Hour	56	64
Farebox Ratio	0.39	0.39
Direct Operating Cost per Revenue Mile	$12.3	$11.9
Direct Operating Cost per Passenger	$2.2	$1.9
Direct Operating Cost per Trip	$78	$80

Routes 207 and 208 are circulators that operate clockwise and counterclockwise directions, respectively. The routes run along portions of Flagler Street and provide a service similar to that of Route 11.

These routes have a combined average weekday ridership of about 3,810. The ridership is evenly spread throughout the entire day, which may indicate that these routes serve a considerable number of shopping and recreational trips.

Recommendations:

- In the short term, maintain Route 207/208 as local service.
- In the long term, these routes should be incorporated into a potential BRT/EBS system along Flagler Street.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 211
All-Day Bidirectional Boardings
NW 20TH ST
NE 20TH ST
Williams Park
Culmer Neighborhood Center
DOLPHIN EX
NW 14TH ST
NE 14TH ST
NE 15TH ST
Theodore R. Gibson Park
Culmer Metrorail Station
Winn Dixie
SR 836 EX
NW 11TH ST
I395 EX MACARTHUR CY
The Lyric Theatre
Historic Overtown/ Lyric Theatre Metrorail Station
NW NORTH RIVER DR
NW 7TH ST
NW SOUTH RIVER DR
Post Office
NW 6TH ST
NE 6TH ST
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.05 0.1 0.2

Route 211 Overtown Circulator

Route 211 Statistics	
Headway in Minutes (PM Peak/Off-Peak)	30/30
Route Miles	6
Number of Stops	21/23
Ridership	210
Route 211 Performance Measures	
Passengers per Trip	7
Passengers per Revenue Mile	2.5
Passengers per Revenue Hour	32
Farebox Ratio	0.02
Direct Operating Cost per Revenue Mile	$9.9
Direct Operating Cost per Passenger	$4.0
Direct Operating Cost per Trip	$28

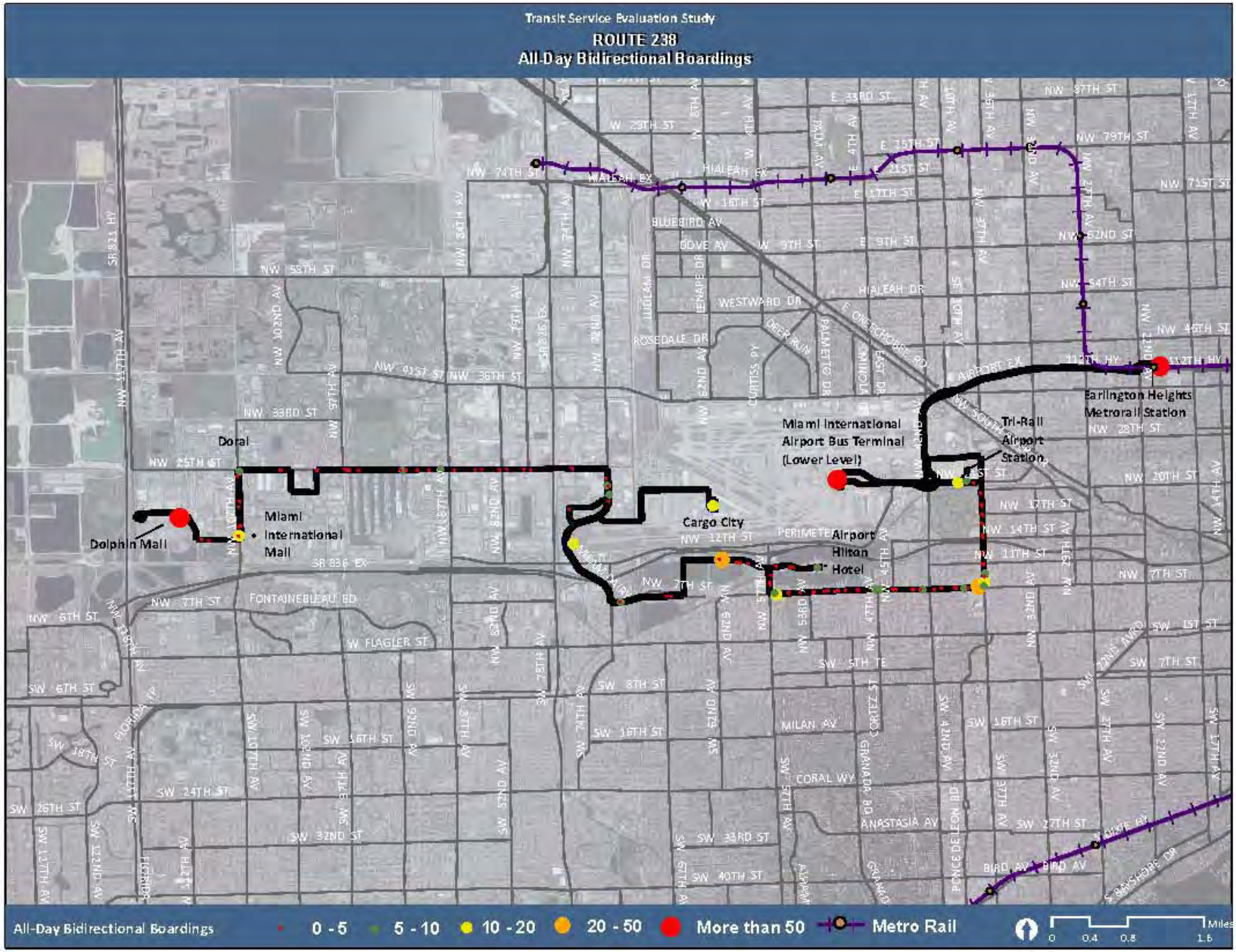
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 211 is a circulator service that connects residential areas in the Overtown area with community features such as grocery stores and a post office. The route has just over 200 daily boardings on a typical weekday out of a total of 30 trips.

While the performance measures indicate low utilization, the route serves specific community needs, for example providing reliable transportation to grocery stores.

Recommendations:

- The current service should be maintained to serve community needs.
- The possibility of combining portions of this route with other local routes should be evaluated.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 238
All-Day Bidirectional Boardings
Doral
Dolphin Mall
Miami International Mall
Cargo City
Miami International Airport Bus Terminal (Lower Level)
Tri-Rail Airport Station
Airport Hilton Hotel
Earlington Heights Metrorail Station
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.4
0.8
1.6

Route 238 East-West Connection

Route 238 Statistics	
Headway in Minutes (Peak/Off-Peak)	40/60
Route Miles	24
Number of Stops	63/62
Ridership	580
Route 238 Performance Measures	
Passengers per Trip	17
Passengers per Revenue Mile	0.6
Passengers per Revenue Hour	12
Farebox Ratio	0.10
Direct Operating Cost per Revenue Mile	$7.2
Direct Operating Cost per Passenger	$10.4
Direct Operating Cost per Trip	$173

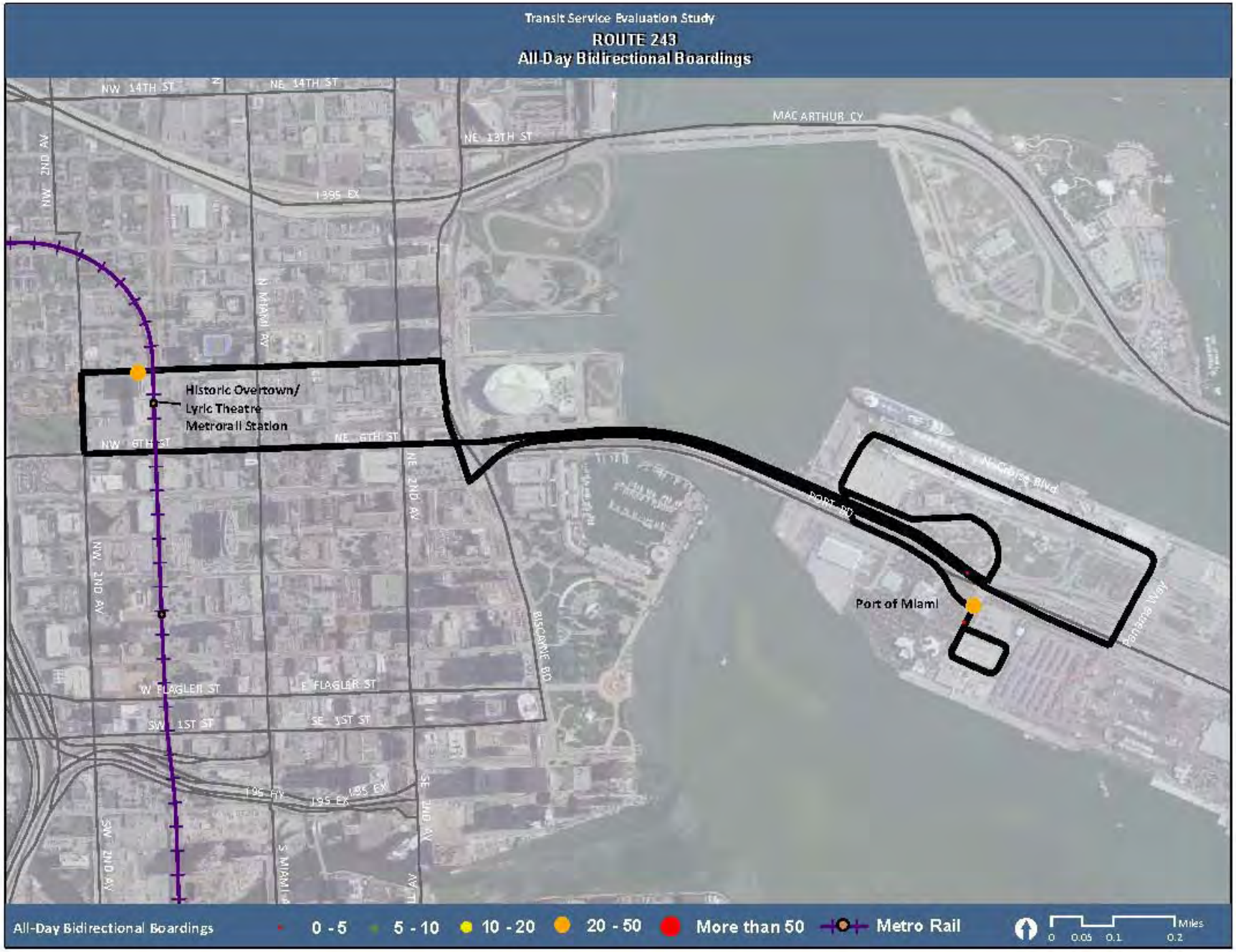
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 238 is a local east-west service that connects the Dolphin Mall in the City of Doral with the Miami International Airport and the Earlington Heights Metrorail Station. Attractions along the route include Miami International Mall and various airport hotels. The route has an average of 580 boardings on a typical weekday.

The performance measures indicate low utilization. An analysis of the boardings and passenger load data indicates that this route does not serve a defined travel market. This is the only route serving NW 25th Street, and the segment on NW 25th Street has only 100 daily boardings and alightings on a typical weekday. Other segments served by the route are also served by other routes.

Recommendations:

- Elimination of this route should be considered based on poor performance measures. Shuttle service or realignment of a nearby route to serve the NW 25th Street area should be further evaluated.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 243
All-Day Bidirectional Boardings
NW 14TH ST
NE 14TH ST
NE 13TH ST
MACARTHUR CY
NW 2ND AV
I-395 EX
N MIAMI AV
Historic Overtown/
Lyric Theatre
Metrorail Station
NW 6TH ST
NE 6TH ST
NE 2ND AV
NW 2ND AV
PORT BV
N Cruise Blvd
Port of Miami
Bonanza Way
BISCAYNE BD
W FLAGLER ST
E FLAGLER ST
SW 1ST ST
SE 1ST ST
I-95 EX
I-95 EX
I-95 EX
SE 2ND AV
SW 2ND AV
S MIAMI AV
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.05
0.1
0.2

Route 243 Seaport Connection

Route 243 Statistics	
Headway in Minutes (Peak)	30
Route Miles	3
Number of Stops	6/3
Ridership	70
Route 243 Performance Measures	
Passengers per Trip	3
Passengers per Revenue Mile	0.9
Passengers per Revenue Hour	13
Farebox Ratio	0.05
Direct Operating Cost per Revenue Mile	$10.0
Direct Operating Cost per Passenger	$9.4
Direct Operating Cost per Trip	$26

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 243 is a local east-west service that connects the Seaport with the Historic Overtown Metrorail Station. The route has an average of 70 boardings on a typical weekday out of a total of 26 trips.

The performance measures indicate low utilization. An analysis of the boardings and passenger load data indicates that this route does not indicate a defined travel market.

Recommendations:

- The transition to shuttle service, consolidation, or elimination of this route should be considered.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

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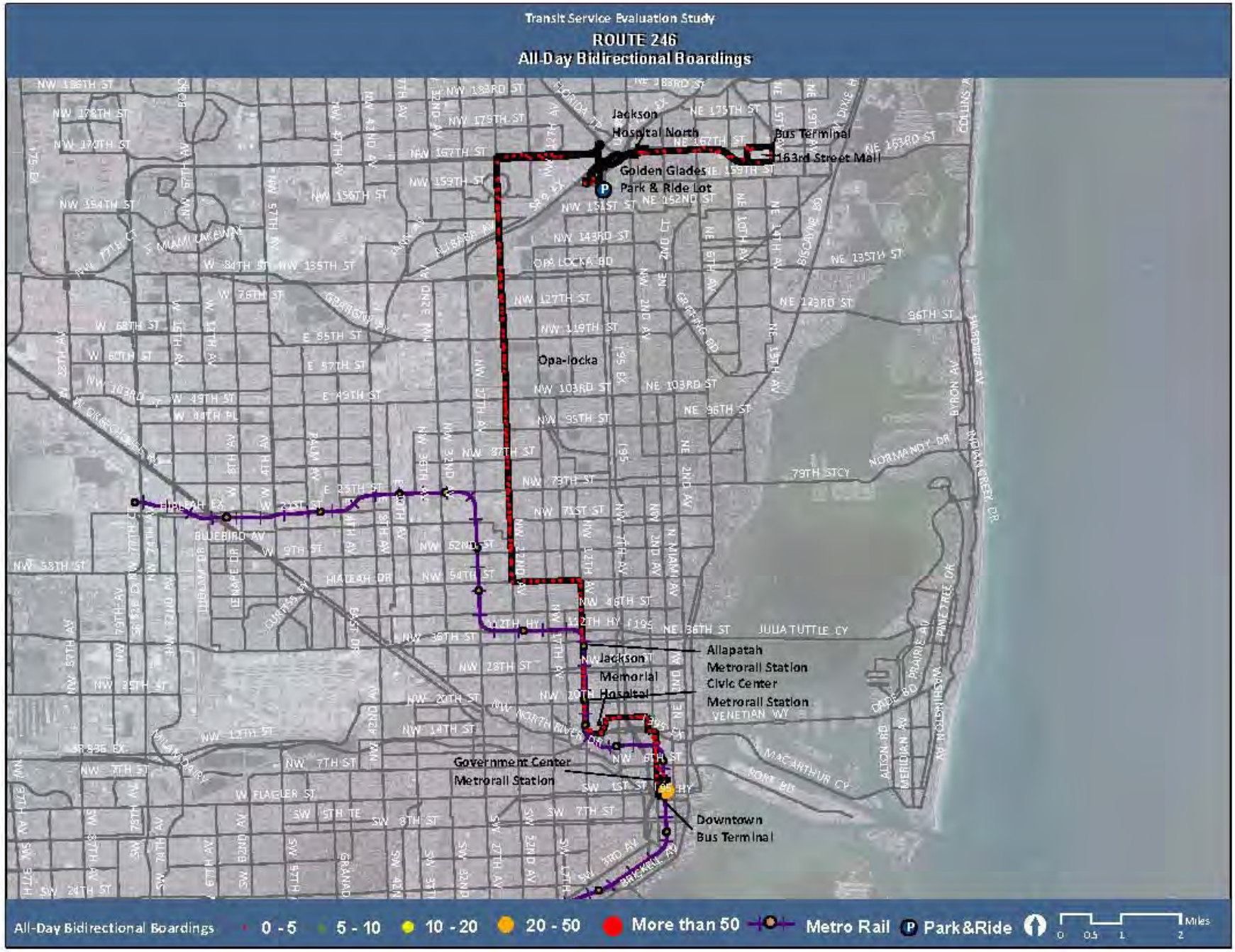

Transit Service Evaluation Study
ROUTE 246
All-Day Bidirectional Boardings
Jackson Hospital North
Bus Terminal
163rd Street Mall
Golden Glades Park & Ride Lot
Opa-locka
Allapatah Metrorail Station
Jackson Memorial Hospital
Civic Center Metrorail Station
Government Center Metrorail Station
Downtown Bus Terminal
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles
0
0.5
1
2

Route 246 Night Owl - Night Services

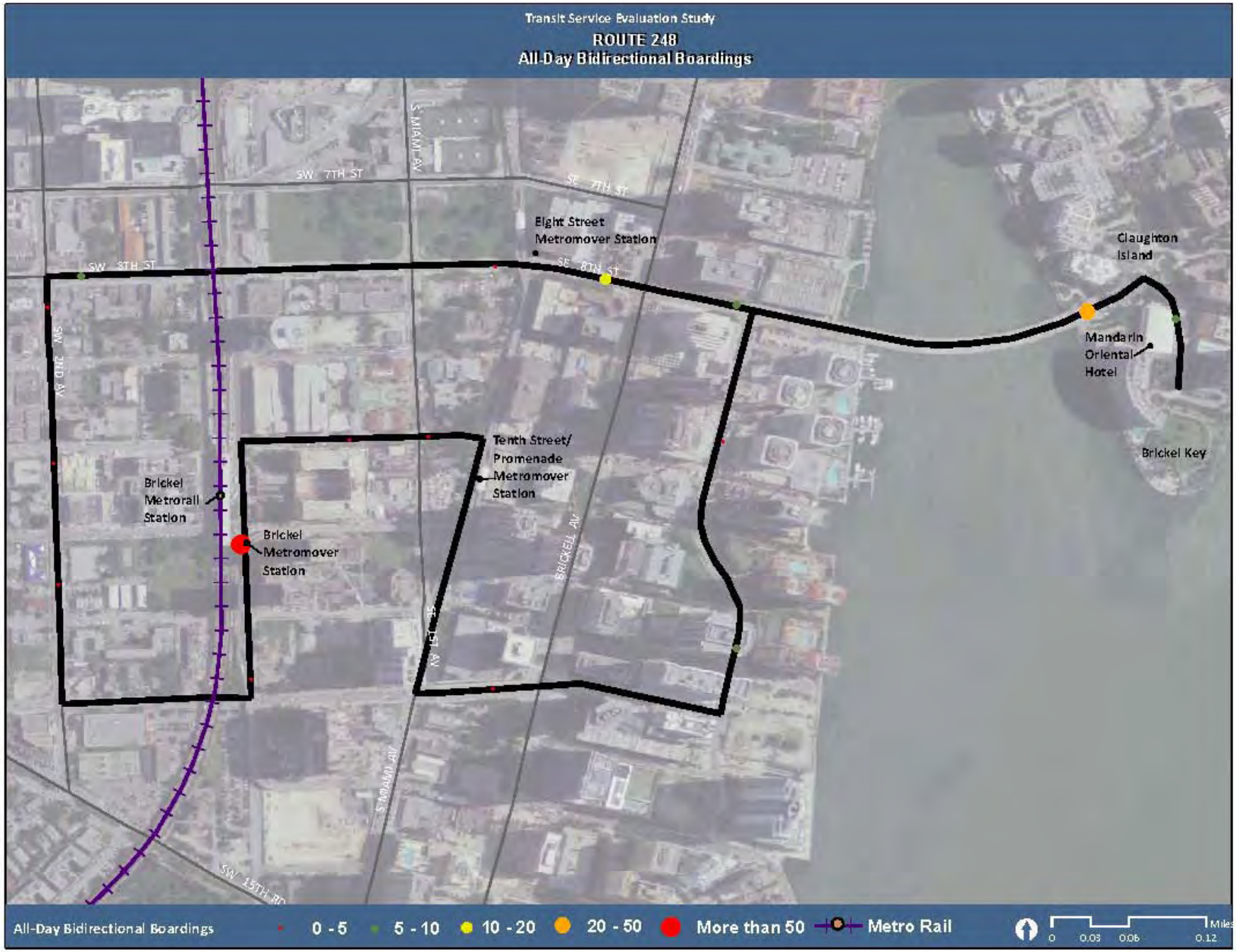
Route 246 Statistics	
Headway in Minutes (Off-Peak)	60
Route Miles	N/A
Number of Stops	115/117
Ridership	80
Route 246 Performance Measures	
Passengers per Trip	14
Passengers per Revenue Mile	0.4
Passengers per Revenue Hour	9
Farebox Ratio	0.15
Direct Operating Cost per Revenue Mile	$6.0
Direct Operating Cost per Passenger	$14.3
Direct Operating Cost per Trip	$196

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.
N/A = Not Available

Route 246 is a local night service that connects Downtown Miami with the Health District and the 163rd Street Mall Transit Hub. This route is one of only two services for residents working night shifts. The route has an average of 80 boardings on a typical weekday.

Recommendations:

- This service should be maintained.
- Further review of night services should be conducted to evaluate the feasibility of combining the Route 246 and Route 500 night services or to reduce time frequencies to make these services more efficient.


Transit Service Evaluation Study
ROUTE 248
All-Day Bidirectional Boardings
SW 7TH ST
S MIAMI AV
SE 7TH ST
Eight Street
Metromover Station
SW 8TH ST
SE 8TH ST
Claughton
Island
Mandarin
Oriental
Hotel
Brickel Key
SW 2ND AV
Tenth Street/
Promenade
Metromover
Station
Brickel
Metrorail
Station
Brickel
Metromover
Station
BRICKELL AV
SE 1ST AV
S MIAMI AV
SW 15TH RD
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.03
0.06
0.12

Route 248 Brickell Key Shuttle

Route 248 Statistics	
Headway in Minutes (Peak)	20
Route Miles	1.5
Number of Stops	10/8
Ridership	150
Route 248 Performance Measures	
Passengers per Trip	4
Passengers per Revenue Mile	2.6
Passengers per Revenue Hour	32
Farebox Ratio	0.08
Direct Operating Cost per Revenue Mile	$11.3
Direct Operating Cost per Passenger	$4.4
Direct Operating Cost per Trip	$17

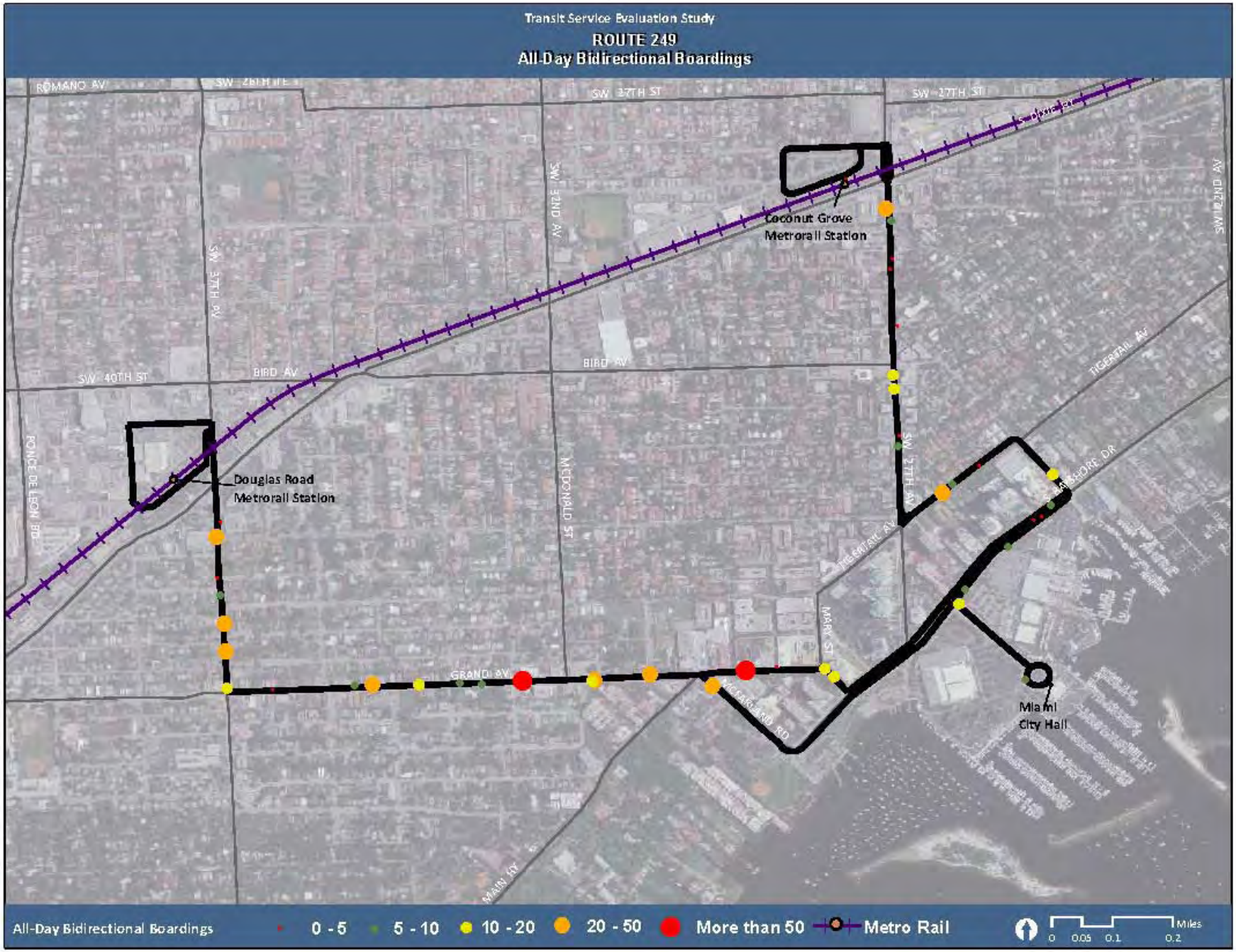
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 248 is a local service that connects the Brickell Key with the Brickell Metromover Station. The route has an average of 150 boardings on a typical weekday.

The performance measures indicate low utilization, with only four passengers per trip, while both the passengers per revenue mile and passengers per revenue hour are at average functionality. An analysis of the boardings and passenger load data indicates that service frequency can be reduced.

Recommendations:

- Reduction in the frequency of service or elimination of the route should be considered.
- Implementation of a shuttle service to the Brickell Key condominiums should be considered in peak service hours.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 249
All-Day Bidirectional Boardings
ROMANO AV
SW 28TH AVE
SW 37TH ST
SW 27TH ST
SW 32ND AV
SW 37TH AV
BIRD AV
SW 40TH ST
PONCE DE LEON BLVD
MCDONALD ST
Douglas Road
Metrorail Station
Coconut Grove
Metrorail Station
SW 27TH AV
TIGERTAIL AV
BAYSHORE DR
SW 2ND AVE
GRAND AV
MARY ST
MAIN HY
Miami
City Hall
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.05 0.1 0.2

Route 249 Coconut Grove Circulator

Route 249 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/20
Route Miles	4
Number of Stops	25/24
Ridership	1,130
Route 249 Performance Measures	
Passengers per Trip	9
Passengers per Revenue Mile	2.6
Passengers per Revenue Hour	29
Farebox Ratio	0.15
Direct Operating Cost per Revenue Mile	$11.3
Direct Operating Cost per Passenger	$4.2
Direct Operating Cost per Trip	$38

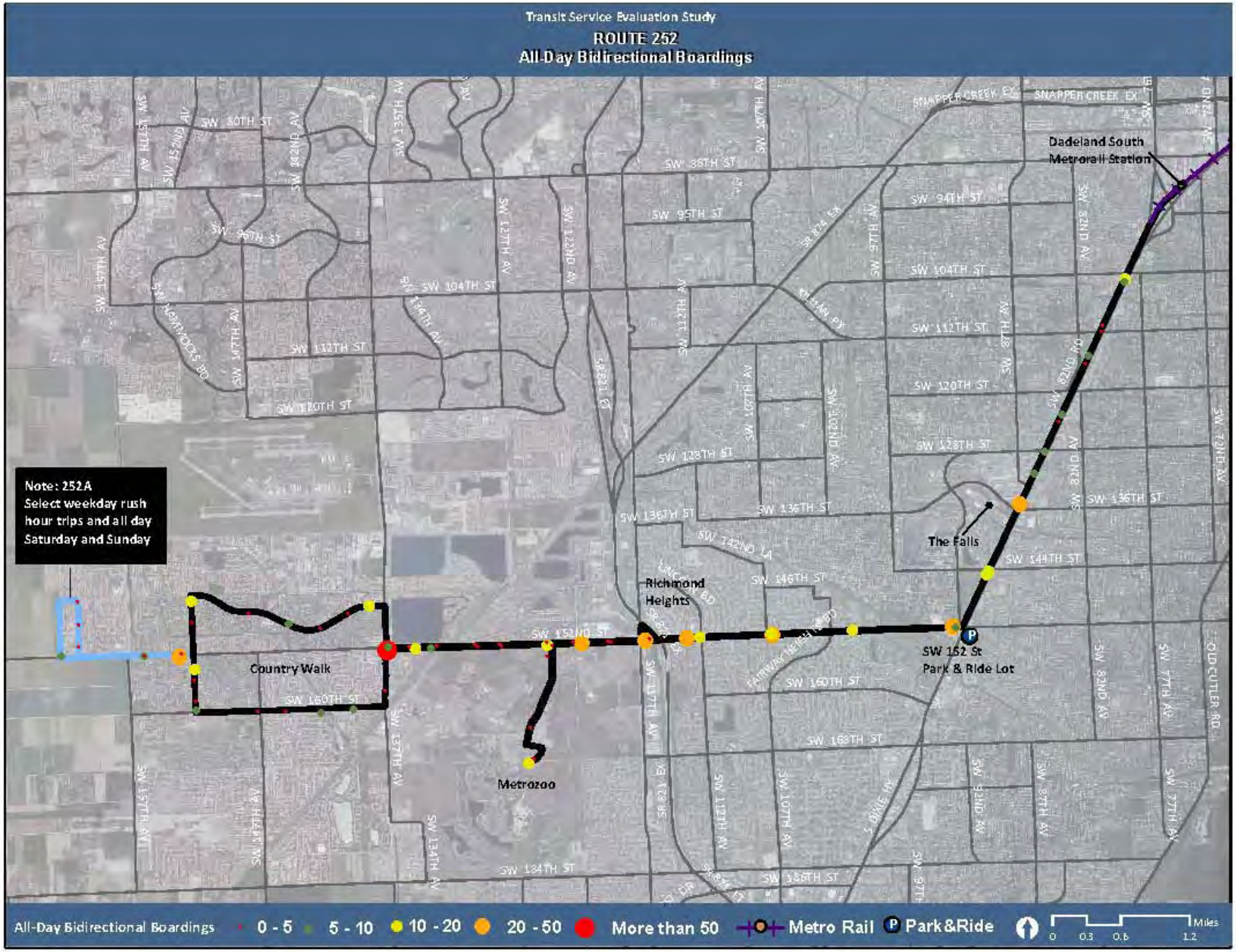
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 249 is a circulator service that connects the City of Miami City Hall and Coconut Grove with Metrorail service at the Douglas Road and Coconut Grove Metrorail Stations. The route has an average of 1,130 boardings on a typical weekday.

An analysis of boardings data and passenger loads indicates that route ridership is consistent throughout the day.

Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 252
All-Day Bidirectional Boardings
Note: 252A
Select weekday rush hour trips and all day Saturday and Sunday
Dadeland South Metrorail Station
The Falls
SW 152 St
Park & Ride Lot
Richmond Heights
Country Walk
Metrozoo
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles
0
0.3
0.6
1.2

Route 252

Route 252 Statistics	
Headway in Minutes (Peak/Off-Peak)	20/60
Route Miles	14
Number of Stops	41/42
Ridership	960
Route 252 Performance Measures	
Passengers per Trip	15
Passengers per Revenue Mile	1.1
Passengers per Revenue Hour	19
Farebox Ratio	0.19
Direct Operating Cost per Revenue Mile	$7.7
Direct Operating Cost per Passenger	$6.8
Direct Operating Cost per Trip	$102

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

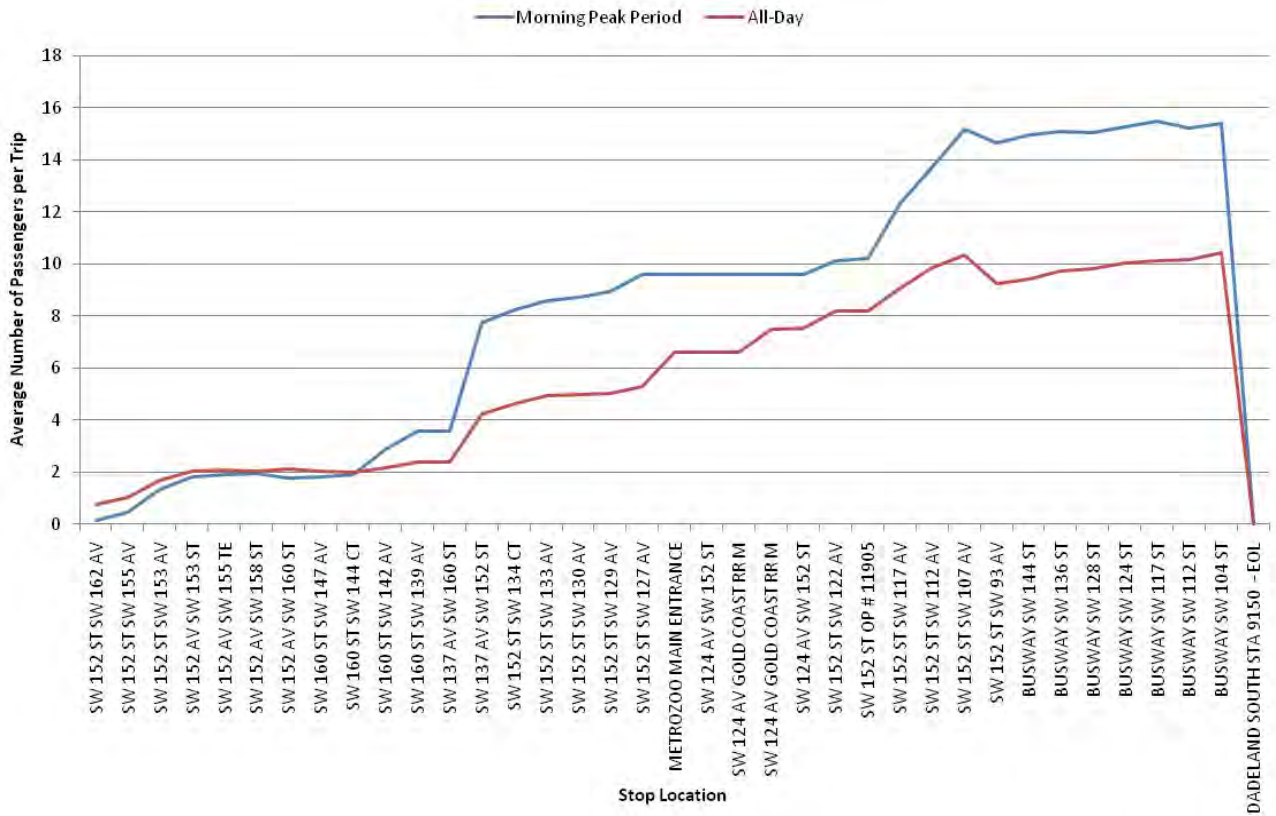
Recommendations:

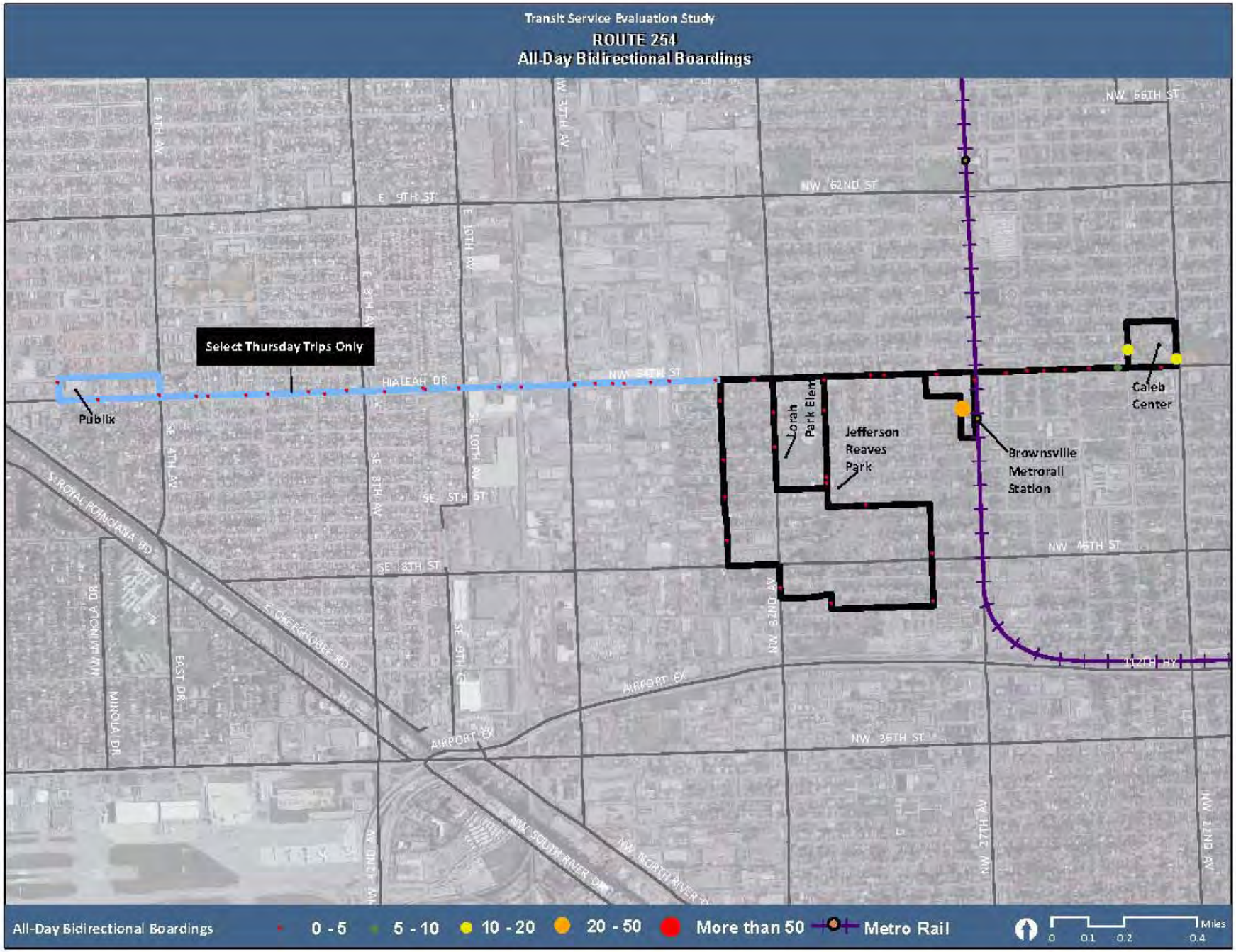
- The ridership data supports the current service. However, this corridor is a suitable candidate for a feeder service to support the Busway routes. A typical trunk-and-feeder type system involves at least one transfer. A corridor-specific analysis with more data is recommended to evaluate origins and destinations of riders.
- Elimination of mid-day trips inside the Zoo Miami property should be considered to reduce route run time.

The average weekday ridership for this route is nearly 1,000. The route is in the bottom 25th percentile in terms of passengers per vehicle mile. As shown in **Figure 46**, the segment west of SW 137th Avenue is the least productive. There are fewer than five passengers in the eastbound vehicle during the morning peak hour period.

The route enters the Zoo Miami property during off peak hours. This route deviation takes seven to eight minutes and generates a total of 25 daily boardings and alightings.

Figure 46: Route 252 Average Weekday EB AM versus Daily Line Load




Transit Service Evaluation Study
ROUTE 254
All-Day Bidirectional Boardings
Select Thursday Trips Only
Publix
Lorah Park Elem
Jefferson Reaves Park
Brownsville Metrorail Station
Caleb Center
HIALEAH DR
NW 54TH ST
NW 62ND ST
NW 66TH ST
NW 46TH ST
NW 38TH ST
E 9TH ST
SE 8TH ST
AIRPORT EX
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.1
0.2
0.4

Route 254 Brownsville Circulator

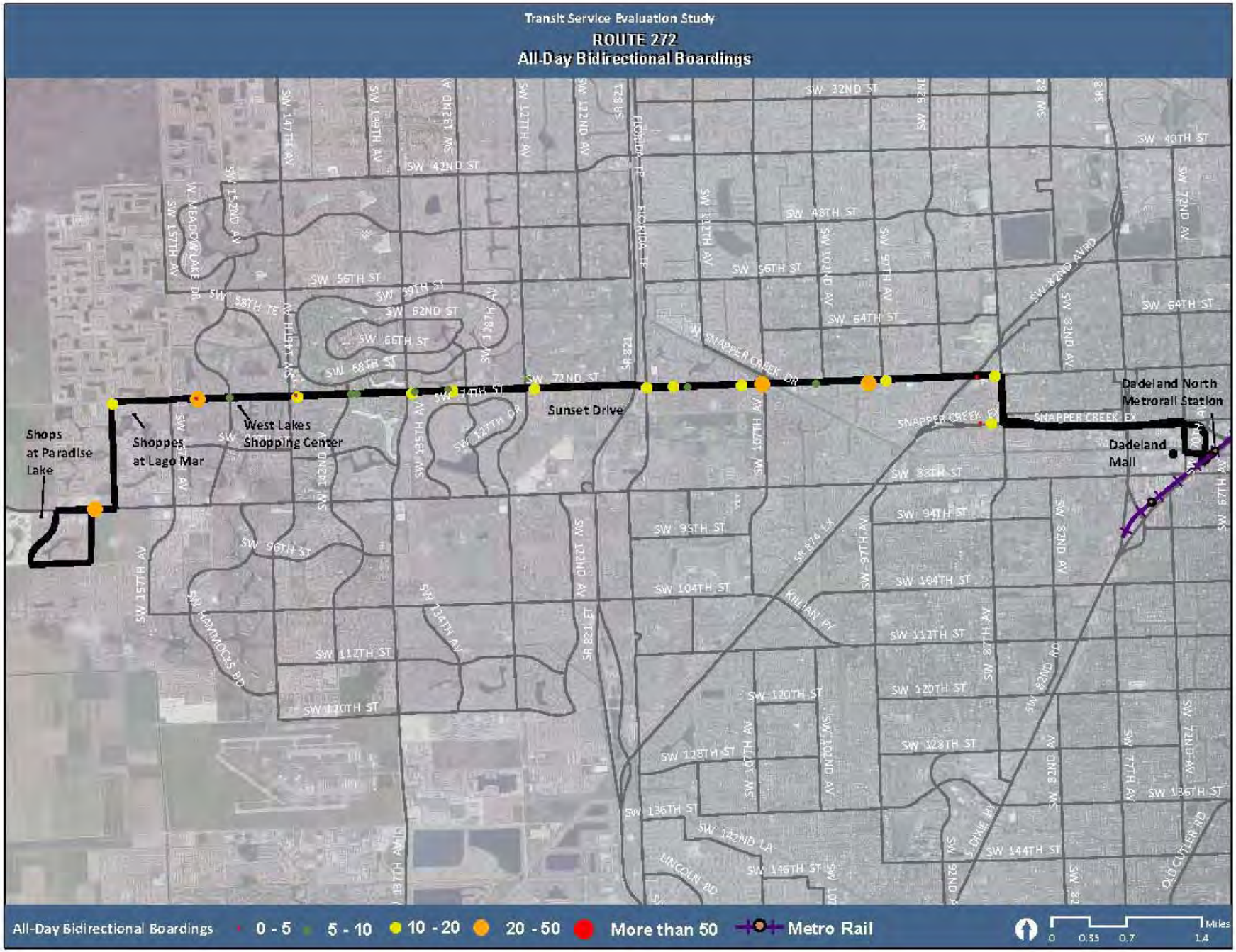
Route 254 Statistics	
Headway in Minutes (Off-Peak)	30
Route Miles	3
Number of Stops	58
Ridership	90
Route 254 Performance Measures	
Passengers per Trip	4
Passengers per Revenue Mile	0.7
Passengers per Revenue Hour	10
Farebox Ratio	0.05
Direct Operating Cost per Revenue Mile	$4.8
Direct Operating Cost per Passenger	$6.9
Direct Operating Cost per Trip	$29

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 254 is a circulator service that connects residential areas with the Brownsville Metrorail Station. The route has an average of 90 boardings on a typical weekday. This is the only route serving community facilities in the Brownsville area.

Recommendations:

- The current service should be maintained to serve community needs.
- Alignment changes or merging with other routes should also be considered to improve route performance.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.


Transit Service Evaluation Study
ROUTE 272
All-Day Bidirectional Boardings
Shops at Paradise Lake
Shoppes at Lago Mar
West Lakes Shopping Center
Sunset Drive
Dadeland North Metrorail Station
Dadeland Mall
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.35
0.7
1.4

Route 272 Sunset KAT

Route 272 Statistics	
Headway in Minutes (Peak)	10
Route Miles	12.5
Number of Stops	16/16
Ridership	540
Route 272 Performance Measures	
Passengers per Trip	9
Passengers per Revenue Mile	0.6
Passengers per Revenue Hour	12
Farebox Ratio	0.08
Direct Operating Cost per Revenue Mile	$8.5
Direct Operating Cost per Passenger	$12.4
Direct Operating Cost per Trip	$106

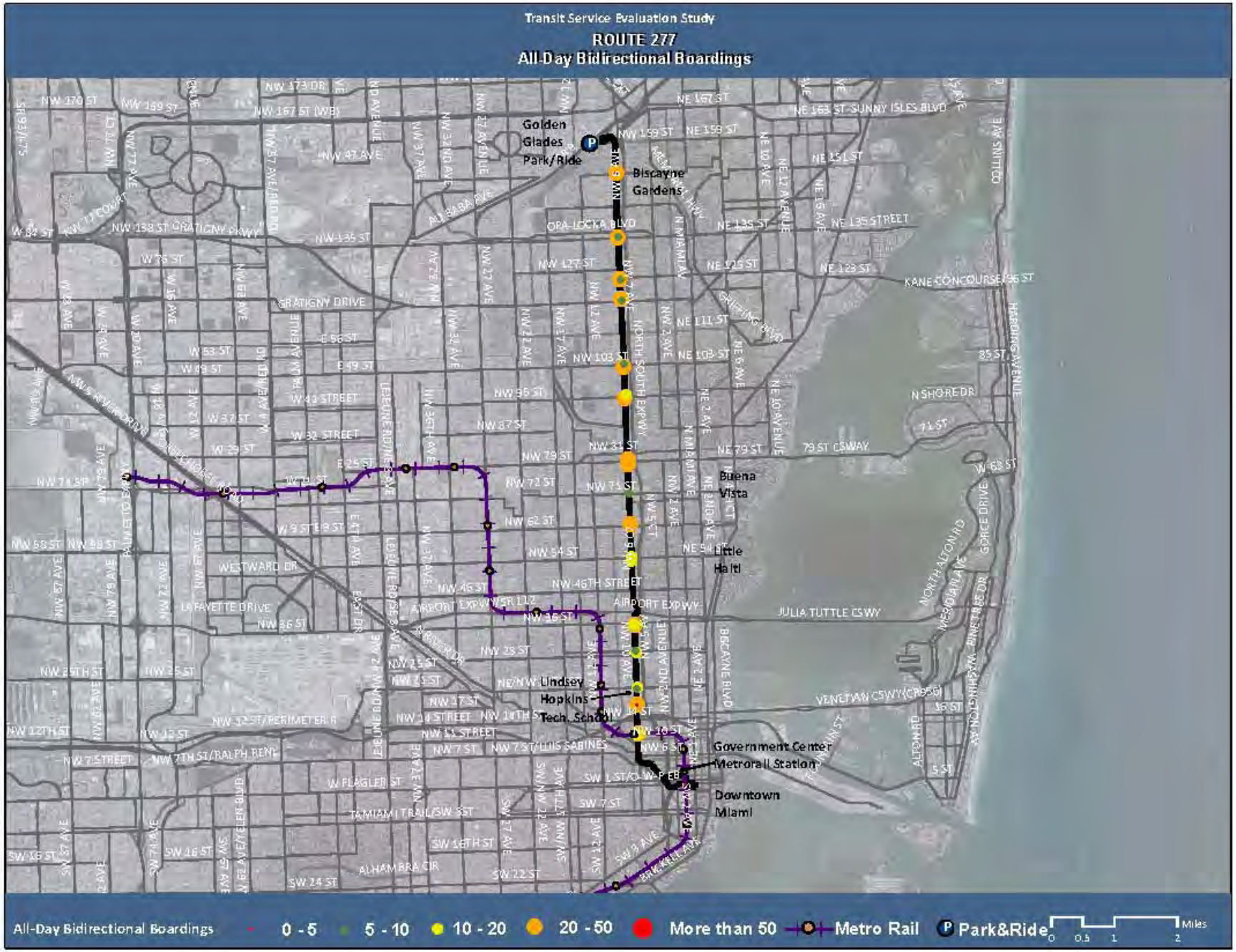
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 272 is an express service that connects the West Kendall Transit Terminal Park-and-Ride in western suburban areas with the Dadeland North Metrorail Station and the US-1 corridor. The route has nearly 540 boardings on a typical weekday.

Route 272 is a premium-service intended to serve both transit-dependent and choice riders during peak hours. The current ridership does not support the frequent service. To increase public awareness of the existing transit service, the County is considering a public information campaign to potentially boost ridership for this route.

Recommendations:

- The recent data collected after the December 2009 service changes to this route should be evaluated. If there is not significant improvement in the ridership, the service could potentially operate with an increased headway.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time, with special consideration around SW 87th Avenue and the Dadeland Mall.


Transit Service Evaluation Study
ROUTE 277
All-Day Bidirectional Boardings
Golden Glades Park/Ride
Biscayne Gardens
Buena Vista
Little Haiti
NE/NW Lindsey Hopkins Tech. School
Government Center Metrorail Station
Downtown Miami
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Miles

Route 277

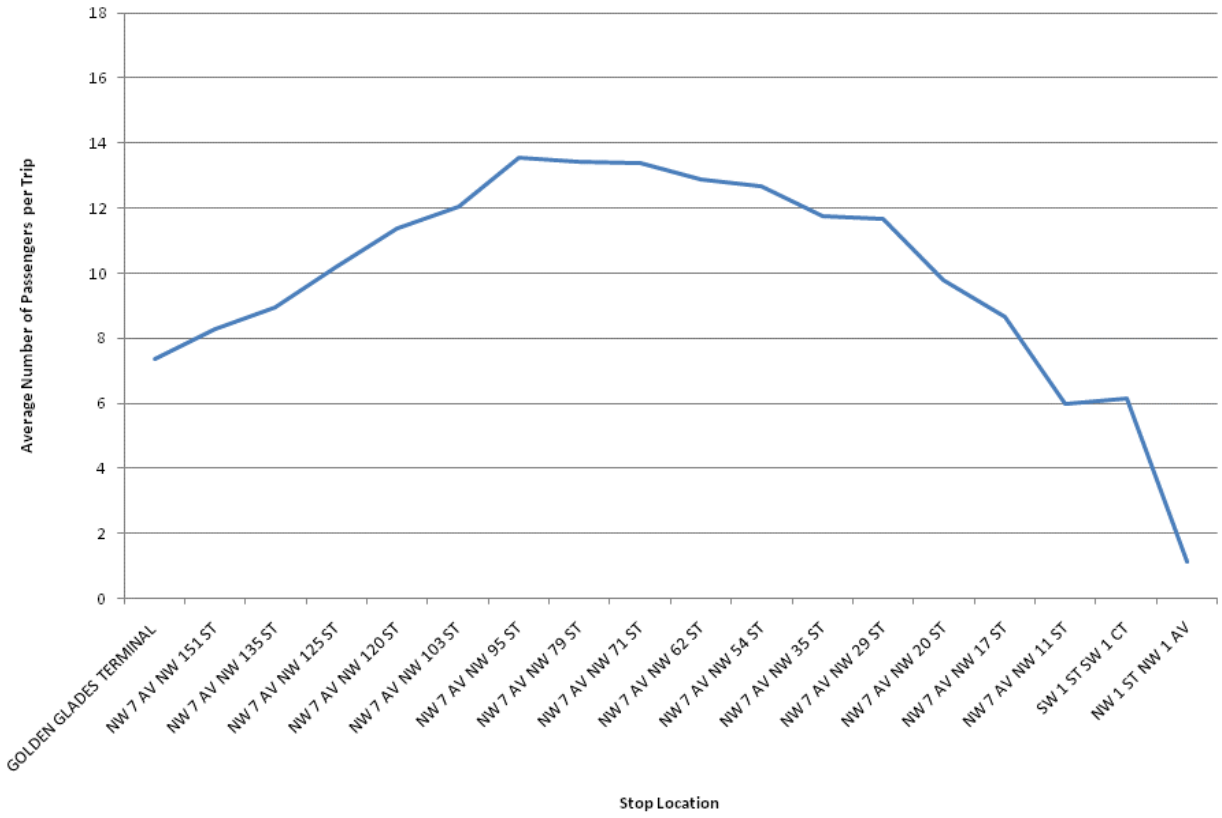
Route 277 Statistics	
Headway in Minutes (Peak)	20
Route Miles	11
Number of Stops (NB/SB)	18/17
Ridership	840
Route 277 Performance Measures	
Passengers per Trip	20
Passengers per Revenue Mile	1.4
Passengers per Revenue Hour	25
Farebox Ratio	0.27
Direct Operating Cost per Revenue Mile	$6.9
Direct Operating Cost per Passenger	$4.5
Direct Operating Cost per Trip	$89

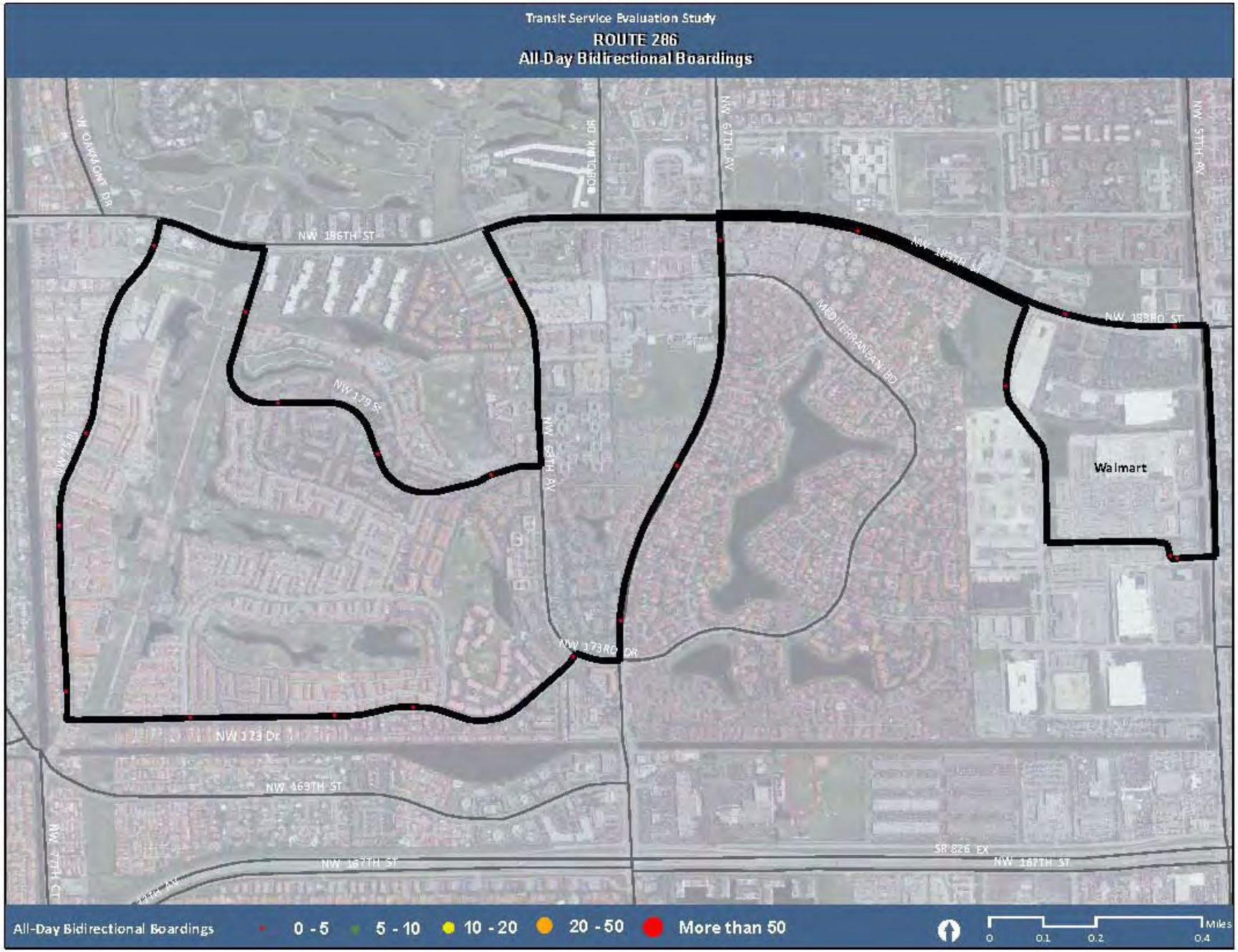
Recommendations:

- The current service should be maintained.
- Bus stops with low activity should be consolidated or eliminated to reduce route run time.

Route 277 attracts nearly 850 riders on a typical weekday. The route operates well based on the route performance measures. Similar to Route 77, the passenger loads for this route also peak around NW 79th Street. **Figure 47** provides an illustration of the southbound morning peak period average passenger load.

Figure 47: Route 277 Average Weekday SB AM Peak Period Line Load




Transit Service Evaluation Study
ROUTE 286
All-Day Bidirectional Boardings
NW 186TH ST
NW 183RD ST
NW 179 ST
NW 173RD DR
NW 173 Dr
NW 169TH ST
NW 167TH ST
SR 826 EX
NW 167TH ST
MEDITERRANEAN BD
Walmart
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0
0.1
0.2
0.4

Route 286 North Point Circulator

Route 286 Statistics	
Headway in Minutes (Peak/Off-Peak)	24/48
Route Miles	4
Number of Stops	23
Ridership	25
Route 286 Performance Measures	
Passengers per Trip	5
Passengers per Revenue Mile	N/A
Passengers per Revenue Hour	N/A
Farebox Ratio	0.03
Direct Operating Cost per Revenue Mile	$11.7
Direct Operating Cost per Passenger	$54.8
Direct Operating Cost per Trip	$261

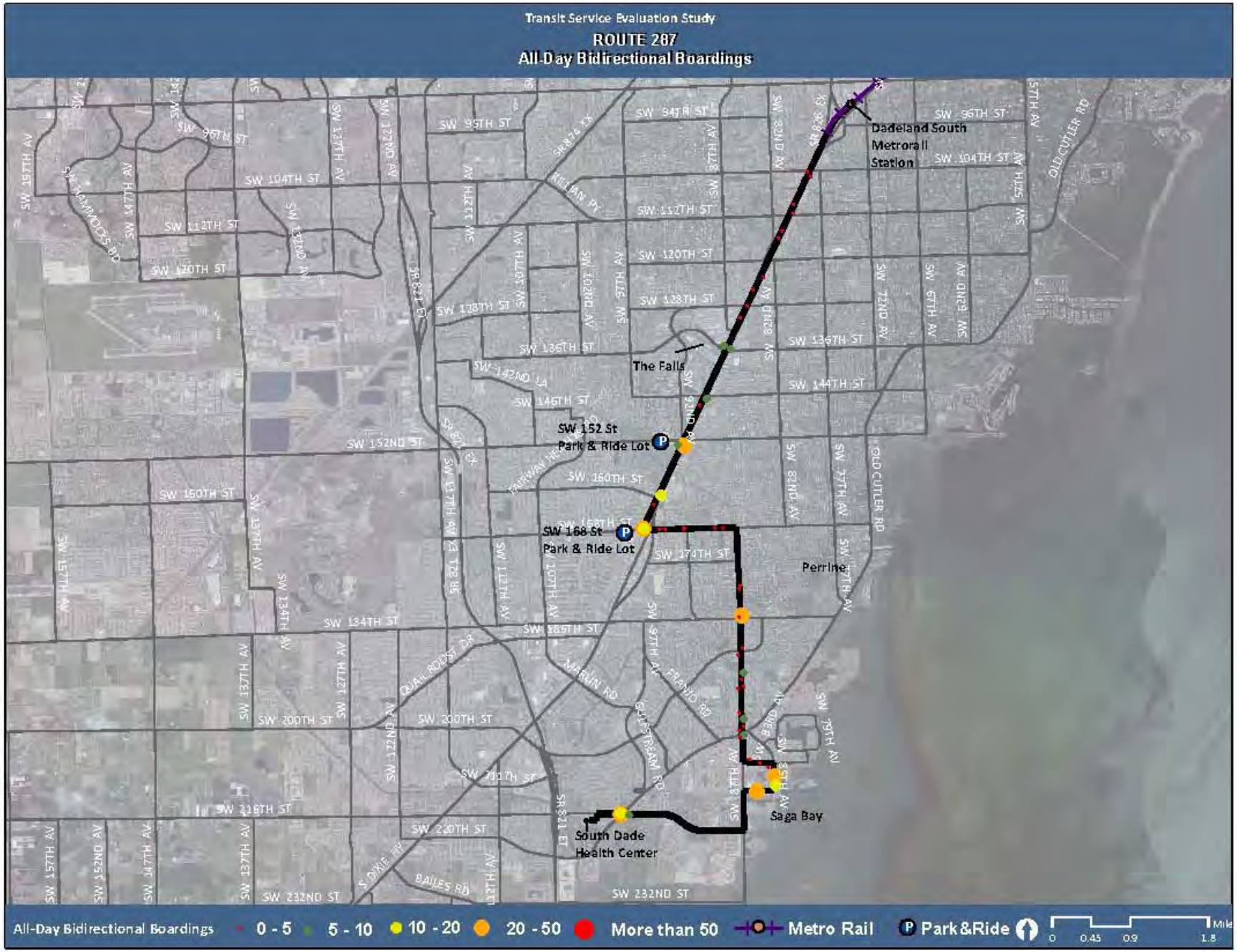
Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.
N/A = Not Available

.

Recommendations:

- Elimination of this route should be considered.

Route 286 is a circulator service that connects residential areas in Miami Gardens with Wal-Mart and other community features. The route has an average of 25 boardings on a typical weekday. The route performs poorly based on performance measures.


Transit Service Evaluation Study
ROUTE 287
All-Day Bidirectional Boardings
Dadeland South Metrorail Station
The Falls
SW 152 St Park & Ride Lot
SW 168 St Park & Ride Lot
Perrine
Saga Bay
South Dade Health Center
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Park&Ride
Mile
0
0.45
0.9
1.8

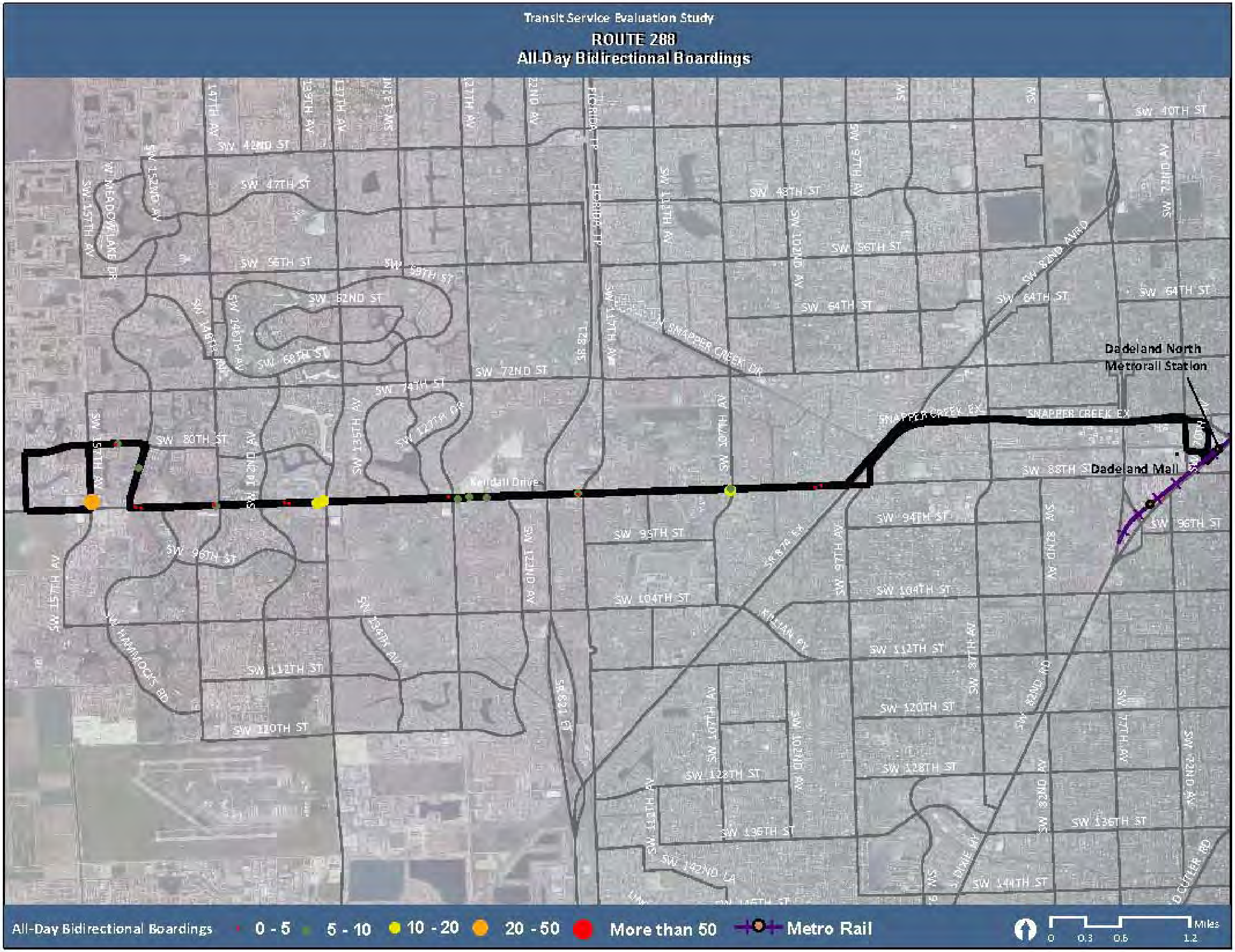
Route 287

Route 287 Statistics	
Headway in Minutes (Peak)	30
Route Miles	12
Number of Stops	29/26
Ridership	420
Route 287 Performance Measures	
Passengers per Trip	18
Passengers per Revenue Mile	1.3
Passengers per Revenue Hour	24
Farebox Ratio	0.20
Direct Operating Cost per Revenue Mile	$7.8
Direct Operating Cost per Passenger	$5.1
Direct Operating Cost per Trip	$93

The average weekday ridership for this route is about 420 passengers. Similar to Route 52, this route serves as a local route to various neighborhoods along the US-1 corridor and then as a premium route on the Busway providing connection to the Dadeland South Metrorail Station. An analysis of passenger loads indicates that on an average there are fewer than nine passengers in the vehicle before it enters the Busway. Most of the route activity occurs on the Busway. Route 70 also operates in the same vicinity.

Recommendations:

- Consolidation of this route with Route 70 should be considered. Such consolidation will require alignment changes to Route 70. Route 70 can serve as the feeder route to the Busway, connecting southeastern communities with the Busway.


Transit Service Evaluation Study
ROUTE 288
All-Day Bidirectional Boardings
Dadeland North Metrorail Station
Dadeland Mall
Kendall Drive
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0 0.3 0.6 1.2

Route 288

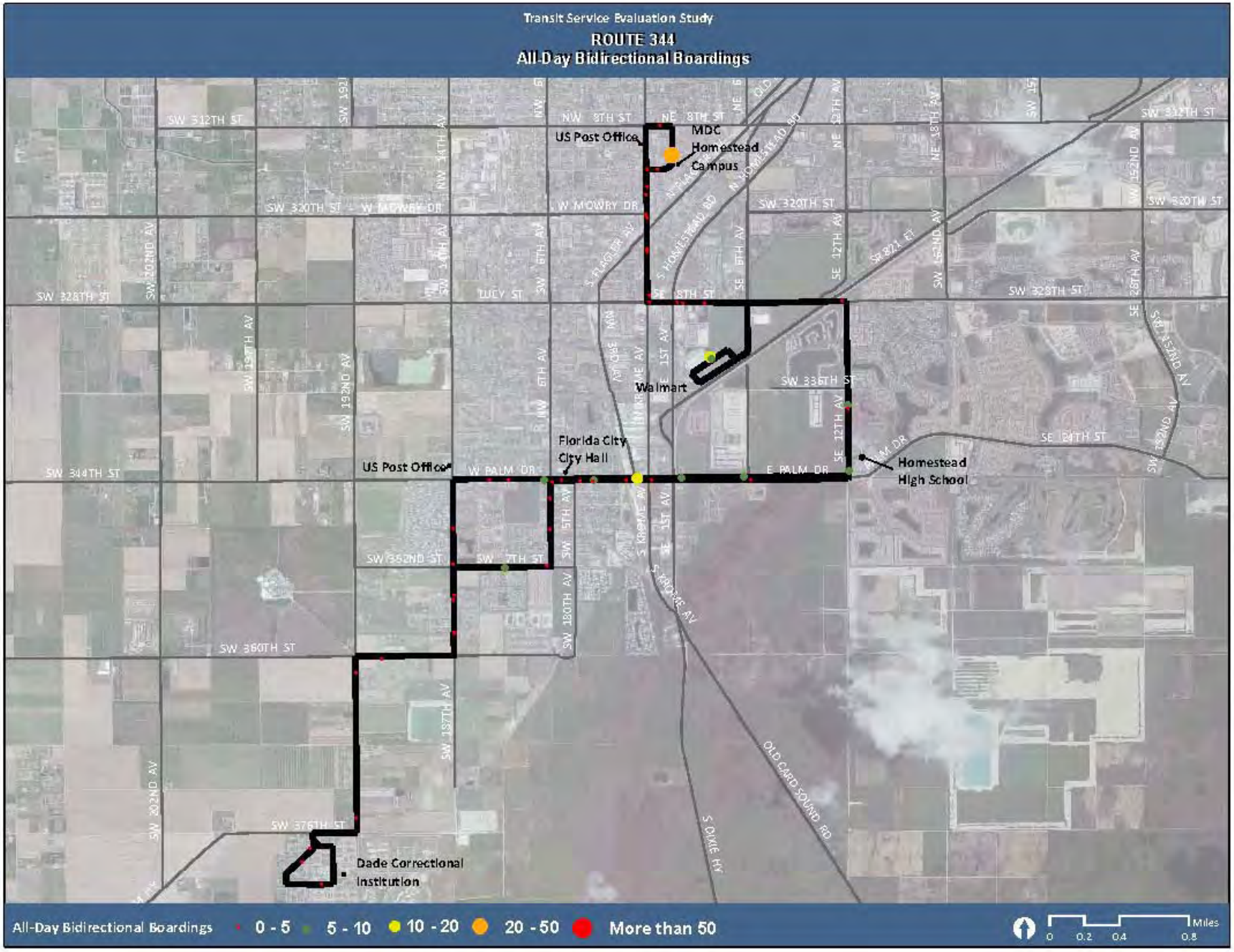
Route 288 Statistics	
Headway in Minutes (Peak)	15
Route Miles	11
Number of Stops	14/12
Ridership	310
Route 288 Performance Measures	
Passengers per Trip	12
Passengers per Revenue Mile	0.6
Passengers per Revenue Hour	12
Farebox Ratio	0.13
Direct Operating Cost per Revenue Mile	$4.5
Direct Operating Cost per Passenger	$11.6
Direct Operating Cost per Trip	$136

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 288 is a limited-stop service route that connects the West Kendall Transit Terminal with Dadeland North Metrorail Station via Kendall Drive and Snapper Creek Expressway. It has an average of 310 boardings on a typical weekday. The boardings data indicated nearly 70 percent and 30 percent directional splits for peak and off-peak directions, respectively. The MPO, with MDT, FDOT, and the Department of Public Works is working on implementation of the Kendall Cruiser route along this corridor, a limited stop express service operating on diesel/electric hybrid vehicles.

Recommendations:

- Route 288 should be further promoted to highlight amenities and infrastructure available for this route.


Transit Service Evaluation Study
ROUTE 344
All-Day Bidirectional Boardings
US Post Office
MDC
Homestead
Campus
Walmart
Florida City
City Hall
US Post Office
Homestead
High School
Dade Correctional
Institution
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Miles
0
0.2
0.4
0.8

Route 344

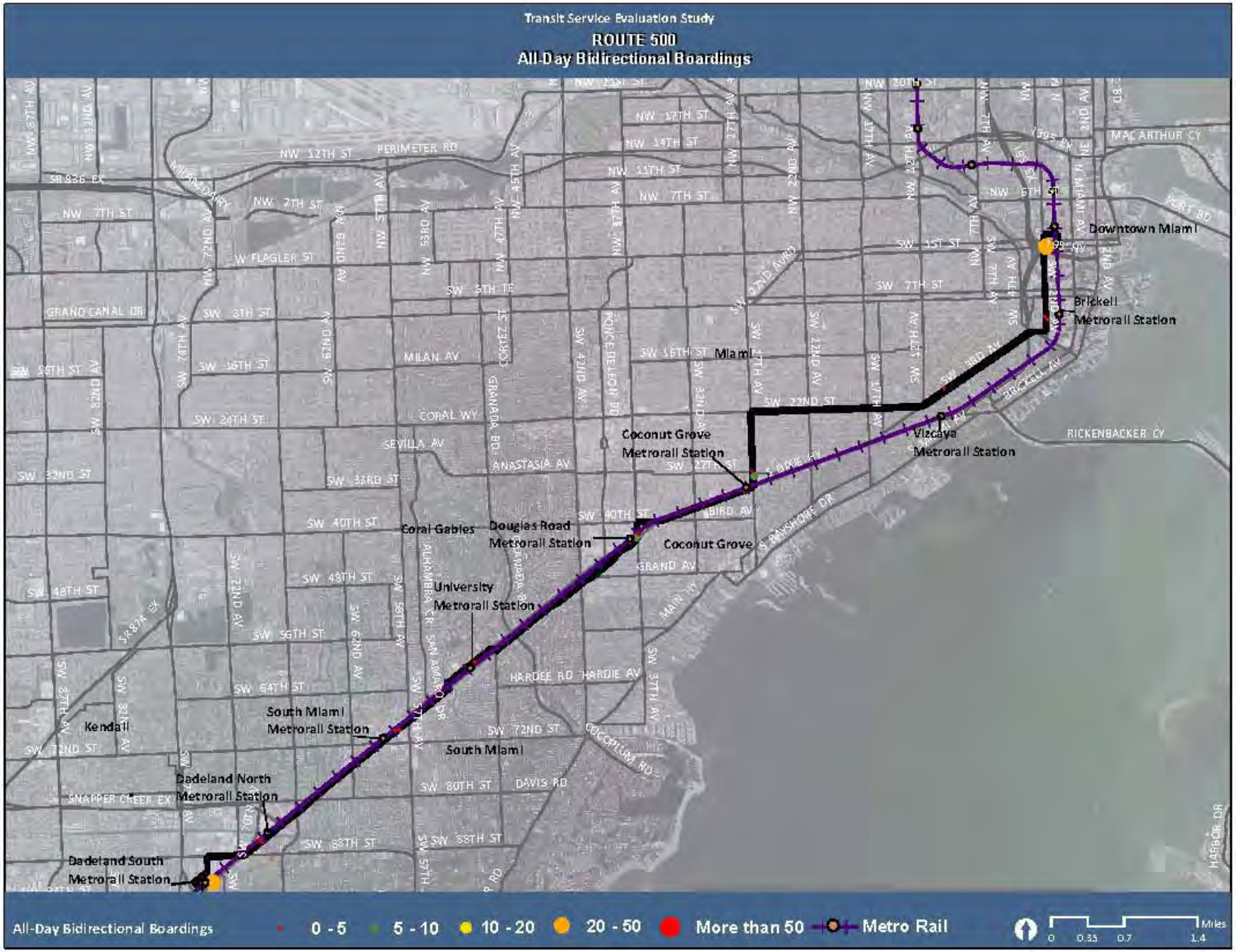
Route 344 Statistics	
Headway in Minutes (Peak/Off-Peak)	60/60
Route Miles	10
Number of Stops	30/35
Ridership	160
Route 344 Performance Measures	
Passengers per Trip	7
Passengers per Revenue Mile	0.7
Passengers per Revenue Hour	14
Farebox Ratio	0.13
Direct Operating Cost per Revenue Mile	$7.3
Direct Operating Cost per Passenger	$8.4
Direct Operating Cost per Trip	$57

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.

Route 344 is a local service that connects residential areas in Florida City with various community services. The route has nearly 164 boardings on a typical weekday. The route performs poorly based on performance measures.

Recommendations:

- Elimination of this route should be considered.


Transit Service Evaluation Study
ROUTE 500
All-Day Bidirectional Boardings
Downtown Miami
Brickell
Metrorail Station
Miami
Coconut Grove
Metrorail Station
Vizcaya
Metrorail Station
Coral Gables
Douglas Road
Metrorail Station
Coconut Grove
University
Metrorail Station
South Miami
Metrorail Station
South Miami
Kendall
Dadeland North
Metrorail Station
Dadeland South
Metrorail Station
MACARTHUR CY
RICKENBACKER CY
All-Day Bidirectional Boardings
0 - 5
5 - 10
10 - 20
20 - 50
More than 50
Metro Rail
Miles
0
0.35
0.7
1.4

Route 500 Midnight Owl - Night Services

Route 500 Statistics	
Headway in Minutes (Off-Peak)	60
Route Miles	N/A
Number of Stops	11/11
Ridership	80
Route 500 Performance Measures	
Passengers per Trip	8
Passengers per Revenue Mile	0.7
Passengers per Revenue Hour	16
Farebox Ratio	N/A
Direct Operating Cost per Revenue Mile	N/A
Direct Operating Cost per Passenger	N/A
Direct Operating Cost per Trip	N/A

Highlighting Indicates that a performance measure is in the bottom 25th percentile of MDT routes reviewed.
N/A – Not Available

Route 500 is a local night service that follows the Metrorail service alignment in the night hours. This route is one of only two services for residents working night shifts. It has an average of 80 boardings on a typical weekday.

Recommendations:

- This service should be maintained.
- Further review of night services should be conducted to evaluate the feasibility of combining the Route 246 and Route 500 night services or to reduce time frequencies to make these services more efficient.

CORRIDOR ANALYSIS

Similar to the route analyses, the corridor analyses were based on quantifiable performance measures developed from the APC data. Stop level data was used to identify directionality and activity distributions for various time periods of a typical weekday. For corridor level review, performance measures were used to examine groups of routes within a corridor to identify any route overlap or any areas of potential ridership where service is not currently provided.

The major corridors analyzed in this section include:

- Biscayne Corridor
- Flagler Corridor
- NE 2nd Avenue Corridor
- South Miami-Dade US 1 Busway Corridor
- State Road 7 Corridor
- North Corridor/N 27th Street Corridor

Depictions of loadings by stop for each route and stop are provided for each corridor. Recommendations based on the corridor analysis and previous individual route analyses are also provided.

Biscayne Corridor

The Biscayne Corridor runs along the east coast of Miami-Dade County starting in Downtown Miami and reaching to Aventura Mall in North Miami. Four routes operate in the Biscayne Corridor. The following routes run along Biscayne Boulevard:

- Route 3 – Runs on Biscayne Boulevard from Downtown Miami (Downtown Bus Terminal) to Aventura Mall Transit Hub. It serves the 163rd Street Mall Transit Hub and Aventura Mall Transit Hub.
- Route 16 – Runs on Biscayne Boulevard from the Adrienne Arsht Center Station/Bus Terminal north to NE 125th Street and serves the 163rd Street Mall Transit Hub. (Data for Route 16 were unavailable).
- Route 62 – Runs between Hialeah and Liberty City via NW 62nd Street and serves Miami Beach through four trips each in the weekday AM and PM peak periods via Biscayne Boulevard and across the Julia Tuttle Causeway.
- Route 93 – Runs on Biscayne Boulevard from Downtown Miami (Downtown Bus Terminal) to Aventura Mall Transit Hub and is a limited stop route.

Maps of these specific routes along the corridor can be located in the individual route analysis in this report. Routes in the Biscayne Corridor perform well according to the measures identified. The Biscayne Corridor is an excellent candidate for future BRT/EBS due to the high ridership within the corridor. The average weekday ridership for this corridor is more than 11,000. Specific boardings and performance measure data was unavailable for Route 16; therefore, figures have not been included for Route 16 in this analysis. **Table 10** provides a summary of the performance measures for Routes 3, 62, and 93.

Table 10: Biscayne Corridor Performance Measures

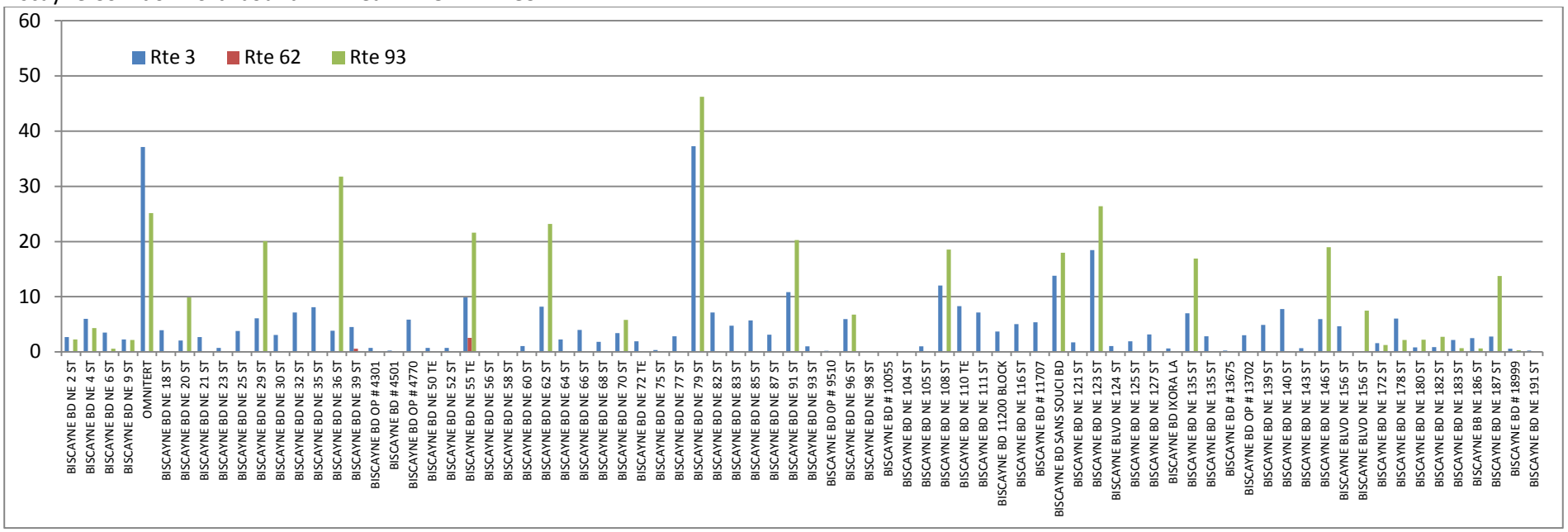
Performance Measures	Route 3	Route 62	Route 93
Passenger/Trip	68	25	47
Passenger/Vehicle Mile	3.0	2.6	2.6
Passenger/Revenue Hour	35	32	35
FareBox Ratio	0.5	0.3	0.4
Ridership	7,580	3,660	3,490
Direct Operating Cost/Revenue Mile	$9.3	$10.9	$8.4
Direct Operating Cost/Passenger	$2.6	$2.7	$2.8
Direct Operating Cost/Trip	177	66	134
Number of Stops (Bidirectional)	212	140	72
Daily Boardings/ Stop	36	26	48

The routes in this corridor operate efficiently. As illustrated in the north and southbound boarding charts provided below, activity along the corridor is consistent at most stops, with a number of stops showing significant activity, including NE 36th Street, NE 79th Street, NE 123rd Street, and the Omnitert/Omni Metromover Station, which may be due in part to transfer opportunities. Route 3 has the highest passengers per trip and lowest operating cost per passenger.

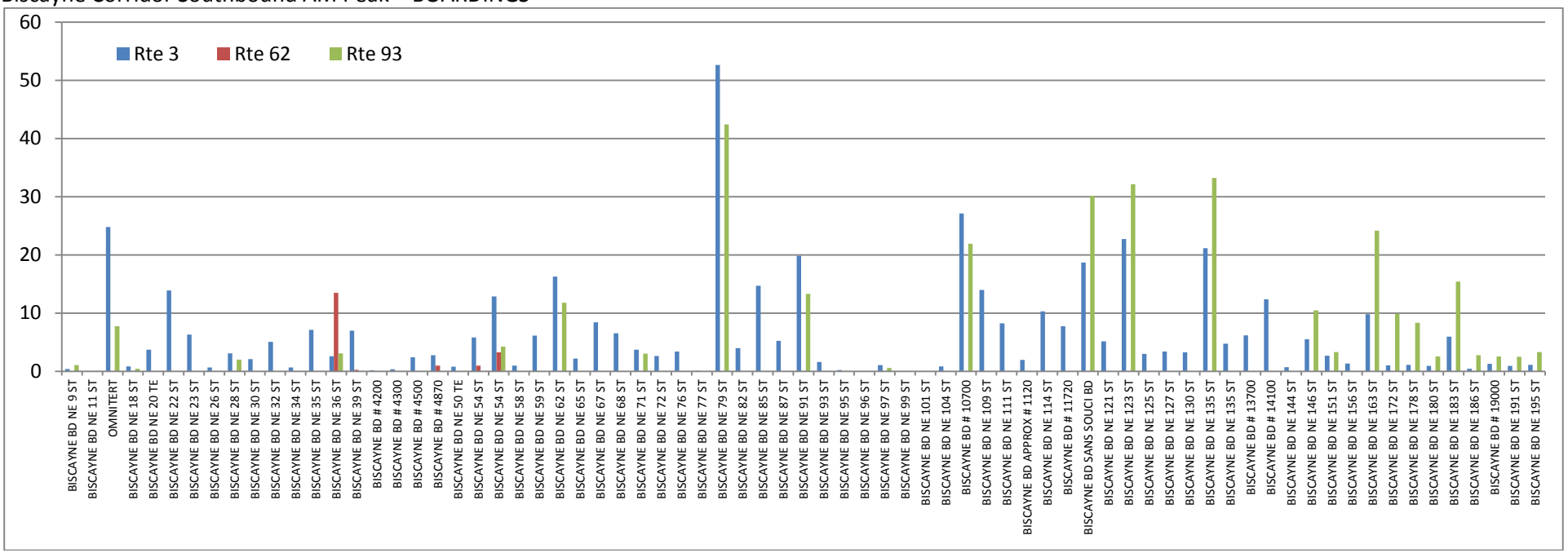
Recommendations:

As mentioned in the evaluation of Route 62, Route 62 services should be consolidated with those of Routes 3 and 93, given transfer opportunities at the Martin Luther King, Jr. Metrorail Station and along Biscayne Boulevard. This route alteration would aid in the development of a trunk-and-feeder system, a concept that it described in detail in the *System Wide Recommendations* section of this report, provided Routes 3 and 93 function as the trunk routes along Biscayne Boulevard.

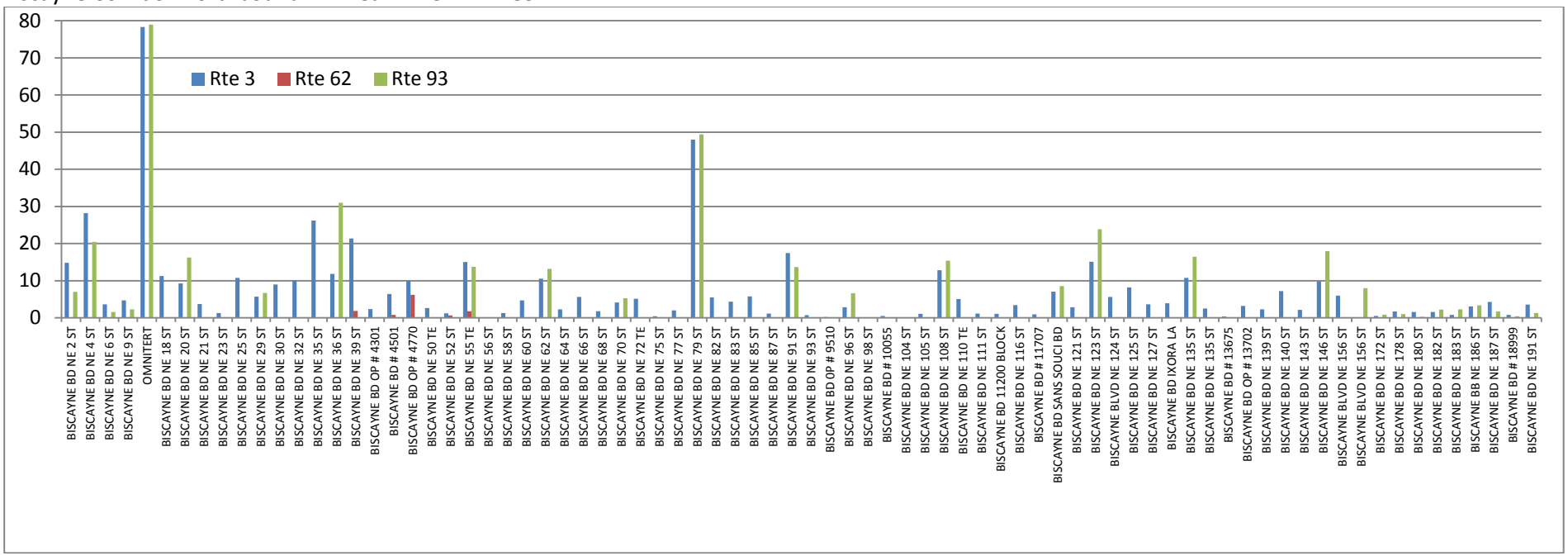
Biscayne Corridor Northbound AM Peak – BOARDINGS



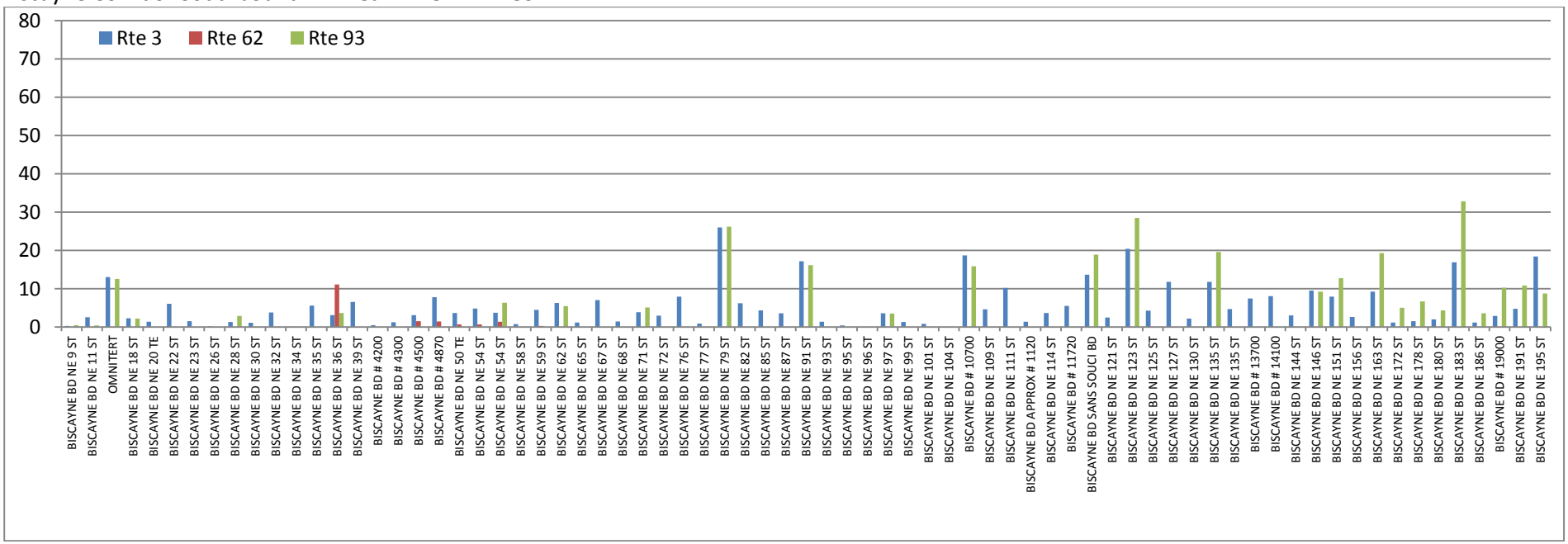
Biscayne Corridor Southbound AM Peak – BOARDINGS



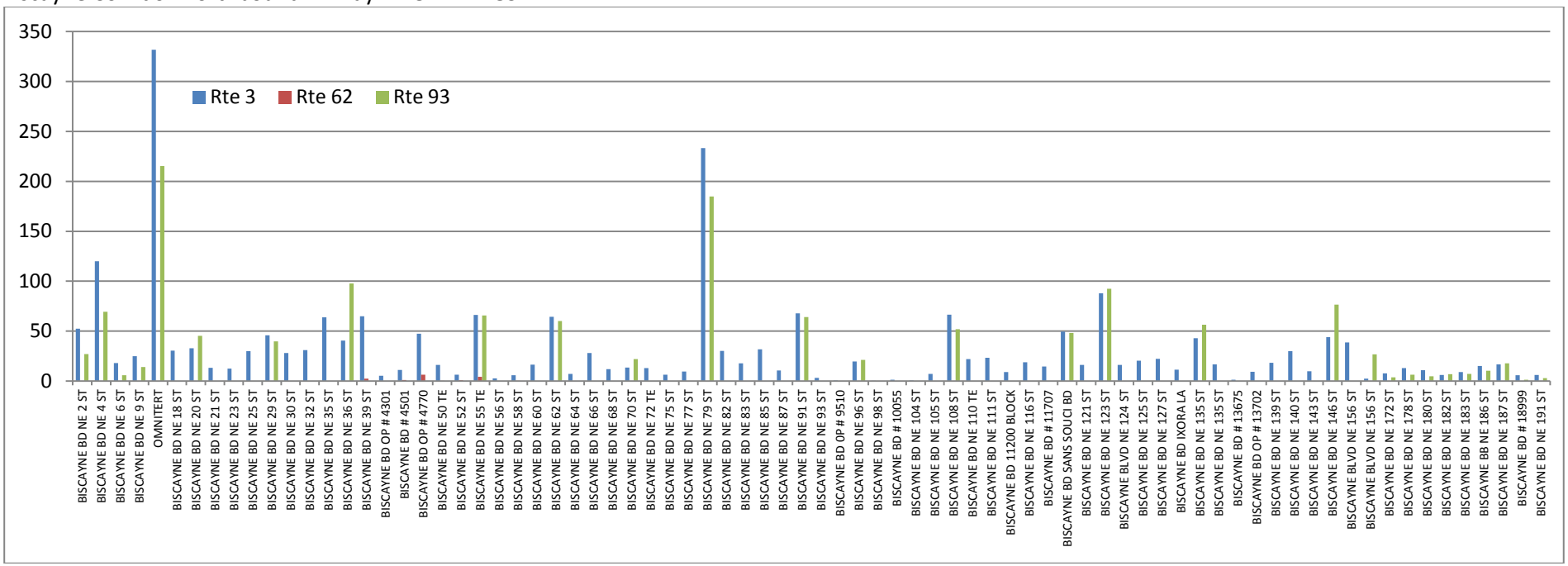
Biscayne Corridor Northbound PM Peak – BOARDINGS



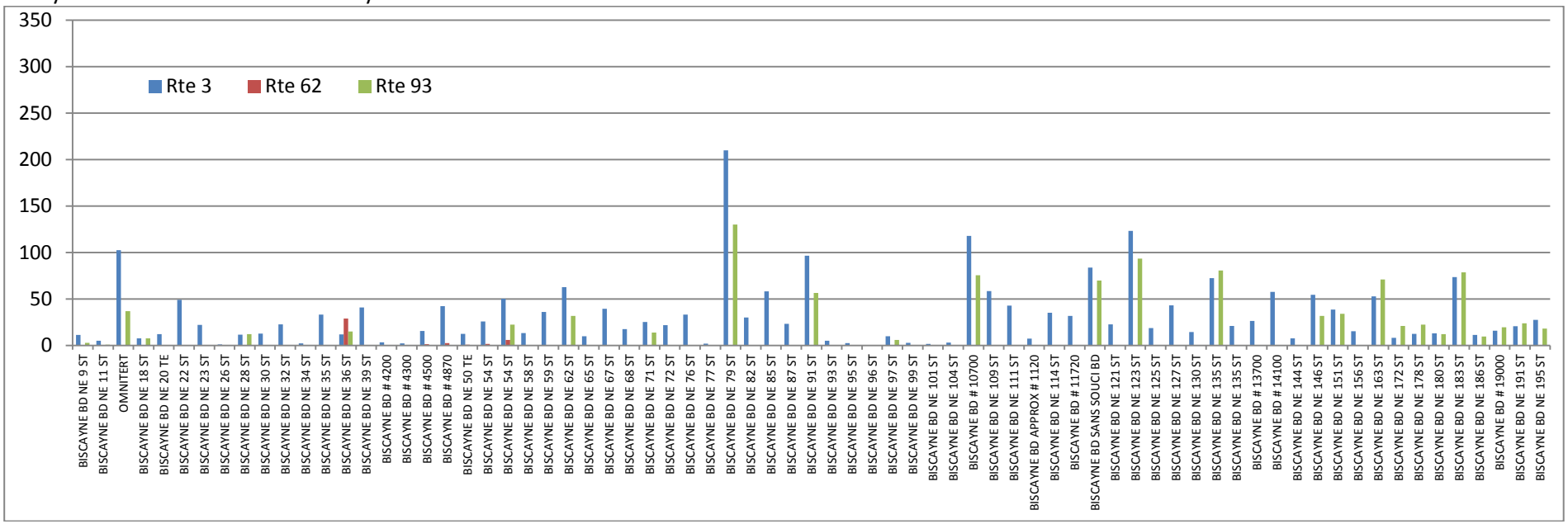
Biscayne Corridor Southbound PM Peak – BOARDINGS



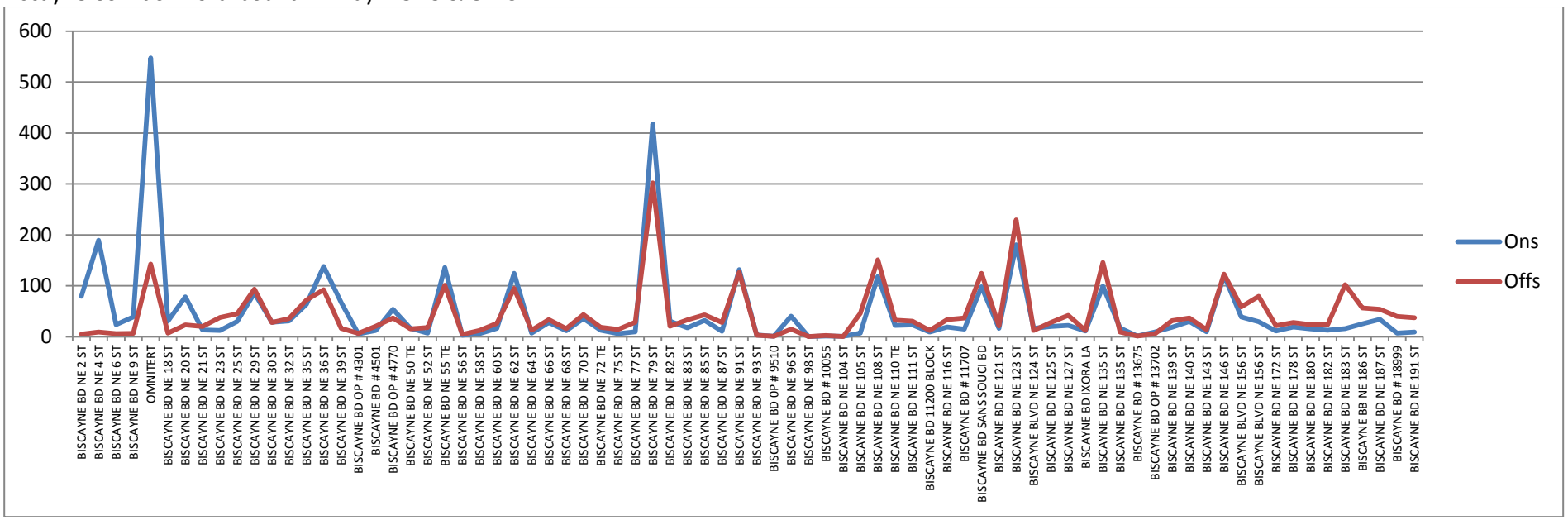
Biscayne Corridor Northbound All Day – BOARDINGS



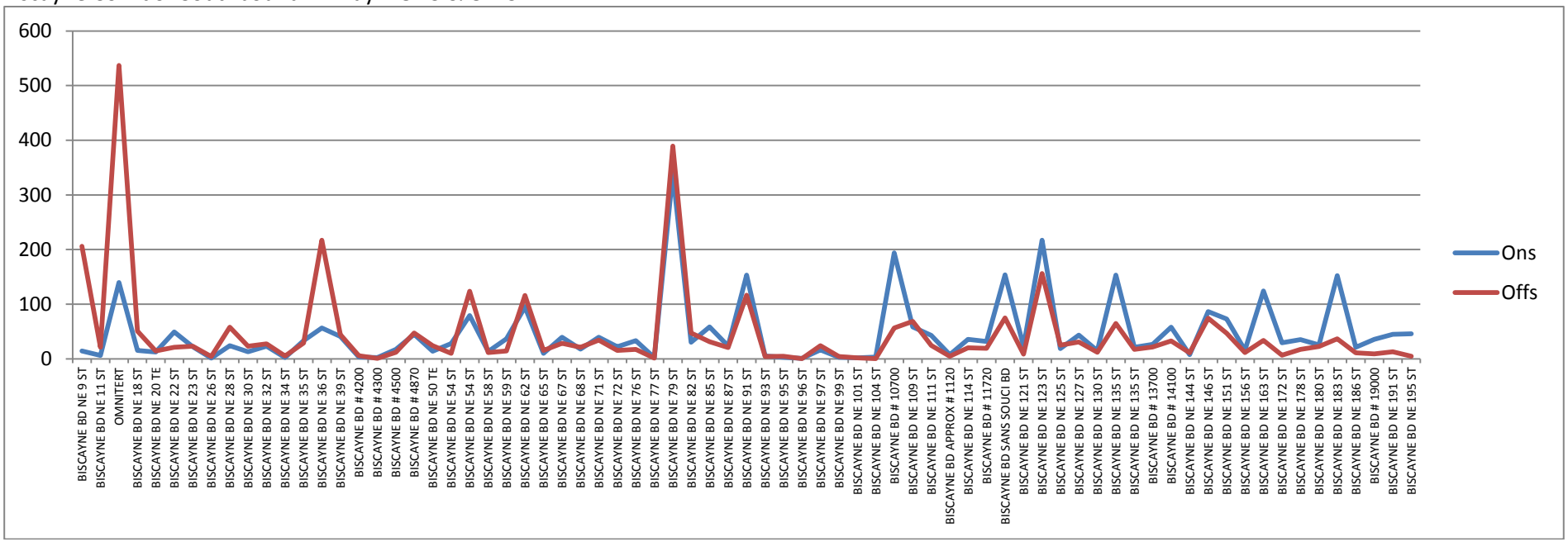
Biscayne Corridor Southbound All Day – BOARDINGS



Biscayne Corridor Northbound All Day – ONS & OFFS



Biscayne Corridor Southbound All Day – ONS & OFFS



Flagler Corridor

The Flagler Corridor runs from Sweetwater, Fountainbleu, and East Coral Gables east to Downtown Miami, located between NW 1st Street and SW 1st Street. Four routes operate in the Flagler Corridor: Routes 6, 11, 51, and 207/208. Route 7 also serves a portion of Flagler Street but does not significantly overlap with these four services. The Flagler Corridor has been studied for potential implementation of a premium transit service.

- Route 6 – Runs primarily on Flagler Street, NW 14th Street, and Miami Avenue.
- Route 11 – Runs primarily on Flagler Street.
- Route 51 – Limited stop service that operates on Flagler Street between SW 137th Avenue and the Miami Central Business District (CBD).
- Routes 207/208 – Run clockwise and counter clockwise, respectively, along Flagler Street and SW 7th/8th Street.

Table 11: Flagler Corridor Performance Measures

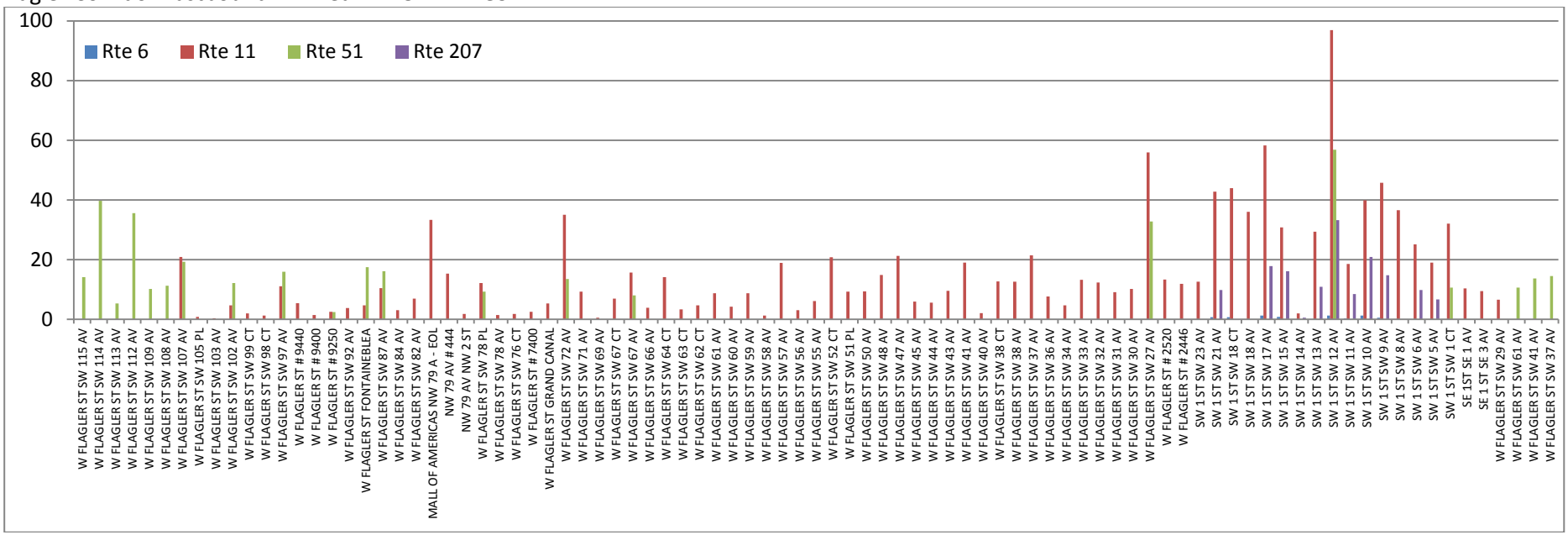
Performance Measures	Route 6	Route 11	Route 51	Route 207	Route 208
Passenger/Trip	34	61	25	36	42
Passenger/Vehicle Mile	2.2	5.1	1.7	5.6	6.2
Passenger/Revenue Hour	28	53	25	56	64
Ridership	690	11,560	2,670	1,760	2,050
FareBox Ratio	0.31	0.57	0.30	0.39	0.39
Direct Operating Cost/Revenue Mile	$9.10	$10.30	$8.30	$12.30	$11.90
Direct Operating Cost/Passenger	$4.24	$1.89	$4.39	$2.18	$1.91
Direct Operating Cost/Trip	$145.25	$115.16	$110.48	$78.12	$79.92
Number of Stops (Bidirectional)	215	174	89	42	39
Daily Boardings/ Stop	3	66	30	42	53

Table 11 provides a summary of the performance measures for Routes 6, 11, 51, 207, and 208. Each of the Routes along Flagler Street is recommended to remain operating in existing conditions due to the substantial passenger traffic along the corridor.

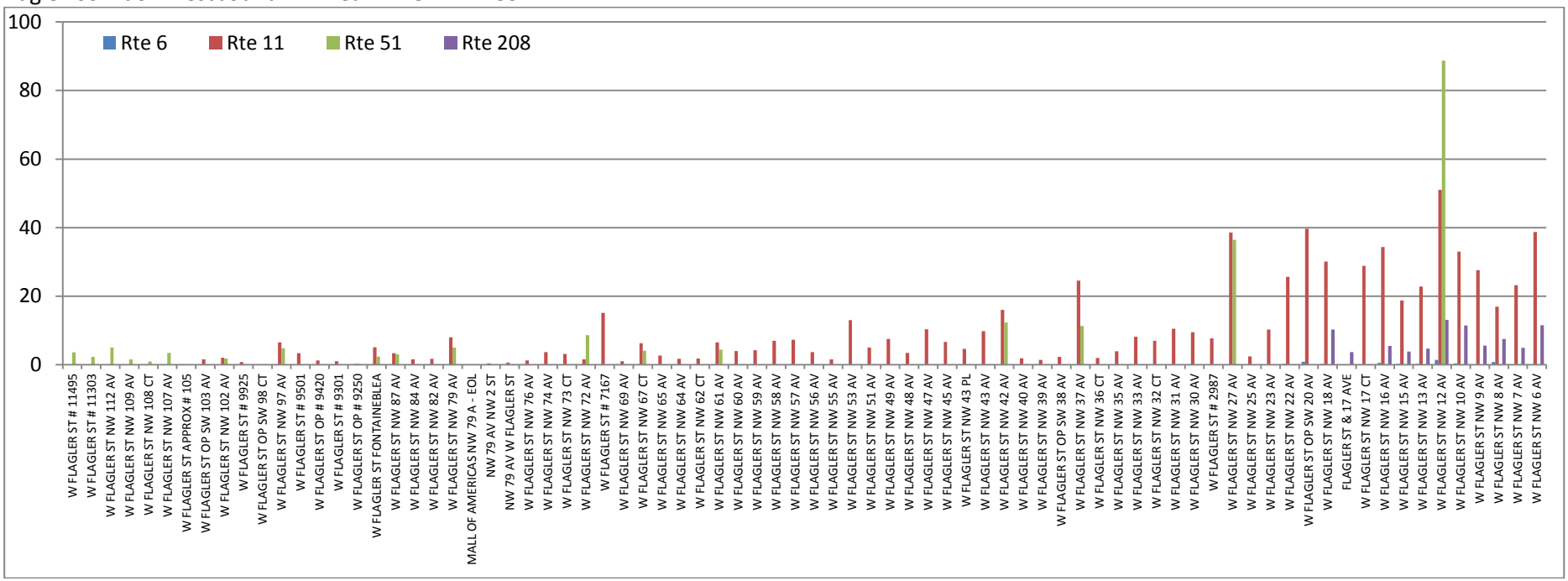
Recommendations:

The high patronage along Flagler Street also creates a viable platform for implementation of a BRT/EBS system in the corridor. Route 11 and the limited stop service on Route 51 should be combined into a premium service to function as the trunk along this heavy traveled corridor. As illustrated in the charts of boardings by time period and route below, activity in the Flagler Corridor is pronounced in the eastern portion of the arterial and high numbers of boardings and alightings are observed at the Mall of Americas at NW 79th Avenue and the SW 1st Street stop.

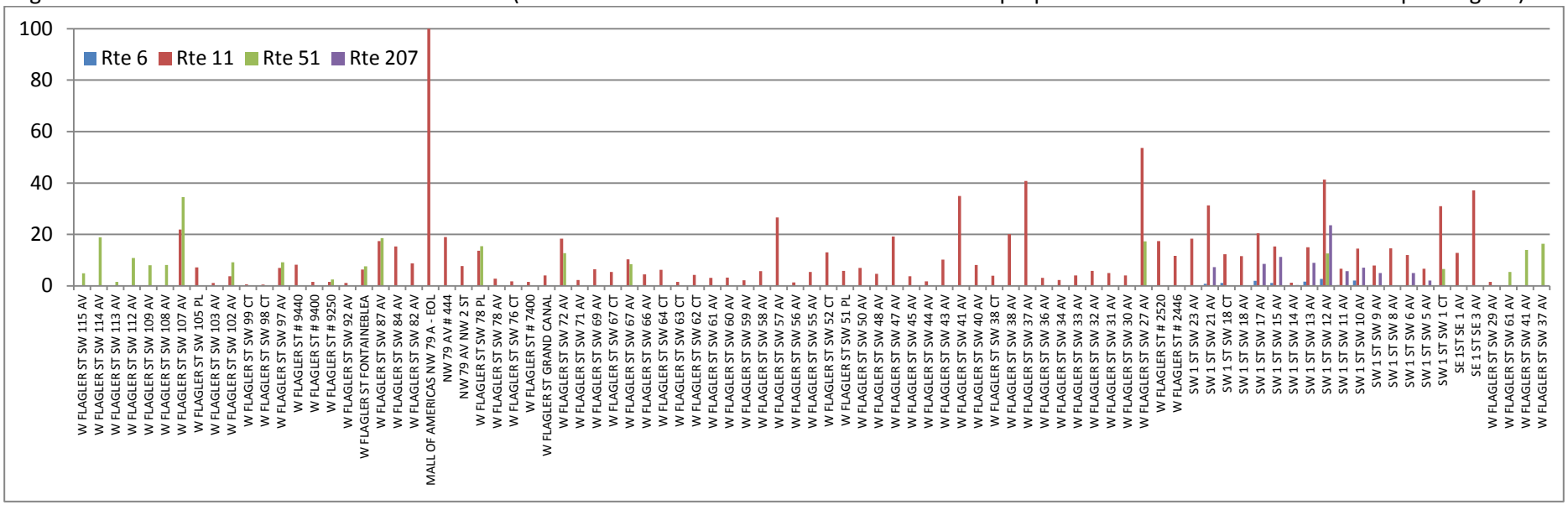
Flagler Corridor Eastbound AM Peak – BOARDINGS



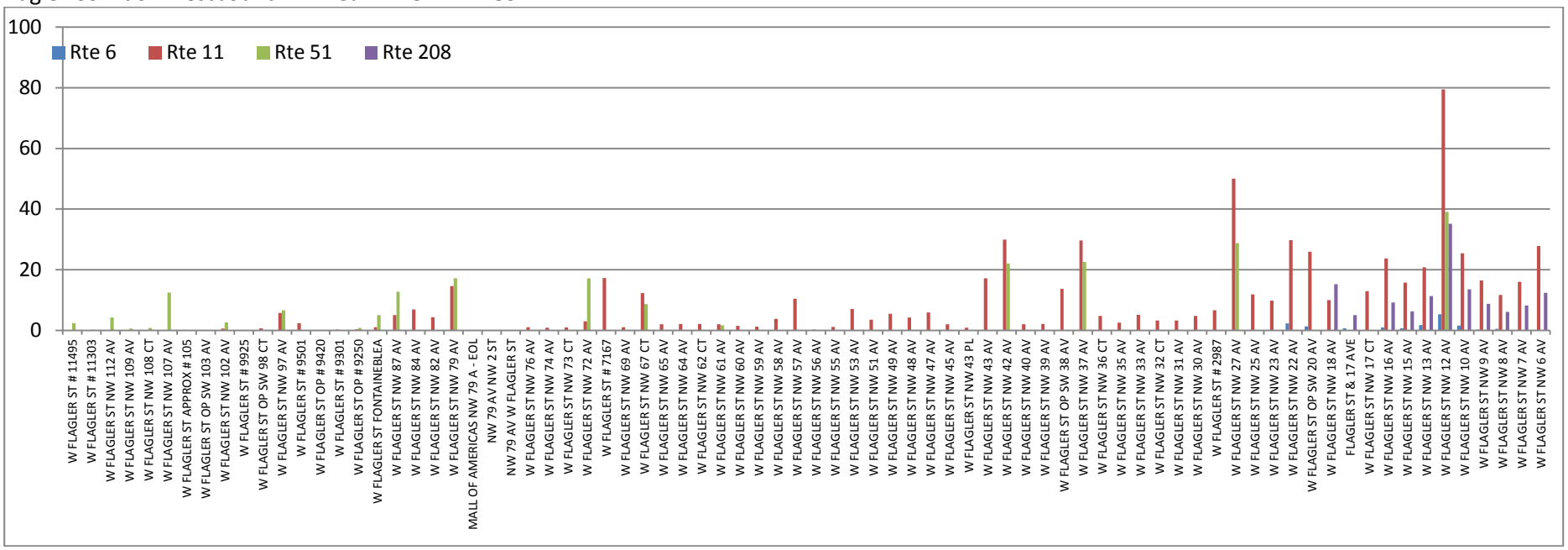
Flagler Corridor Westbound AM Peak – BOARDINGS



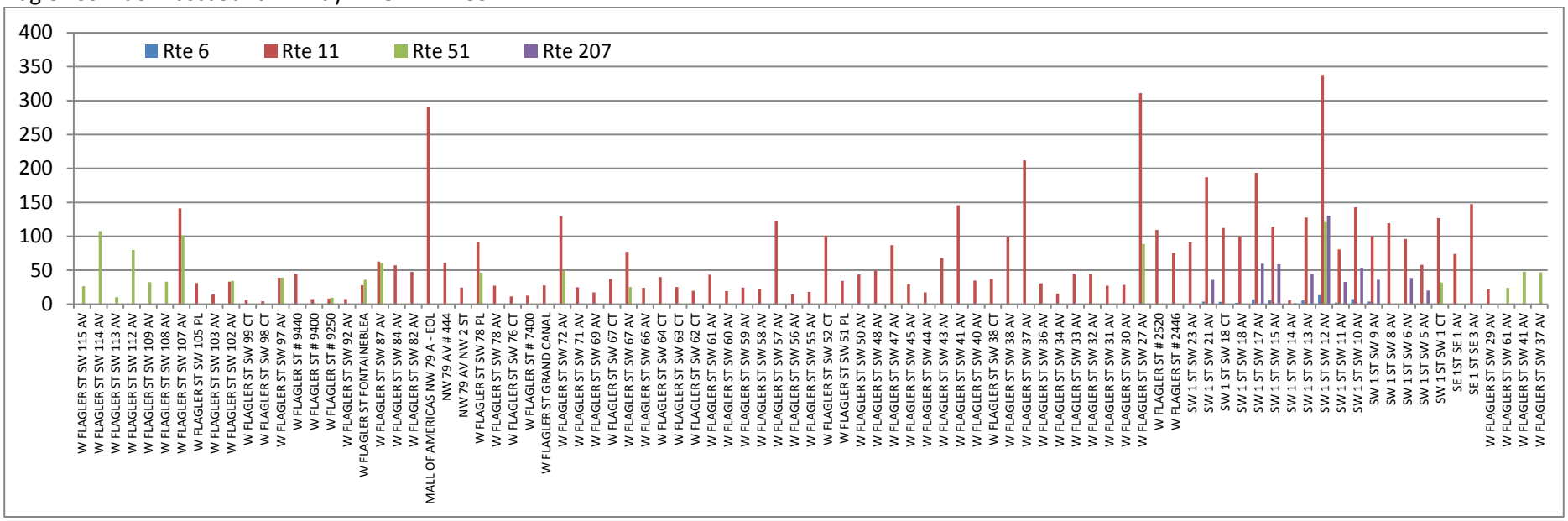
Flagler Corridor Eastbound PM Peak – BOARDINGS (Mall of the Americas truncated for visualization purposes. Route 11 recorded ons is 144 passengers.)



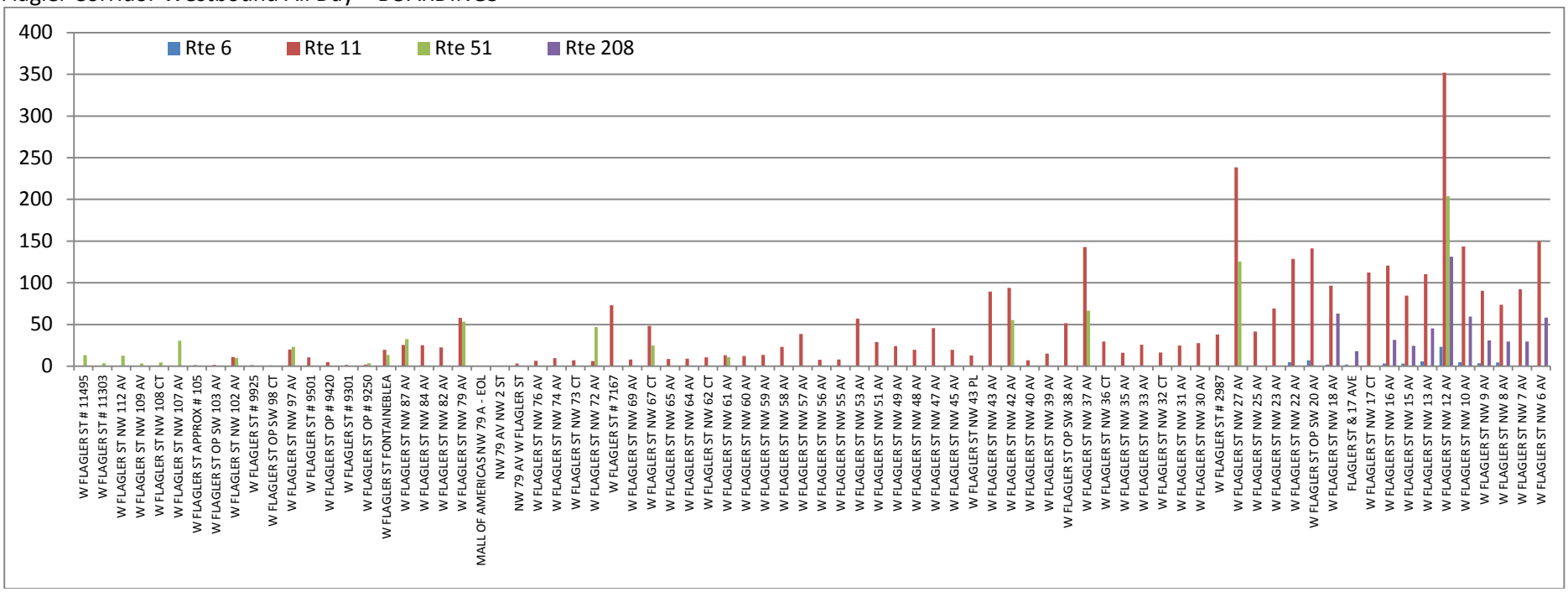
Flagler Corridor Westbound PM Peak – BOARDINGS



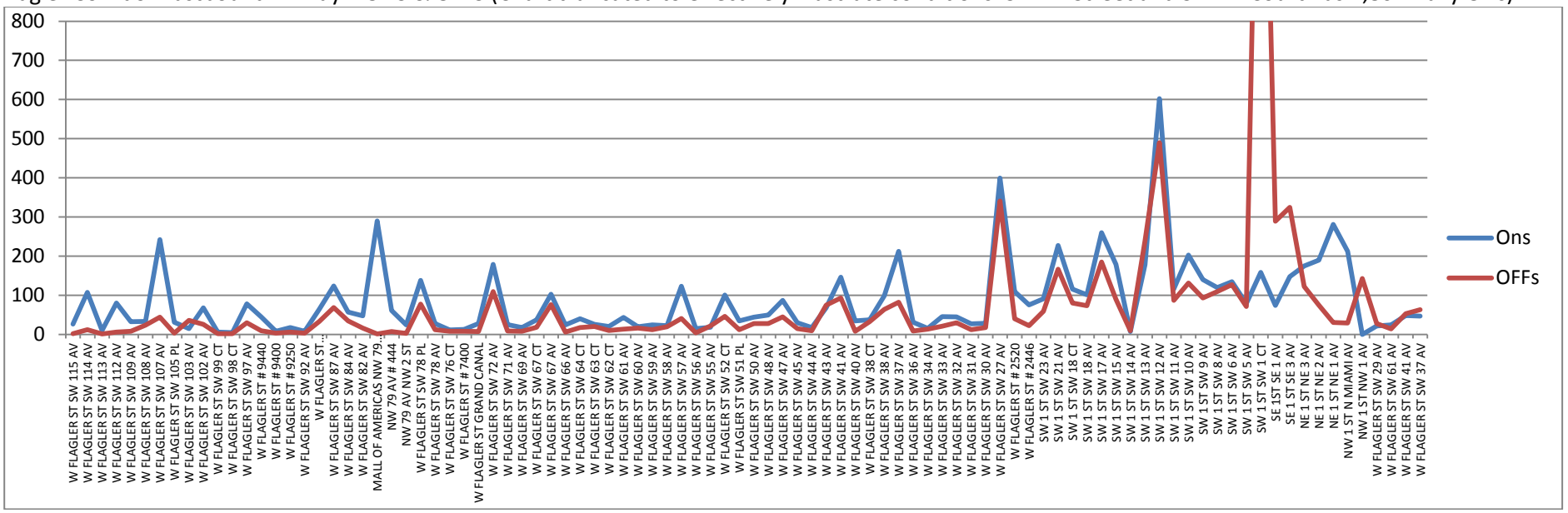
Flagler Corridor Eastbound All Day – BOARDINGS



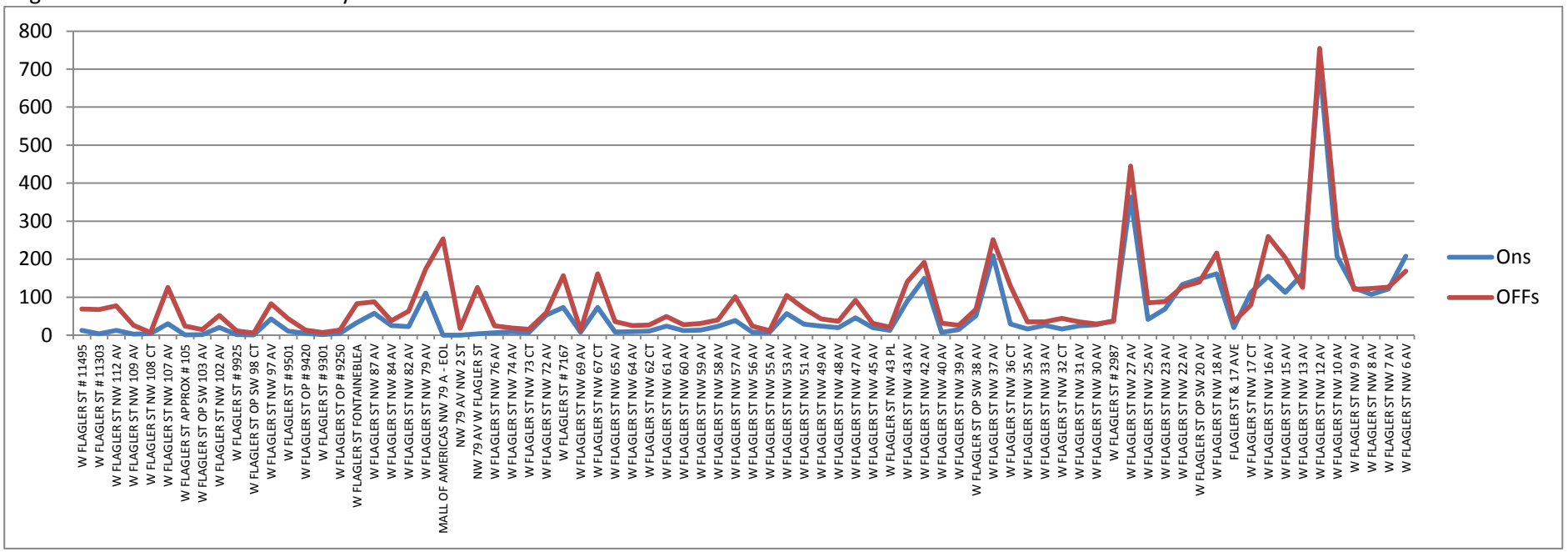
Flagler Corridor Westbound All Day – BOARDINGS



Flagler Corridor Eastbound All Day – ONS & OFFS (Chart truncated to effectively illustrate conditions. SW 1st Street and SW 1st Court has 1,864 Daily Offs)



Flagler Corridor Westbound All Day – ONS & OFFS



NE 2nd Avenue Corridor

The NE 2nd Avenue Corridor runs from Downtown Miami north to Miami Gardens. Routes 9 and 10 run parallel to Biscayne Boulevard in the NE 2nd Avenue Corridor. Both routes operate well based on the performance measures.

- Route 9 – Runs parallel to Biscayne Boulevard on NE 2nd Avenue and NE 10th Avenue from Downtown Miami (Downtown Bus Terminal) to Aventura Mall, and it serves the 163rd Street Mall Transit Hub and Aventura Mall Transit Hub.
- Route 10 – Runs parallel to Biscayne Boulevard on NE 1st Avenue and NE 12th Avenue from the Adrienne Arsht Center Station/Bus Terminal to Skylake Mall (Miami Gardens Drive and NE 19th Avenue).

Table 12: NE 2nd Avenue Corridor Performance Measures

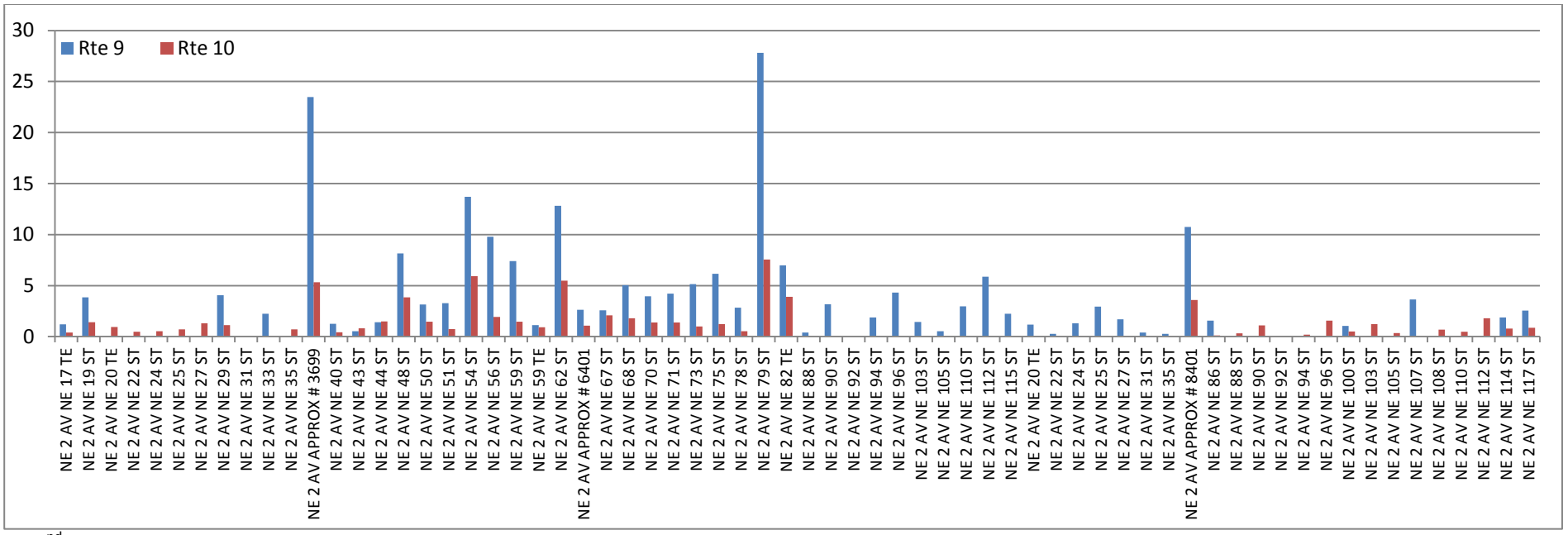
Performance Measures	Route 9	Route 10
Passenger/Trip	61	38
Passenger/Vehicle Mile	3.5	3.1
Passenger/Revenue Hour	39	38
Ridership	6,570	2,560
FareBox Ratio	0.38	0.33
Direct Operating Cost/Revenue Mile	$9.70	$9.50
Direct Operating Cost/Passenger	$2.73	$3.40
Direct Operating Cost/Trip	$165.83	$129.91
Number of Stops (Bidirectional)	255	196
Daily Boardings/ Stop	26	13

Table 12 provides a summary of the performance measures for Routes 9 and 10. The routes on NE 2nd Avenue operate with passengers per trip above the MDT average, making the corridor a prime candidate for BRT/EBS service. Route 9 currently has a significantly higher number of passengers and shows more activity at the prime stops along NE 2nd Avenue. As illustrated in the northbound and southbound boarding charts below, travel patterns are well-balanced along the corridor, and the current traffic is warrants premium transit services.

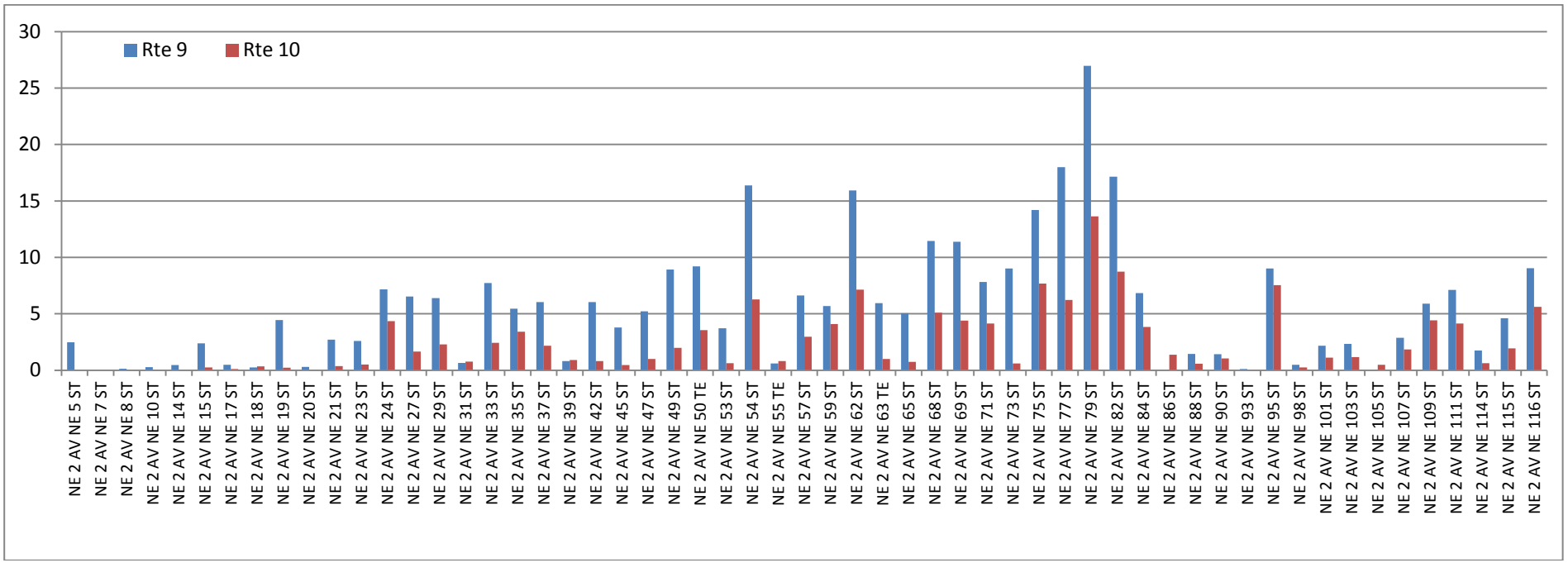
Recommendations:

BRT/EBS service should be developed, combining existing Route 9 and Route 10 services to create a trunk-and-feeder service along the corridor.

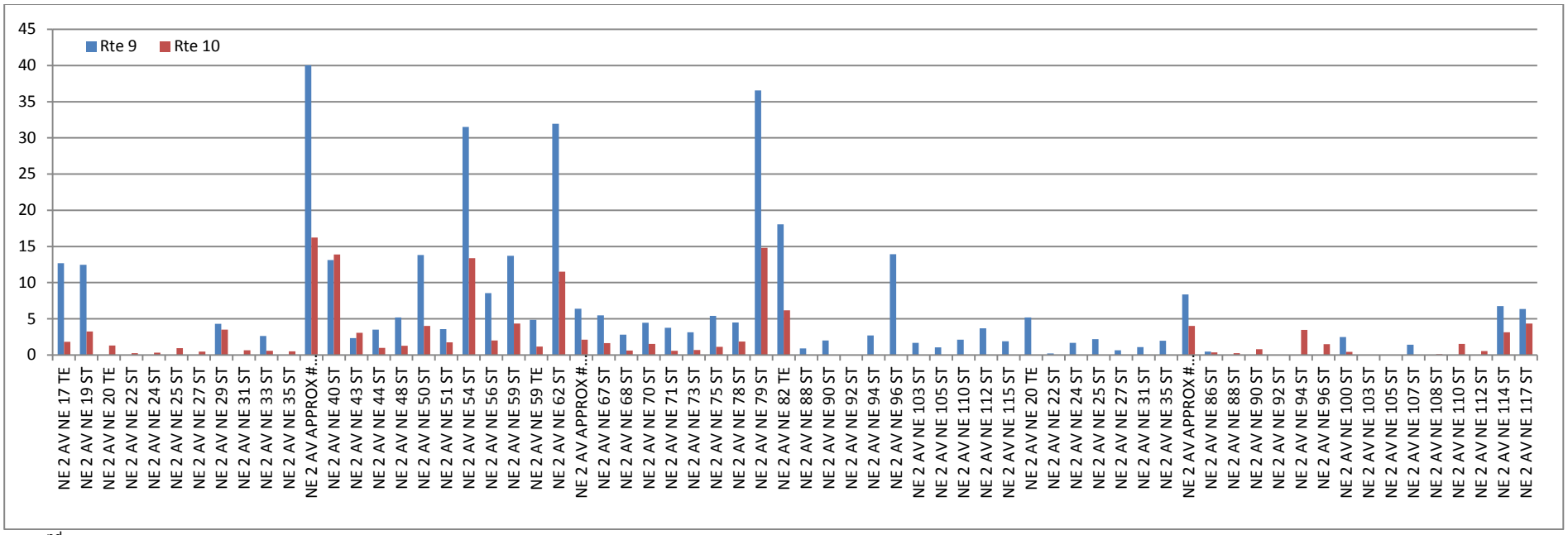
NE 2nd Avenue Corridor Northbound AM Peak – BOARDINGS



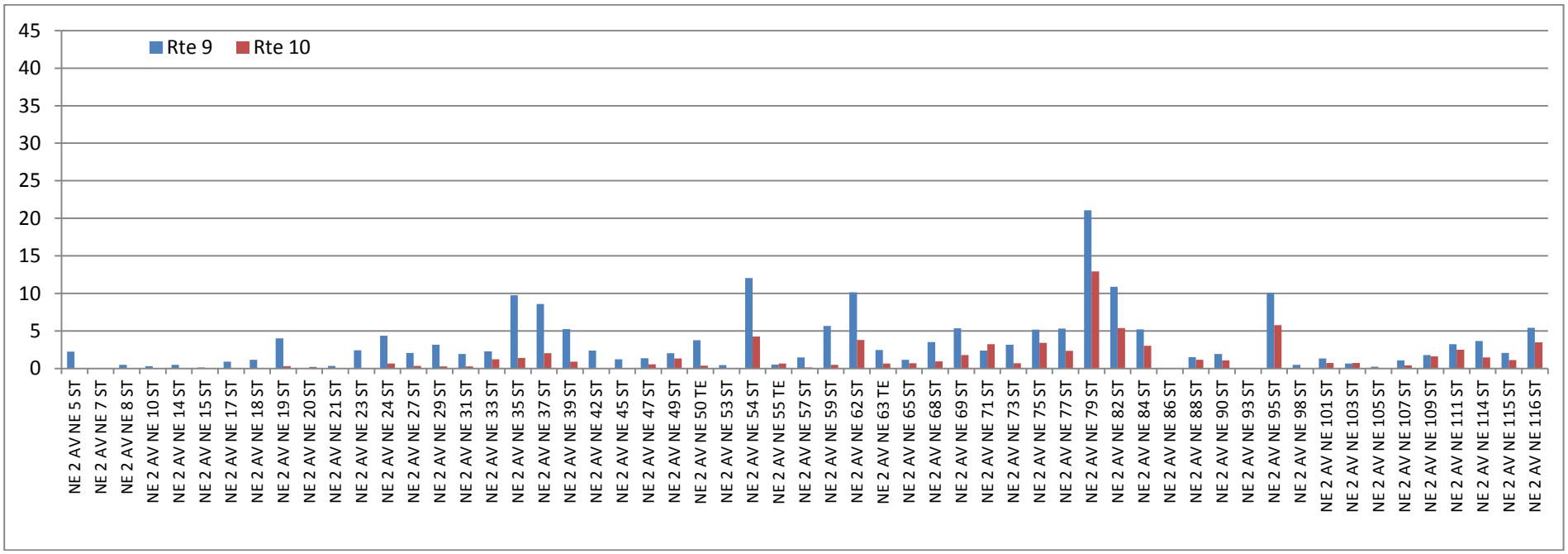
NE 2nd Avenue Corridor Southbound AM Peak – BOARDINGS



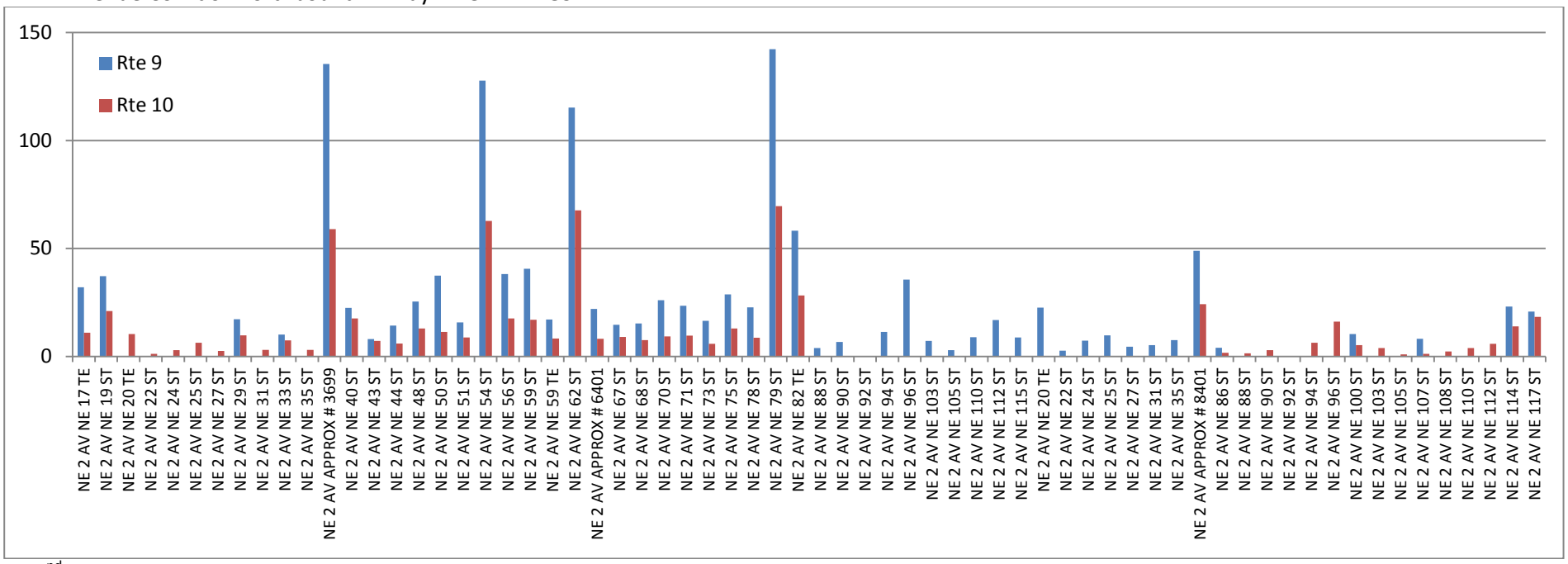
NE 2nd Avenue Corridor Northbound PM Peak – BOARDINGS



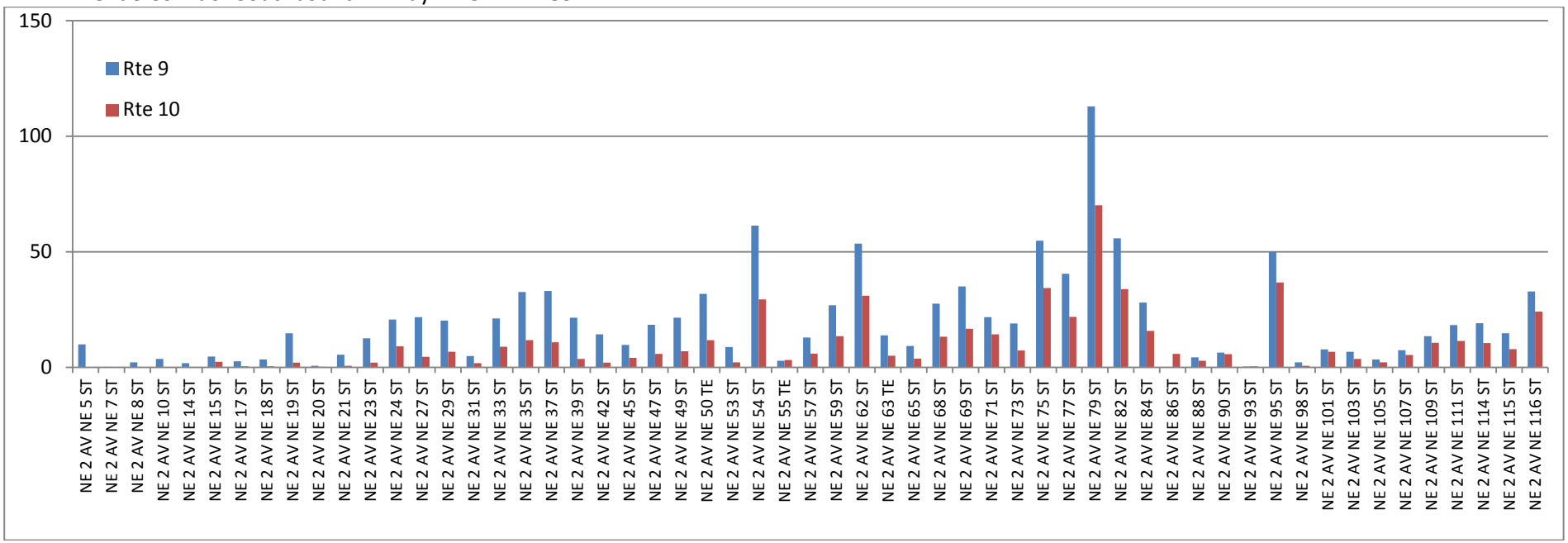
NE 2nd Avenue Corridor Southbound PM Peak – BOARDINGS



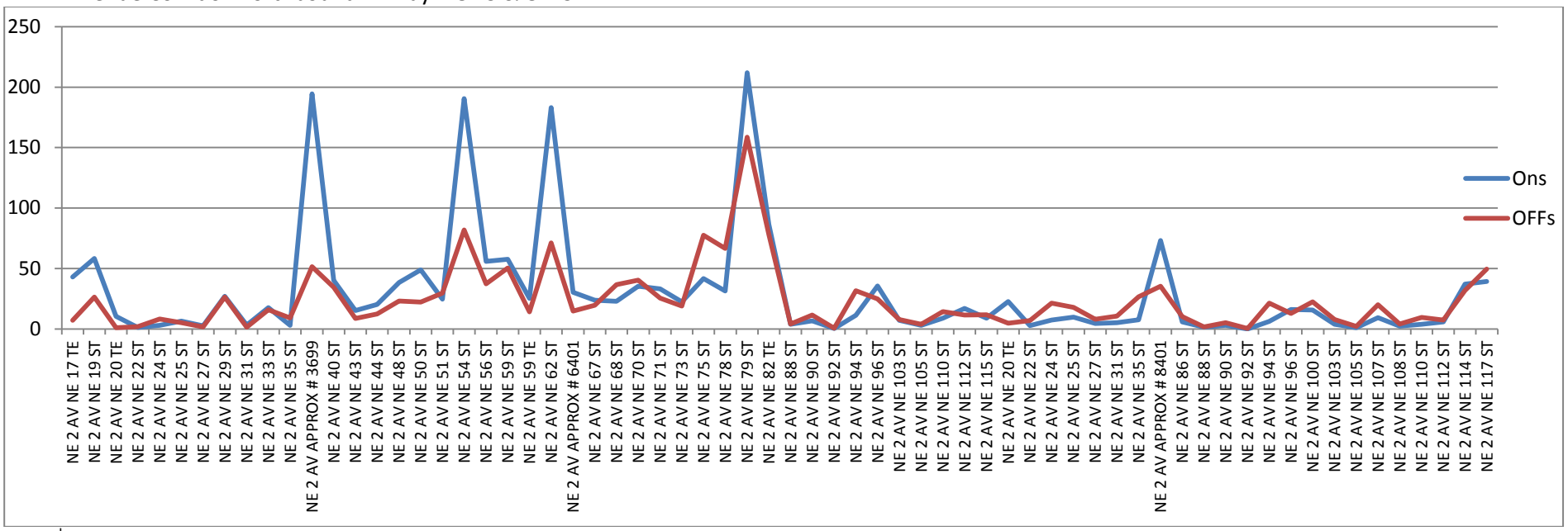
NE 2nd Avenue Corridor Northbound All Day – BOARDINGS



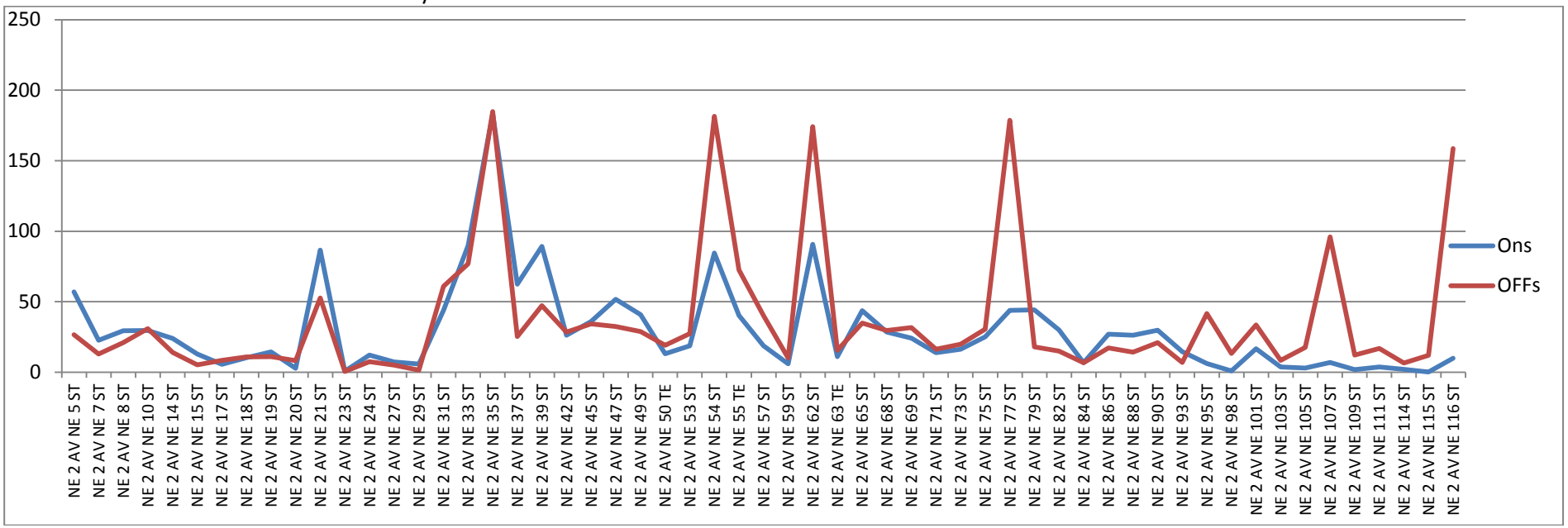
NE 2nd Avenue Corridor Southbound All Day – BOARDINGS



NE 2nd Avenue Corridor Northbound All Day – ONS & OFFS



NE 2nd Avenue Corridor Southbound All Day – ONS & OFFS



South Miami-Dade US-1 Busway Corridor

The South Miami-Dade Busway Corridor runs parallel to US-1 from SW 344th Street in Homestead north to the Dadeland South Metrorail Station. The Busway is open to use by MDT buses and emergency vehicles only. The vehicles on the Busway do not operate in mixed traffic; therefore, buses operate at consistent speeds approximately 40 miles per hour between stations. The following six routes operate in the Busway Corridor:

- Route 31 – Runs along the Busway from South Dade Government Center to the Dadeland South Metrorail Station.
- Route 34 Busway Flyer – Runs along the Busway from Florida City Hall to the Dadeland South Metrorail Station.
- Route 38 Busway Max – Runs along the Busway from Wal-Mart in Homestead to the Dadeland South Metrorail Station.
- Route 52 – Runs west of the Busway, connecting residential communities to the Busway and the Dadeland South Metrorail Station.
- Route 252 – Runs primarily along SW 252nd Street as it connects the County's western suburbs with US-1 and the Dadeland South Metrorail Station.
- Route 287 – Runs along SW 87th Avenue and the Busway, connecting southeastern communities with the Busway and Dadeland South Metrorail.

Table 13: South Miami US-1 Busway Corridor Performance Measures

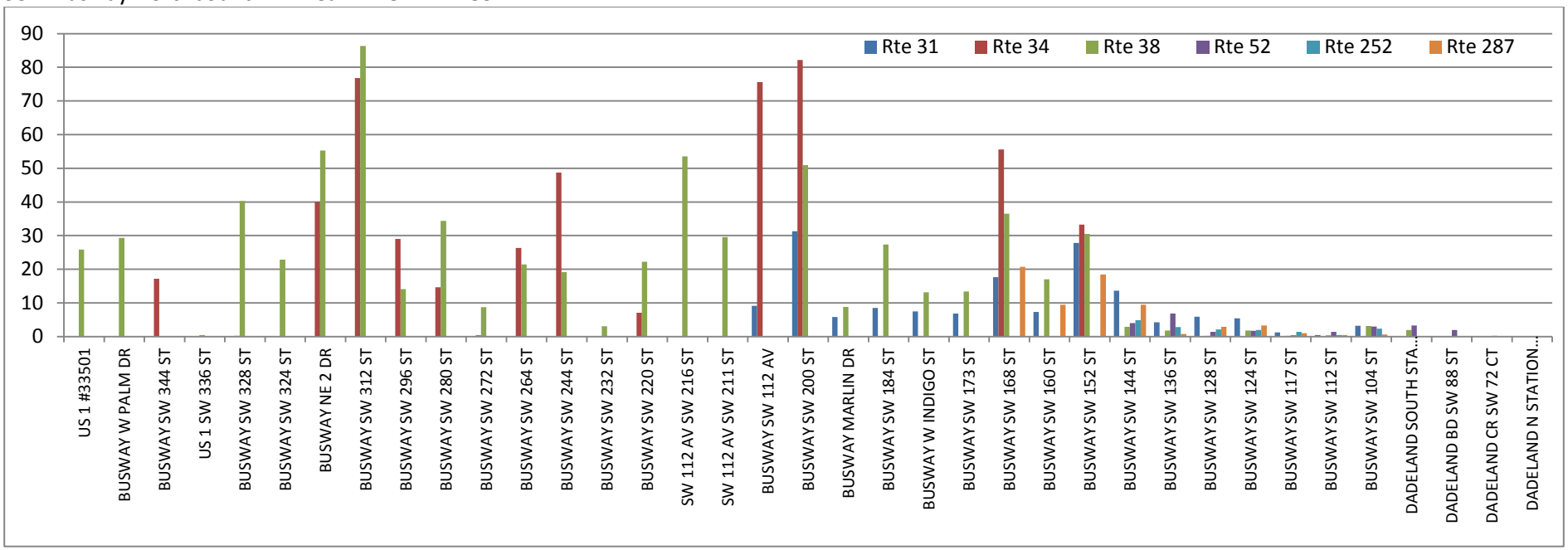
Performance Measures	Route 31	Route 34	Route 38	Route 52	Route 252	Route 287
Passenger/Trip	20	37	41	31	15	18
Passenger/Vehicle Mile	2.1	1.8	1.6	1.0	1.1	1.3
Passenger/Revenue Hour	36	33	28	15	19	24
FareBox Ratio	0.30	0.22	0.37	0.32	0.19	0.20
Ridership	1,410	1,420	5,840	1,460	960	420
Direct Operating Cost/Revenue Mile	$7.80	$8.40	$7.50	$4.10	$7.70	$7.80
Direct Operating Cost/Passenger	$4.31	$4.80	$4.33	$3.65	$6.79	$5.11
Direct Operating Cost/Trip	$88.00	$179.82	$176.52	$113.28	$101.63	$93.17
Number of Stops (Bidirectional)	39	38	72	213	83	55
Daily Boardings/ Stop	36	37	81	7	12	8

Table 13 provides a summary of the performance measures for Routes 31, 34, 38, 52, 252, and 272. The existing service along the US-1 Busway for routes 31, 34, and 38 is recommended to remain the same, as the routes exhibit substantial patronage and operate cost effectively. Route 34 provides service only in the morning and evening peak direction, while Routes 31 and 38 provide service throughout the day along the corridor. The high traffic along Routes 31 and 38 during non-peak hours indicates that there is a variety of trip purposes served along US-1. These routes may require headway improvements in both peak and off-peak hours to accommodate these various non-work trip purposes. The boarding charts below illustrate that a exceptionally high percentage of both ons and offs occur at the Dadeland South Metrorail Station, which indicates that the Busway functions as a feeder to Metrorail, while likewise, the Metrorail feeds patrons into the Busway. Travel patterns within the corridor favor to the north in morning peak hours and to the south in evening peak hours, also indicating a commuter-oriented corridor.

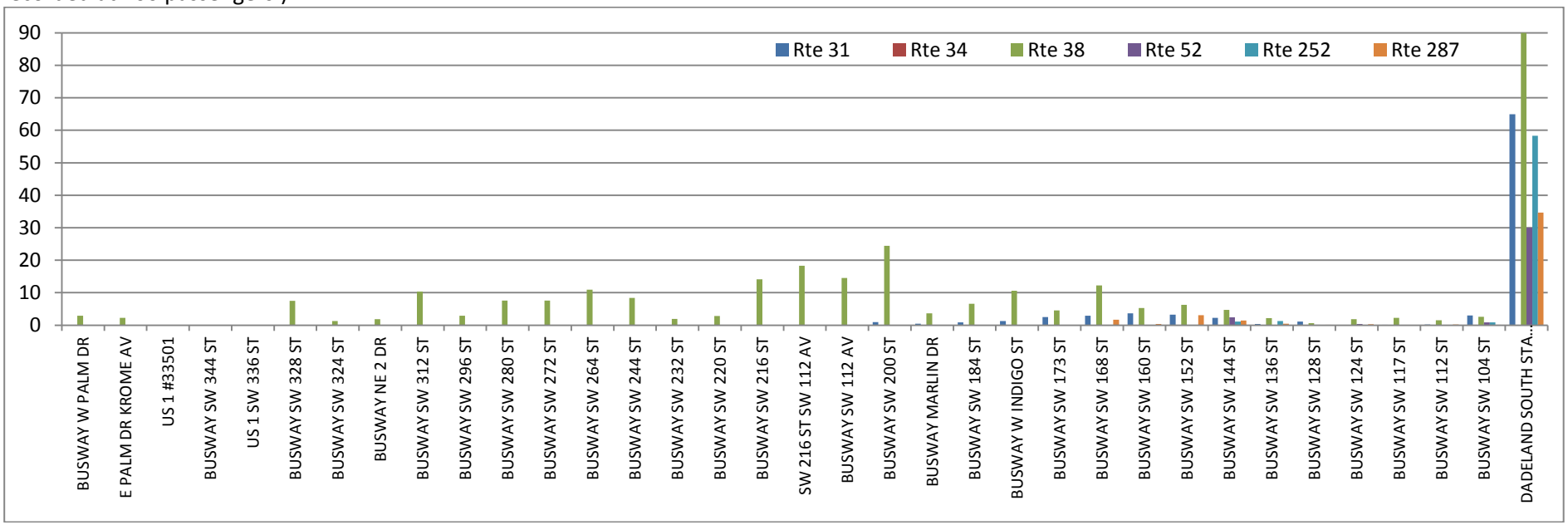
Recommendations:

Routes 52, 252, and 287 should be truncated prior to the US-1 Busway at respective Busway stations, where riders would be given the option to transfer onto a Busway route. Routes 34 and 38 will require additional service changes to accommodate the feeder service provided by these three routes that formerly operated along the Busway. The creation of the trunk-and-feeder service would aid in reducing direct operating costs for Routes 52, 252, and 287, while increasing passengers on Routes 34 and 38.

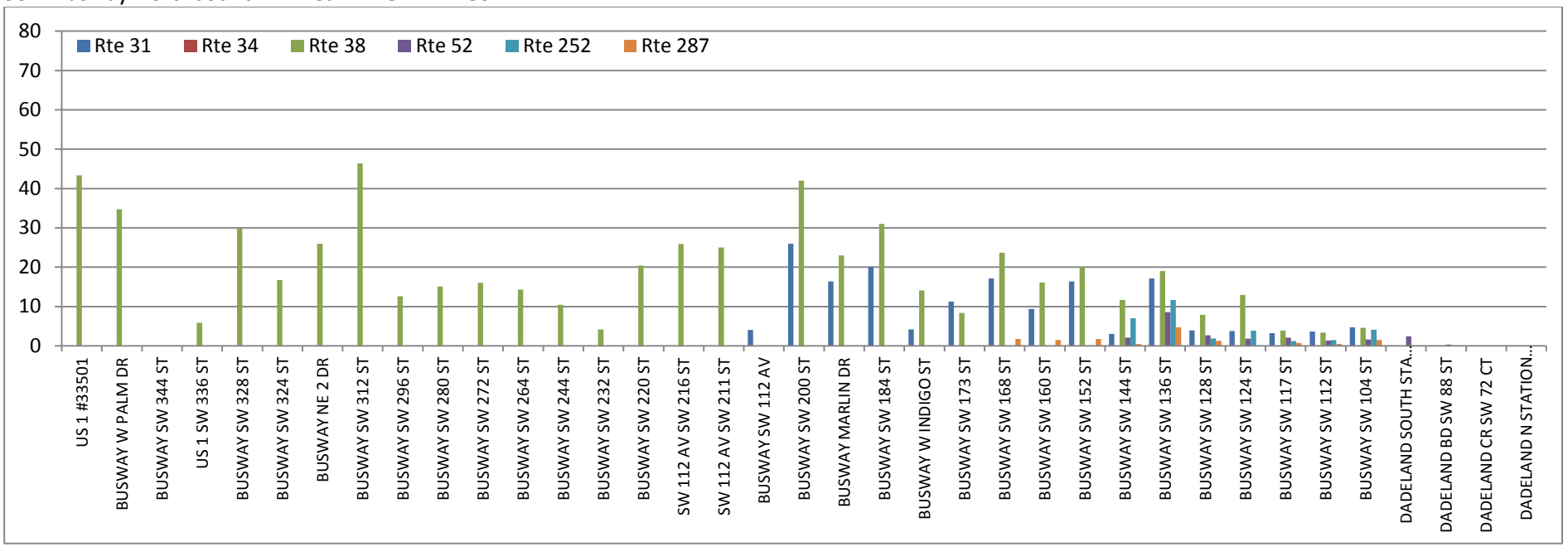
US-1 Busway Northbound AM Peak – BOARDINGS



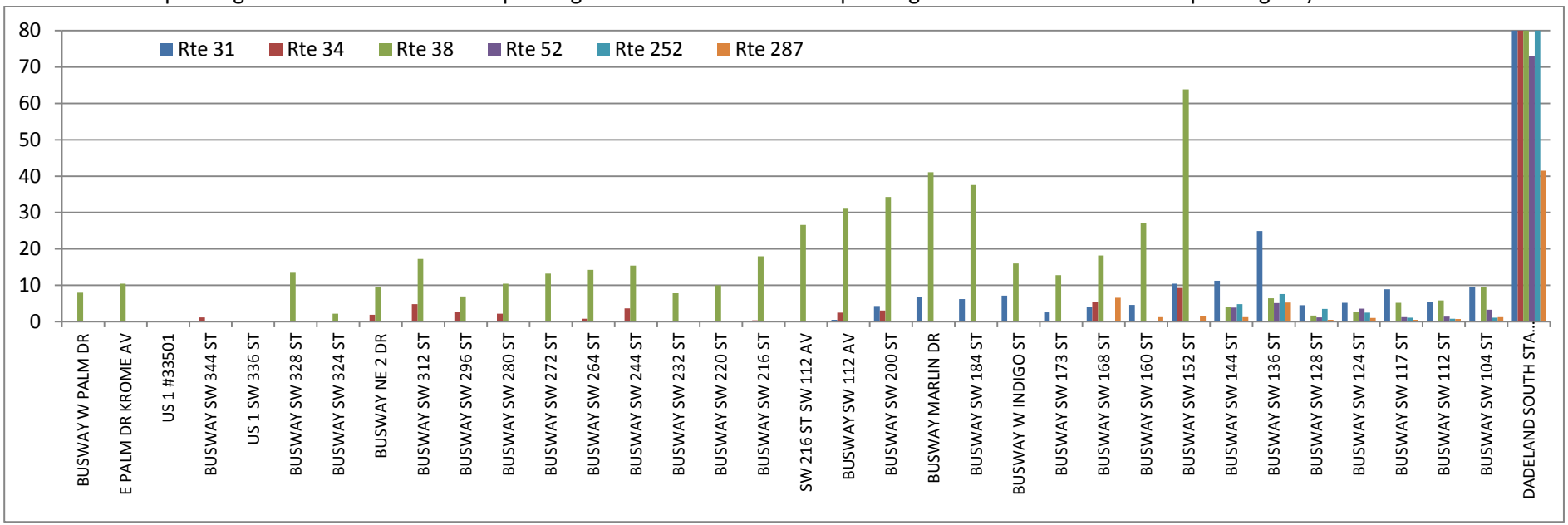
US-1 Busway Southbound AM Peak – BOARDINGS (Dadeland South Metrorail Station values were truncated for visualization purposes. Route 38 ons are recorded at 106 passengers.)



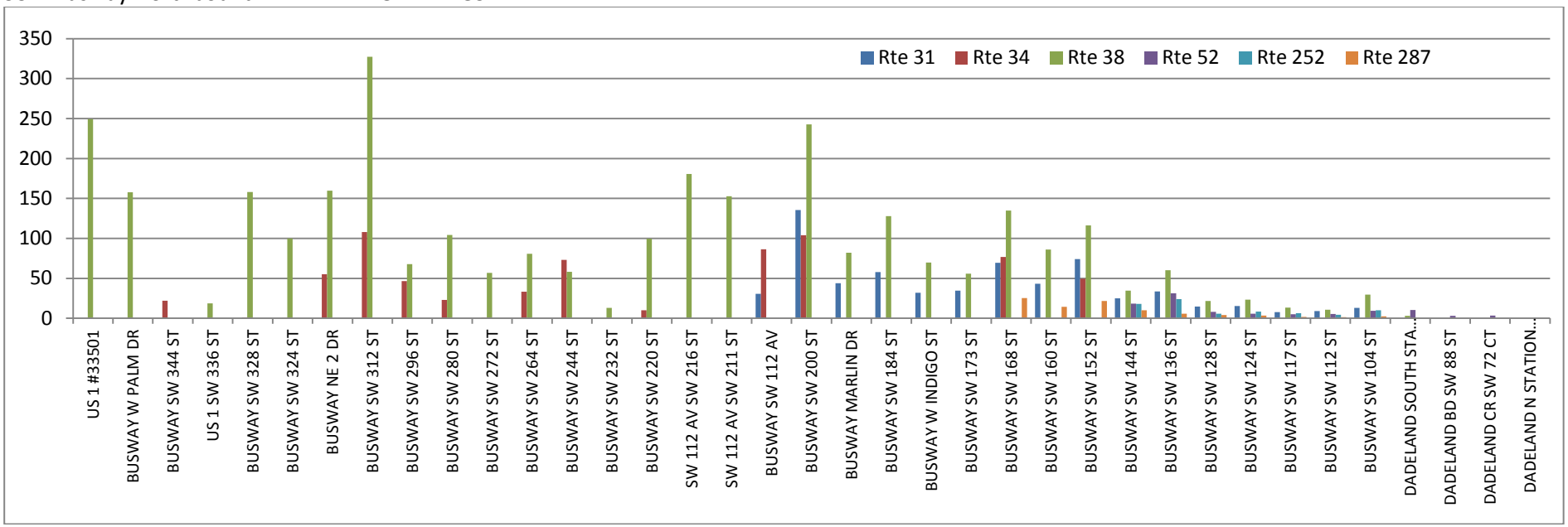
US-1 Busway Northbound PM Peak – BOARDINGS



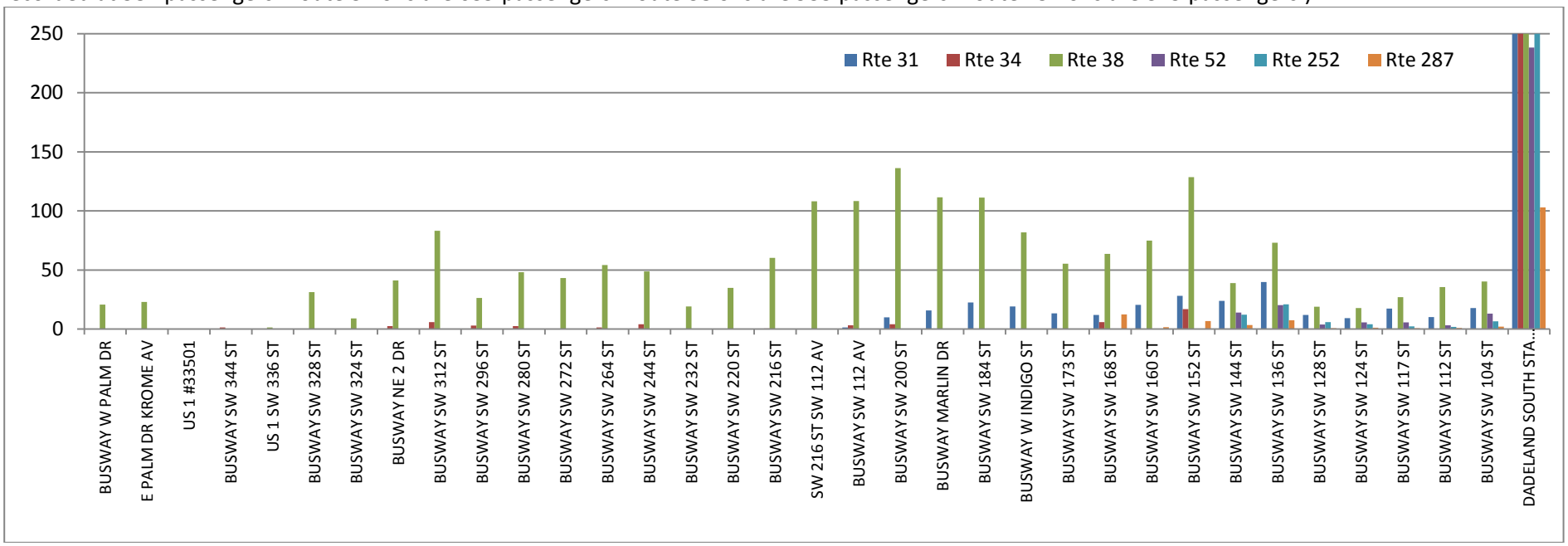
US-1 Busway Southbound PM Peak – BOARDINGS (Dadeland South Metrorail Station values were truncated for visualization purposes. Route 31 ons are recorded at 156 passengers. Route 34 ons are 523 passengers. Route 38 ons are 229 passengers. Route 252 ons are 121 passengers.)



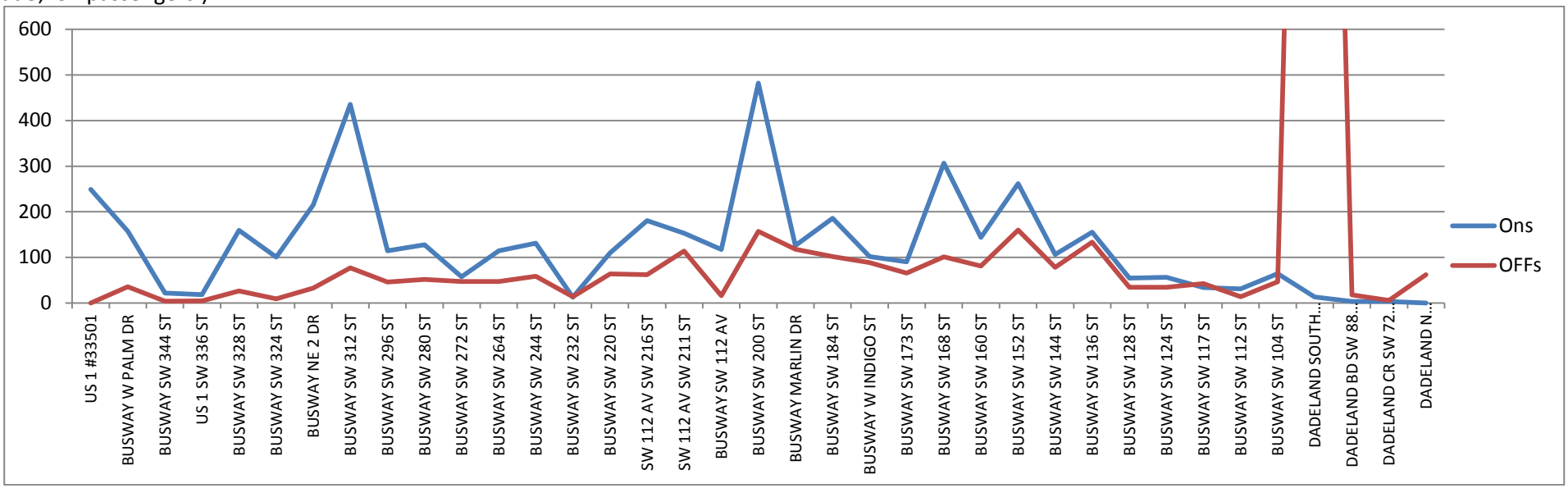
US-1 Busway Northbound ALL DAY – BOARDINGS



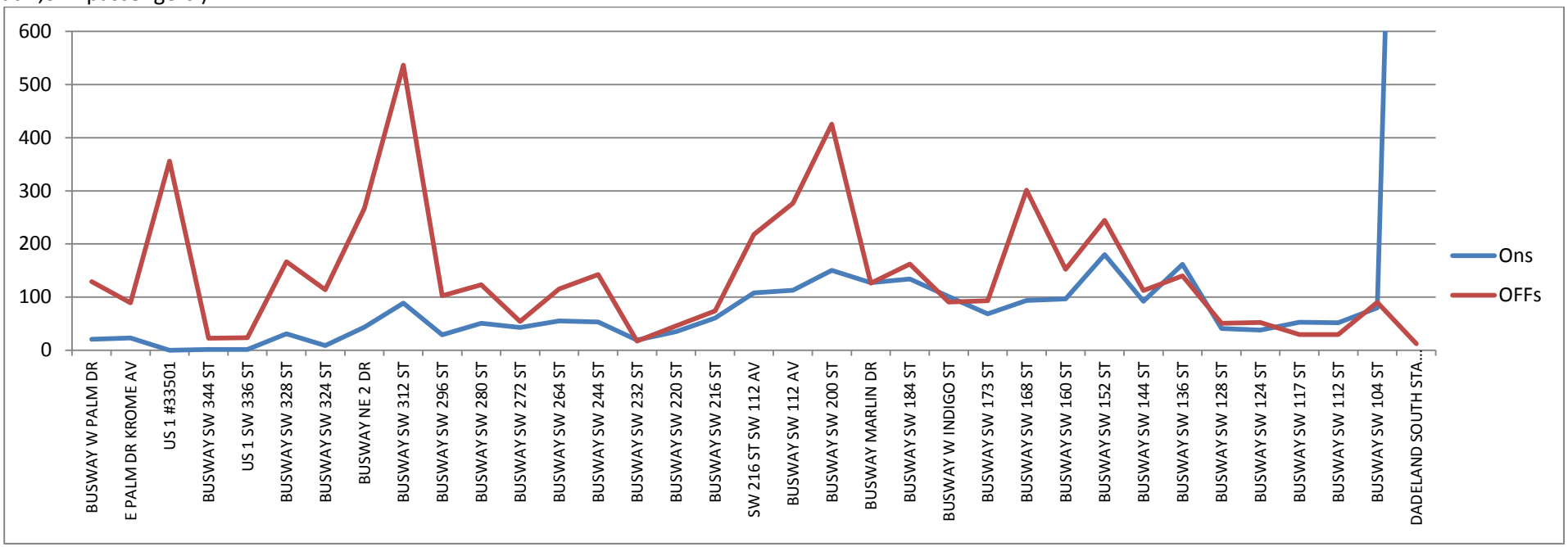
US-1 Busway Southbound ALL DAY – BOARDINGS (Dadeland South Metrorail Station values were truncated for visualization purposes. Route 31 ons are recorded at 382 passengers. Route 34 ons are 639 passengers. Route 38 ons are 935 passengers. Route 252 ons are 349 passengers.)



US-1 Busway Northbound All Day – ONS & OFFS (Dadeland South Metrorail Station values were truncated for visualization purposes. All day offs are recorded at 3,154 passengers.)



US-1 Busway Southbound All Day – ONS & OFFS (Dadeland South Metrorail Station values were truncated for visualization purposes. All day ons are recorded at 2,647 passengers.)



State Road 7 Corridor

The State Road 7 Corridor reaches from Downtown Miami to Golden Glades and North Miami parallel to I-95. The following two routes serve this corridor:

- Route 77 – Route 77 is a local north-south service that connects the Golden Glades Transit Hub with Downtown Miami. It runs north of the Golden Glades stop to Miami Gardens Drive, during evening peak hours.
- Route 277 – The route alignment is generally the same as that of Route 77. This is a limited-stop route designed to reduce travel time for commuters.

Table 14: State Road 7 Corridor Performance Measures

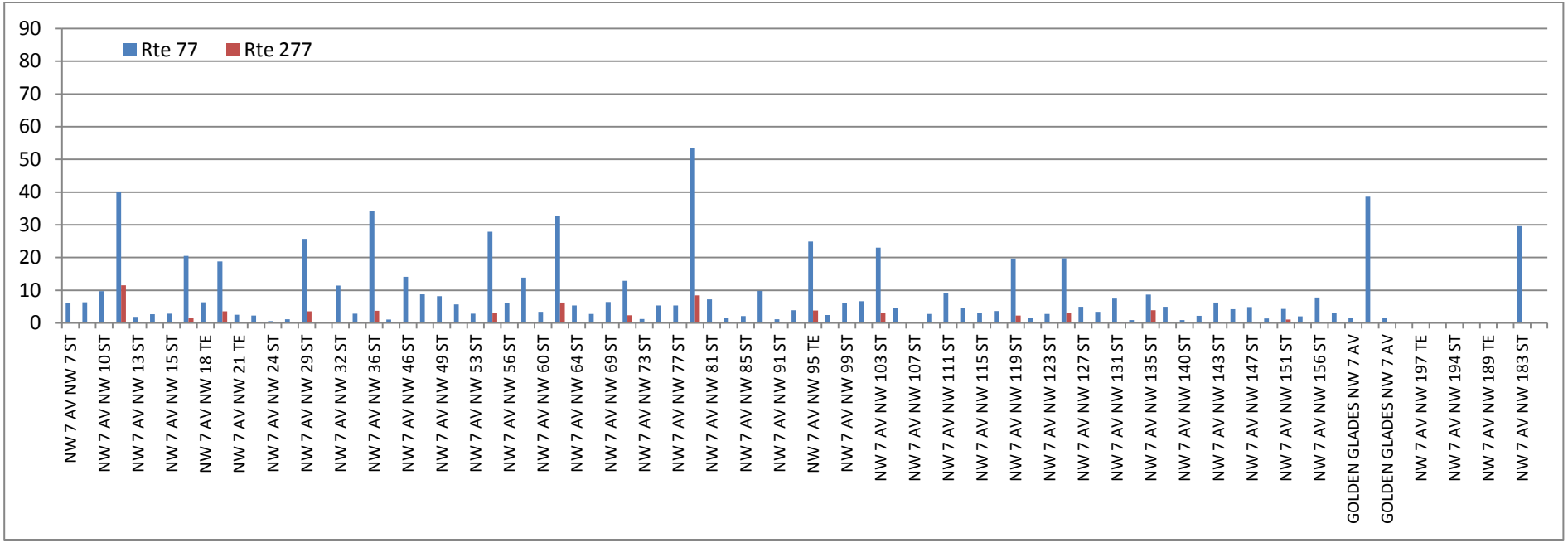
Performance Measures	Route 77	Route 277
Passenger/Trip	58	20
Passenger/Vehicle Mile	3.3	1.4
Passenger/Revenue Hour	44	25
Ridership	9,330	840
FareBox Ratio	0.39	0.27
Direct Operating Cost/Revenue Mile	$8.70	$6.90
Direct Operating Cost/Passenger	$2.66	$4.48
Direct Operating Cost/Trip	$154.26	$89.07
Number of Stops (Bidirectional)	223	35
Daily Boardings/ Stop	42	24

Table 14 provides a summary of the performance measures for Routes 77 and 277. Overall, the corridor operates efficiently, with a high number of passengers per trip and relatively low operating costs per revenue mile. The boarding charts by direction shown below illustrate a substantial number of high activity stops along the corridor, including 79th Street, Golden Glades, 95th Street, and 183rd Street, which indicates high transfer activity. It can be observed through reviewing the charts of total ons and offs that the travel patterns on this route are fairly well distributed.

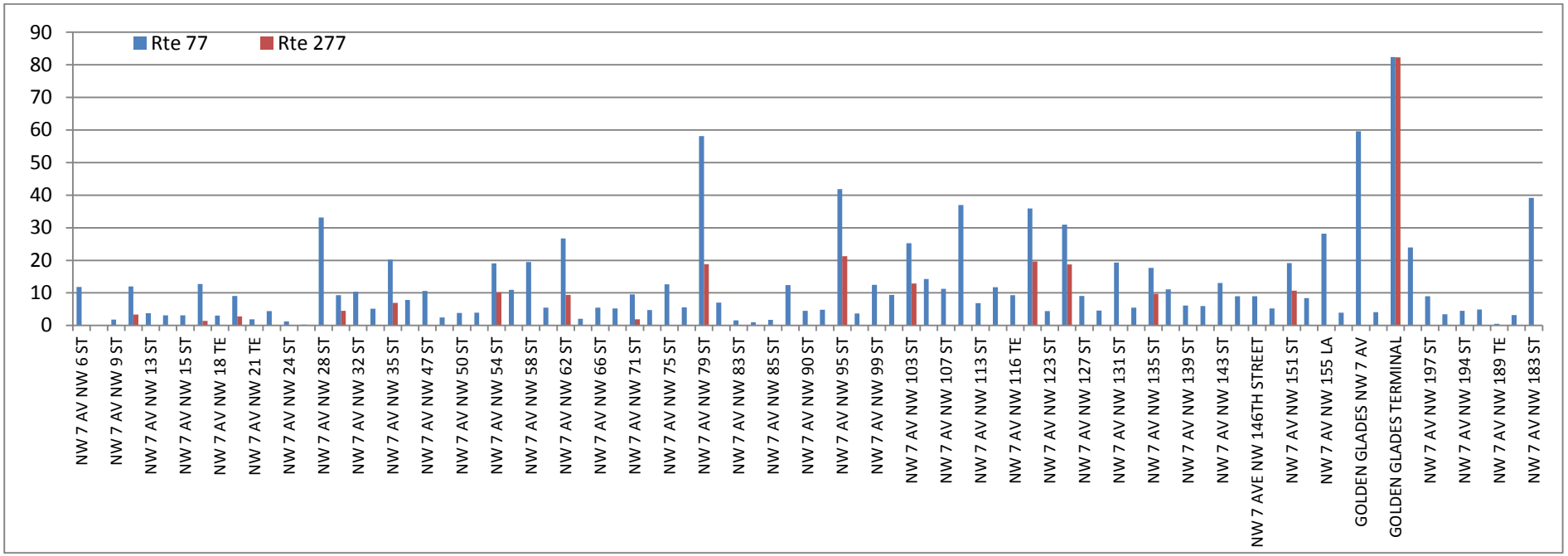
Recommendations:

Both routes in the corridor should maintain existing service based on the performance measures.

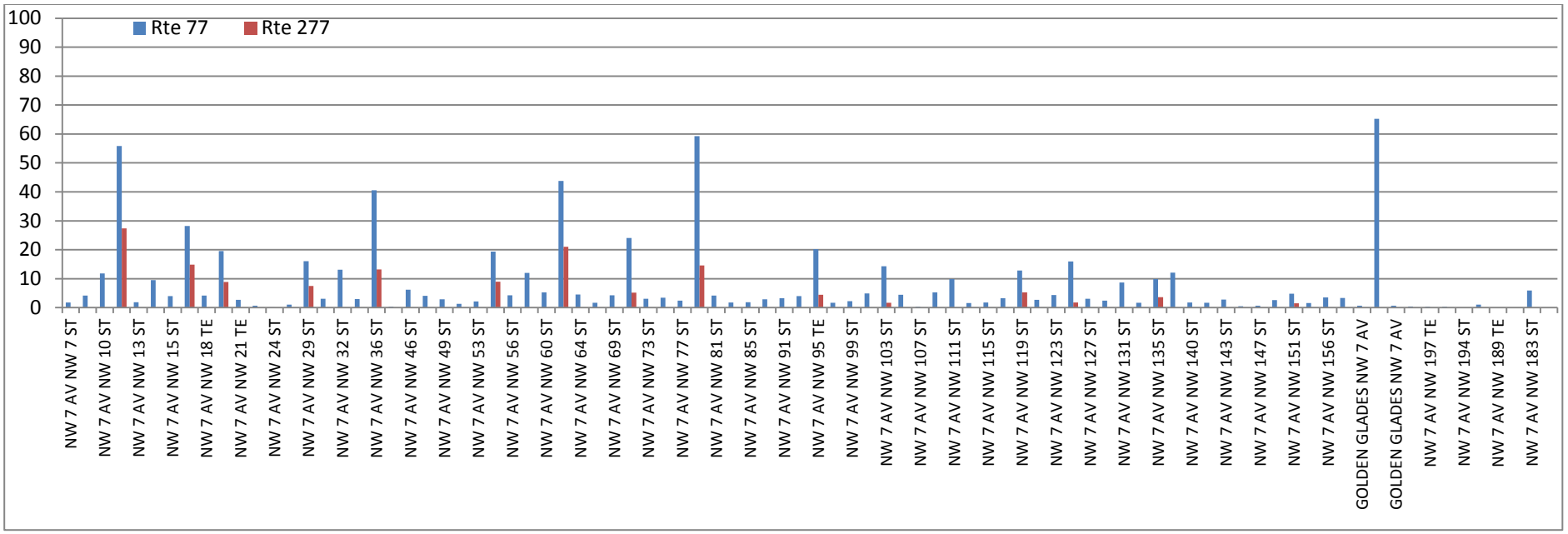
State Road 7 Corridor Northbound AM Peak – BOARDINGS



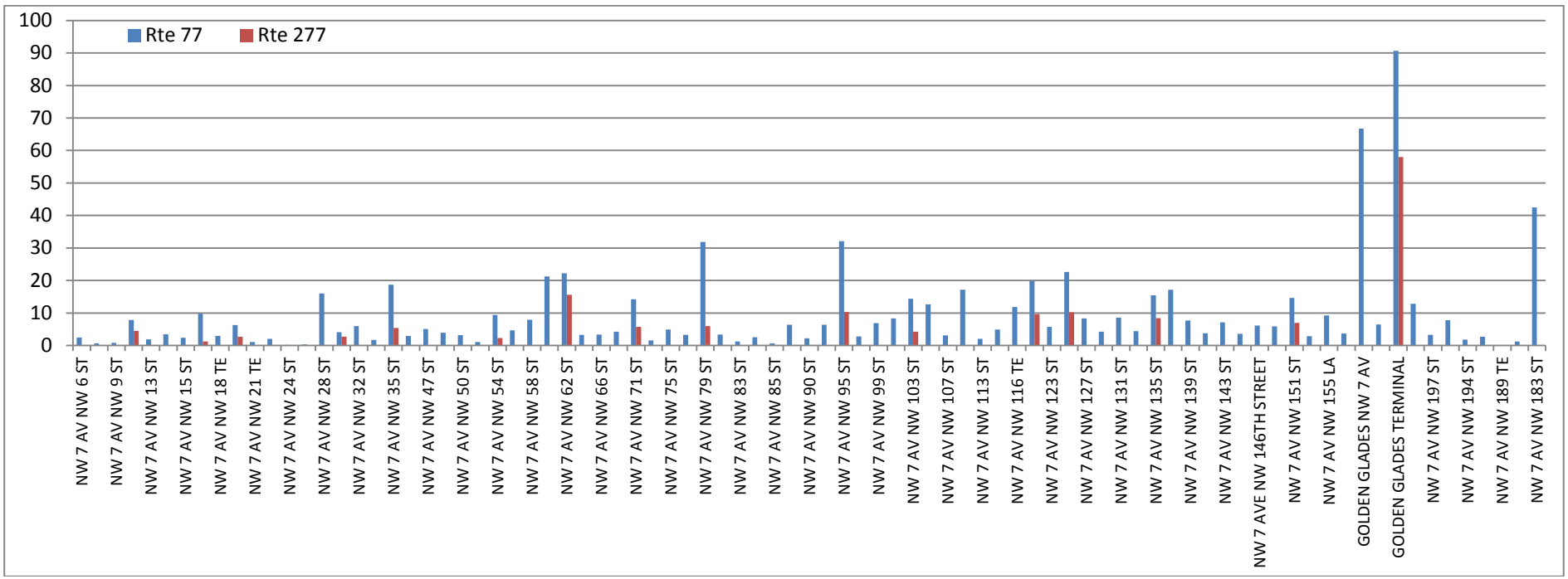
State Road 7 Corridor Southbound AM Peak – BOARDINGS



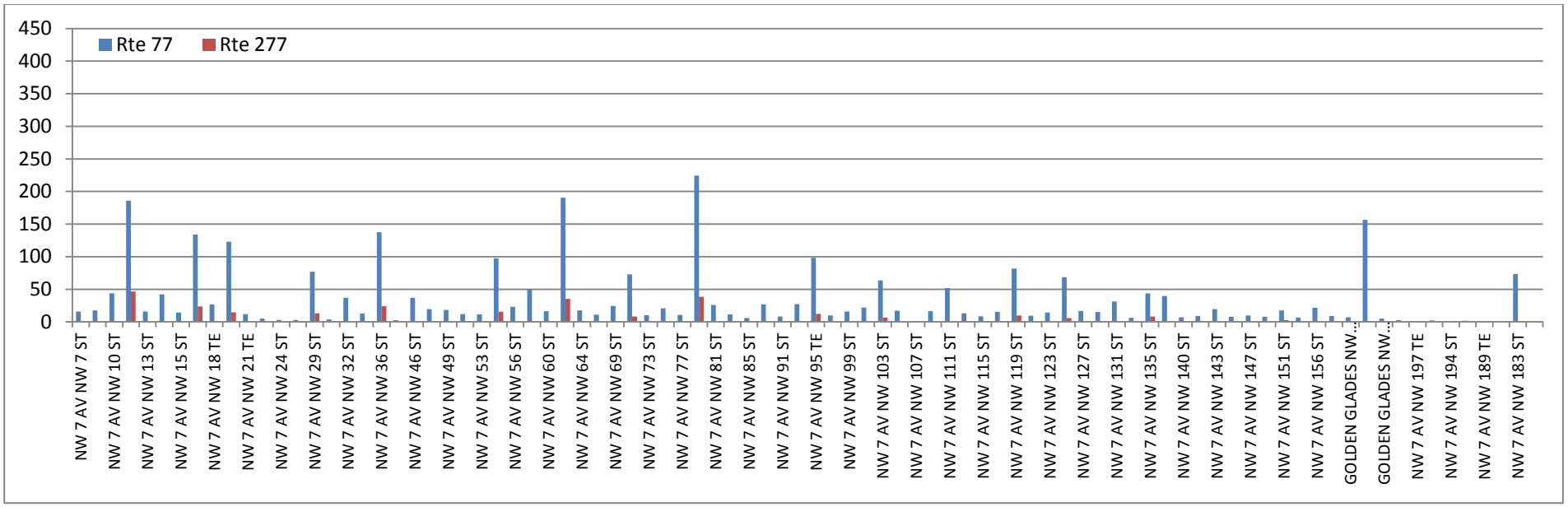
State Road 7 Corridor Northbound PM Peak – BOARDINGS



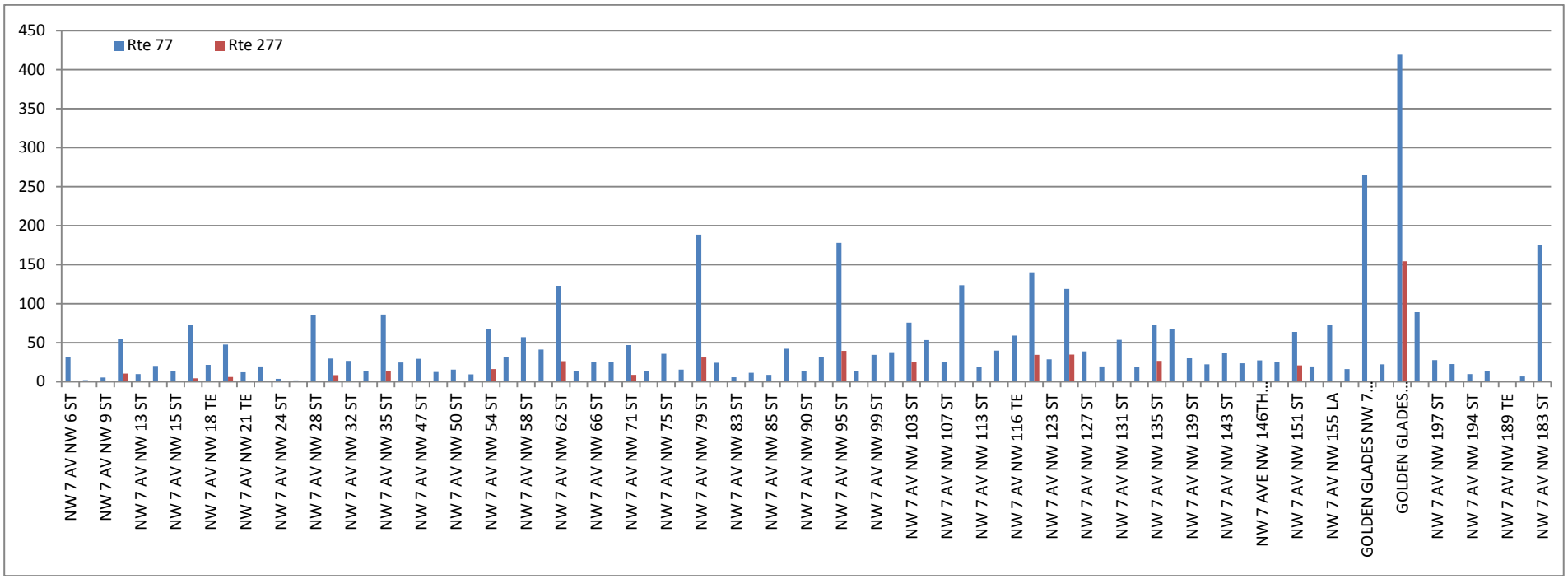
State Road 7 Corridor Southbound PM Peak – BOARDINGS



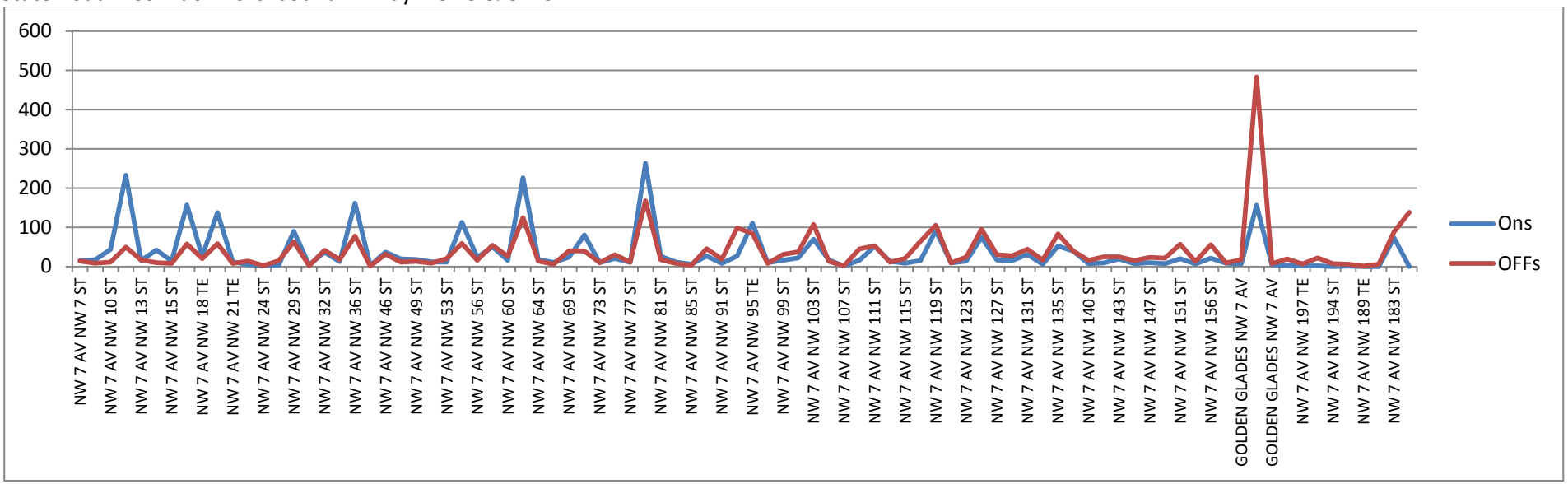
State Road 7 Corridor Northbound ALL DAY – BOARDINGS



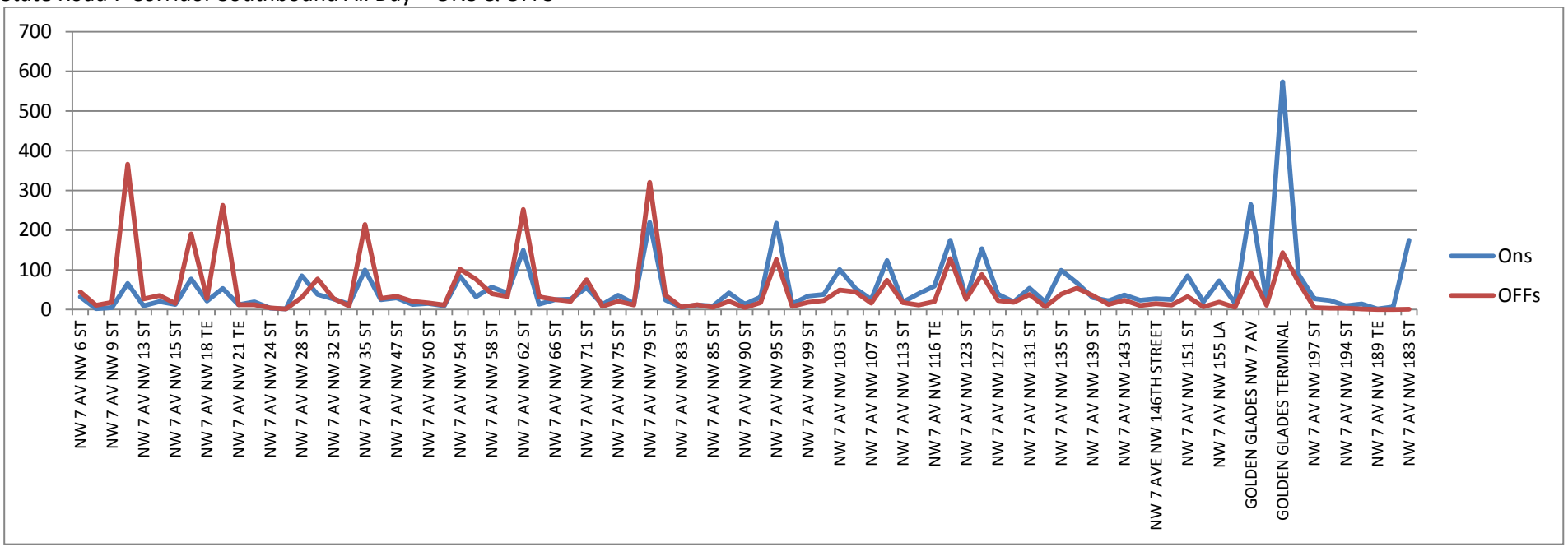
State Road 7 Corridor Southbound ALL DAY – BOARDINGS



State Road 7 Corridor Northbound All Day – ONS & OFFS



State Road 7 Corridor Southbound All Day – ONS & OFFS



North Corridor / NW 27th Street Corridor

The North Corridor runs along NW 27th Street between the Coconut Grove Metrorail Station just south of Downtown Miami to Opa-Locka and Miami Gardens in the north. The corridor is a potential premium-transit corridor and is served by Routes 27 and 97. A Metrorail extension along the North Corridor has been supported by the County. Currently, MDT is looking at ways to improve Route 97 service by upgrading infrastructure and improving service. A park-and-ride lot at the County line and NW 27th Avenue is being evaluated for implementation. Routes along the North Corridor include:

- Route 27 – Runs primarily on NW 27th Avenue and NW 37th Avenue.
- Route 97 – Limited stop service that runs on NW 27th Avenue.

Table 15: North Corridor Performance Measures

Performance Measures	Route 27	Route 97
Passenger/Trip	69	20
Passenger/Vehicle Mile	3.7	1.5
Passenger/Revenue Hour	52	29
Ridership	9,530	1,260
FareBox Ratio	0.50	0.29
Direct Operating Cost/Revenue Mile	$8.50	$7.50
Direct Operating Cost/Passenger	$2.29	$3.85
Direct Operating Cost/Trip	$158.01	$76.97
Number of Stops (Bidirectional)	272	46
Daily Boardings/ Stop	35	27

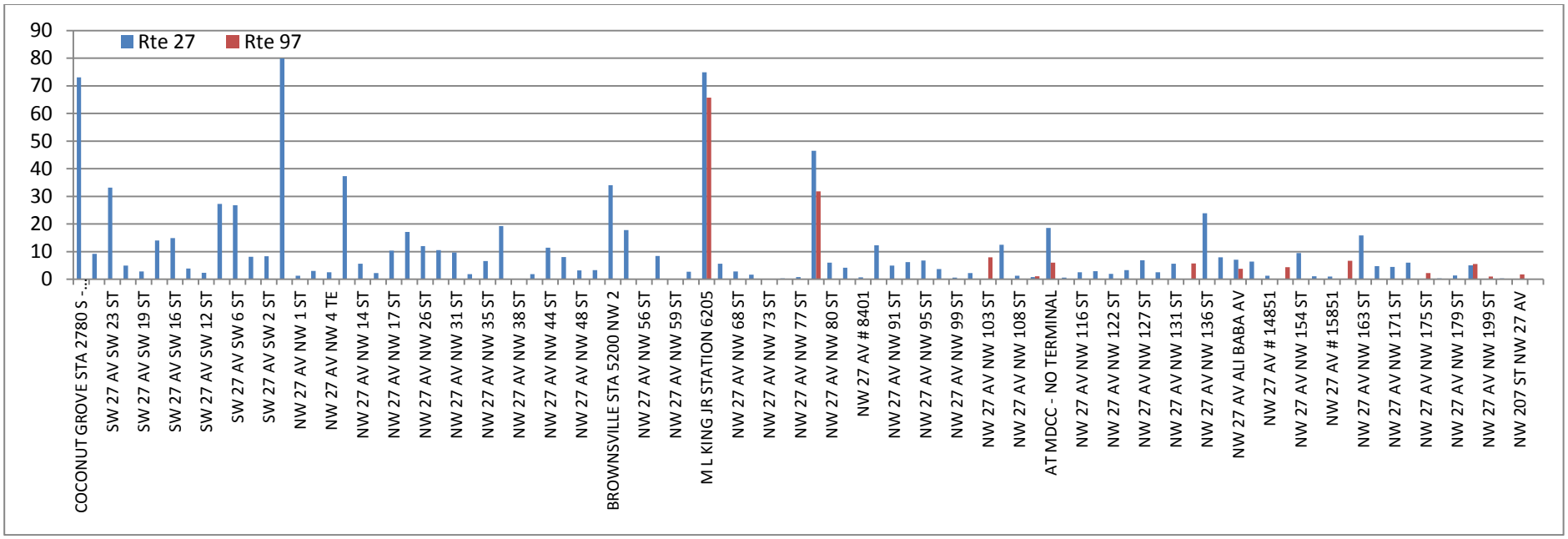
Table 15 provides a summary of the performance measures for Routes 27 and 97. Route 27 in this corridor exhibits a high number of average passengers per trip, indicating that the route is performing effectively under existing service conditions. Stations including the Martin Luther King, Jr. Metrorail Station, Miami-Dade Community College, Coconut Grove Metrorail Station, and Flagler Street are shown in the boarding and on and off charts below have high loadings.

This corridor is a candidate for an extension of Metrorail. This service is currently bolstered by the limited stop service with the intent of building patronage for the Metrorail facilities.

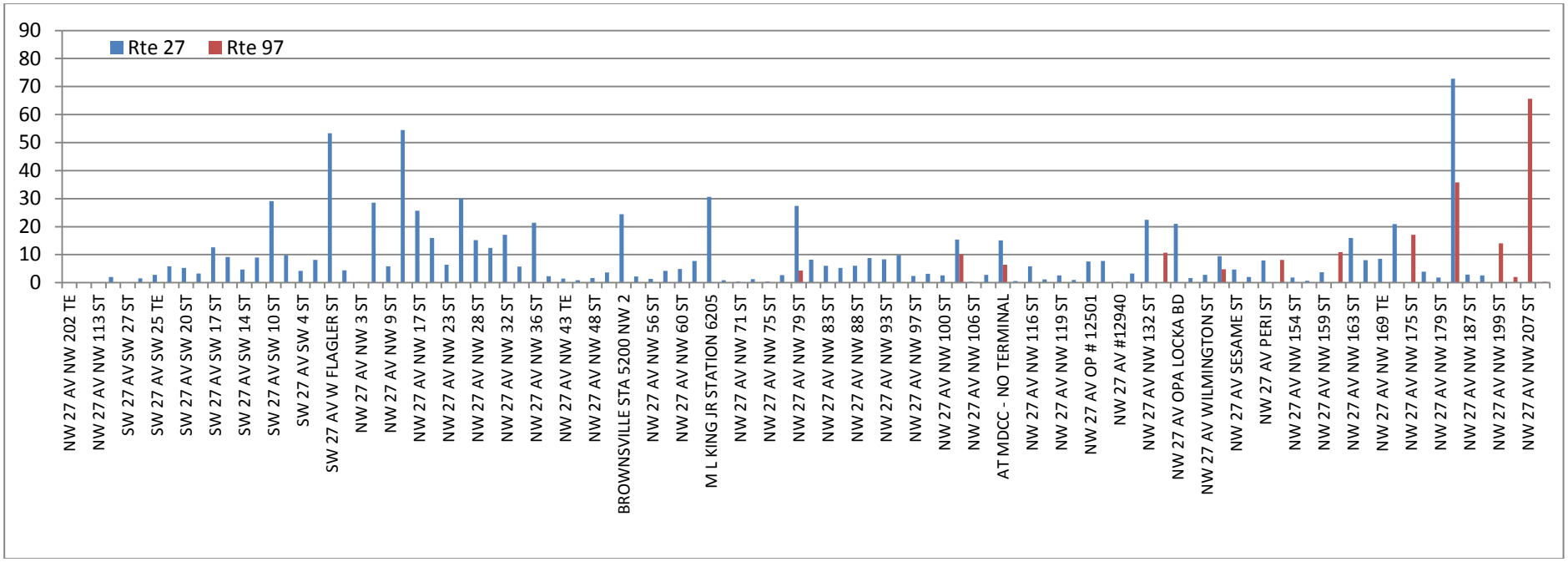
Recommendations:

In the individual route analysis, Route 27 is recommended to be split into two routes at the Brownsville Metrorail Station. Due to high traffic on this corridor and many stops, it will be more efficient to operate the route in two parts with the option to transfer at Brownsville Metrorail Station rather than one long route. This service, along with limited stop service, should be provided to build patronage until Metrorail extension plans are underway.

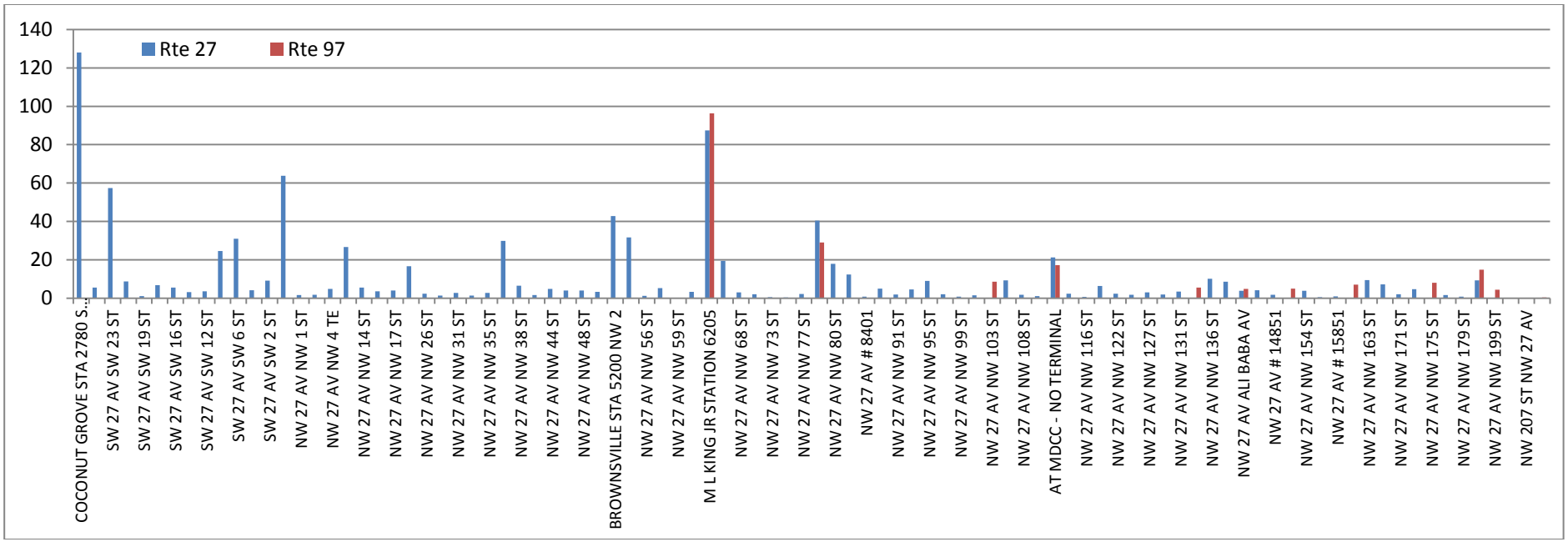
North Corridor Northbound AM Peak – BOARDINGS



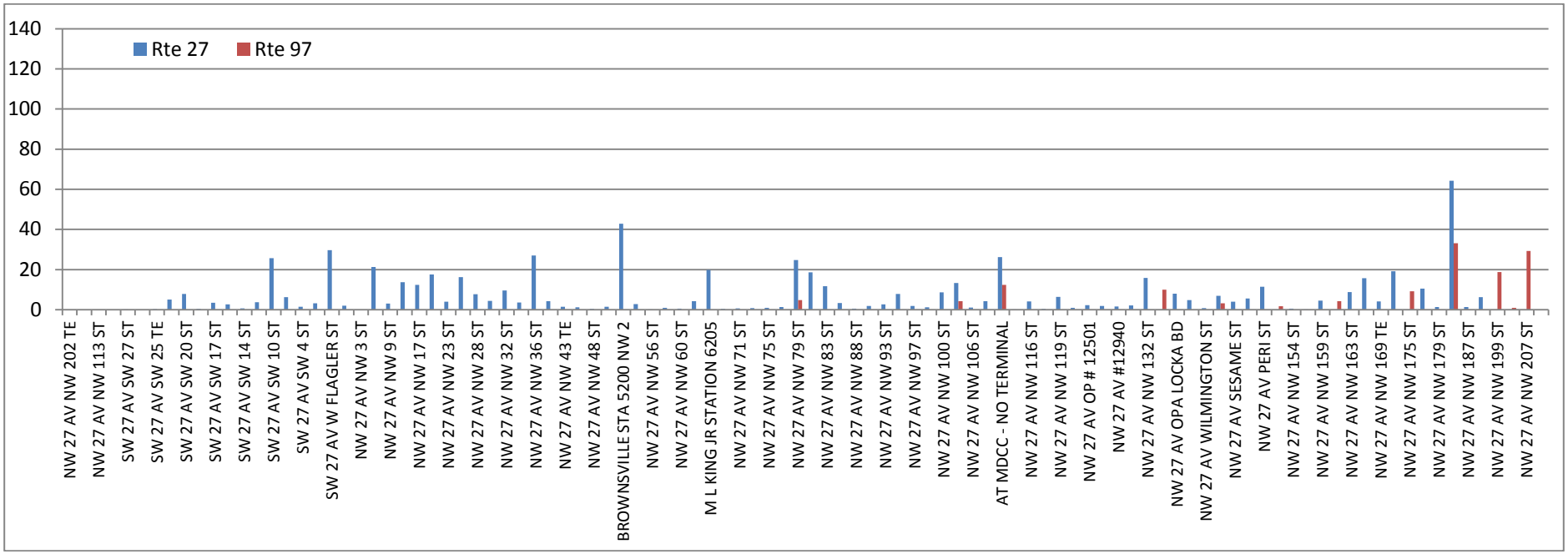
North Corridor Southbound AM Peak – BOARDINGS



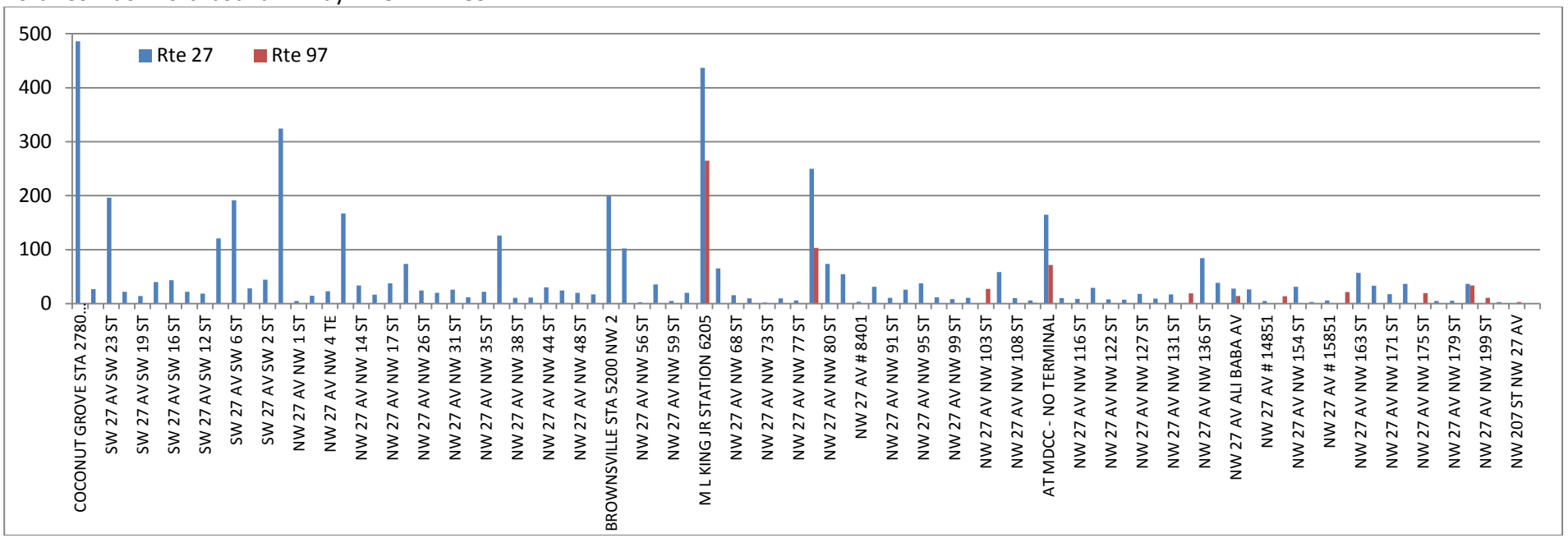
North Corridor Northbound PM Peak – BOARDINGS



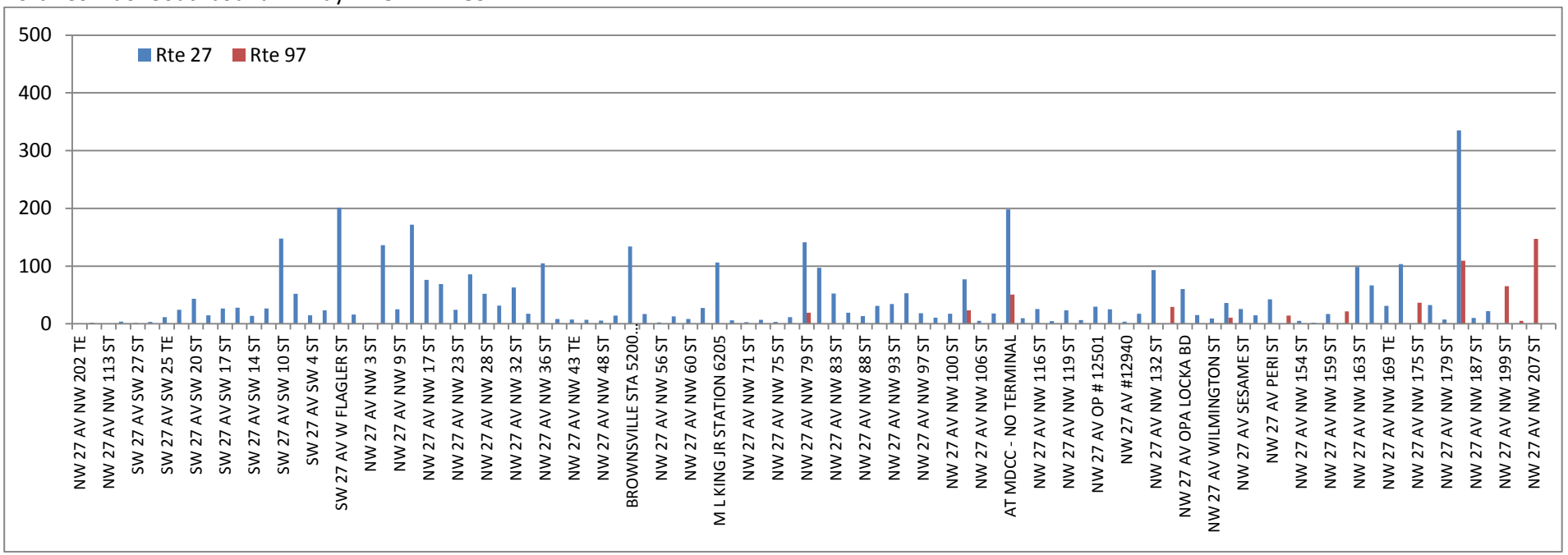
North Corridor Southbound PM Peak – BOARDINGS



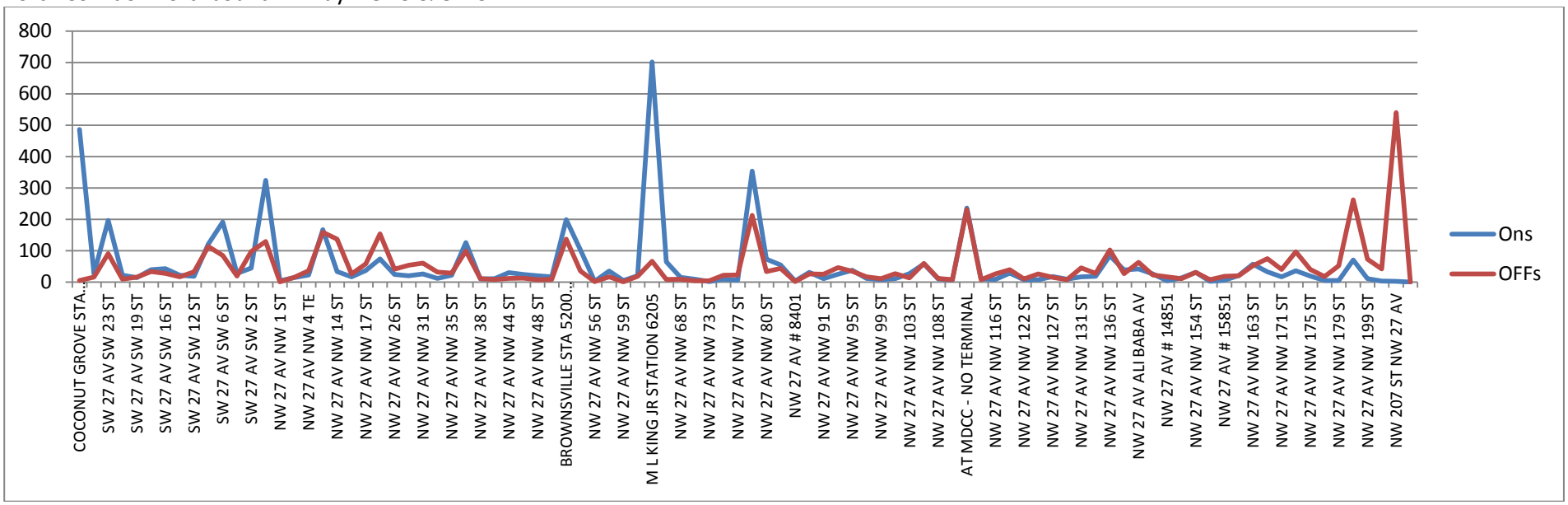
North Corridor Northbound All Day – BOARDINGS



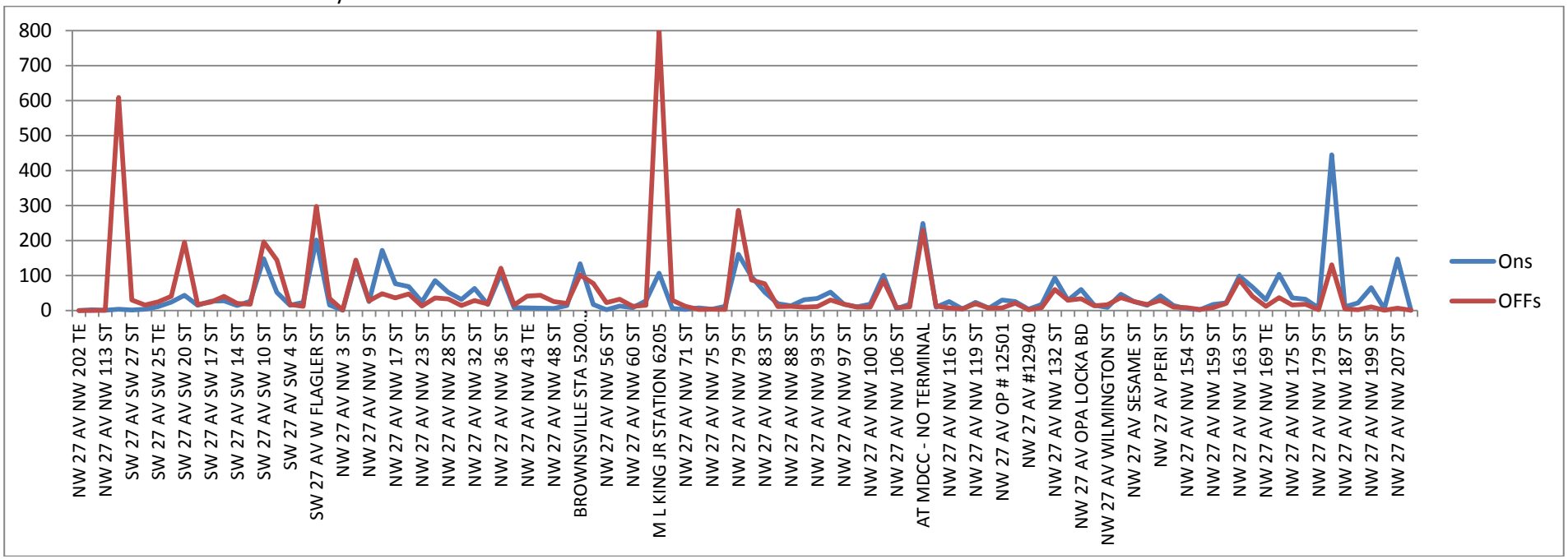
North Corridor Southbound All Day – BOARDINGS



North Corridor Northbound All Day – ONS & OFFS



North Corridor Southbound All Day – ONS & OFFS



SYSTEM WIDE ANALYSIS

Comparison of June 2009 and December 2009 Lineups

MDT adjusts its Metrobus services every six months, creating a new, revised lineup. In order to evaluate impact of service changes executed in December 2009, data was collected for the June 2009 and December 2009 lineups. General system wide service information is provided in **Table 16**. **Appendix 4** includes detailed tables that depict detailed route statistics for the June and December lineups, respectively.

Table 16: System Wide Comparison between Post-Service Change Implementation

Lineup	Passengers	Trips	Service Miles
June 2009	231,789	7,276	94,317
December 2009	216,820	6,187	88,297
% Difference	-6.4%	-15.0%	-6.4%

To evaluate the service adjustments implemented in December 2009, data collected in March 2010 was used to compare with data from the prior six-month service period that started in June 2009. The performance measures used to analyze the changes in service were passengers per revenue mile (Pass/RM), passengers per revenue hour (Pass/RH), fare recovery, direct operating cost per revenue mile (DOC/RM), and direct operating cost per passenger (DOC/Pass). The system wide comparison of performance measures between June 2009 and December 2009 is summarized in **Table 17**.

Table 17: System Wide Comparison between Post-Service Change Implementation

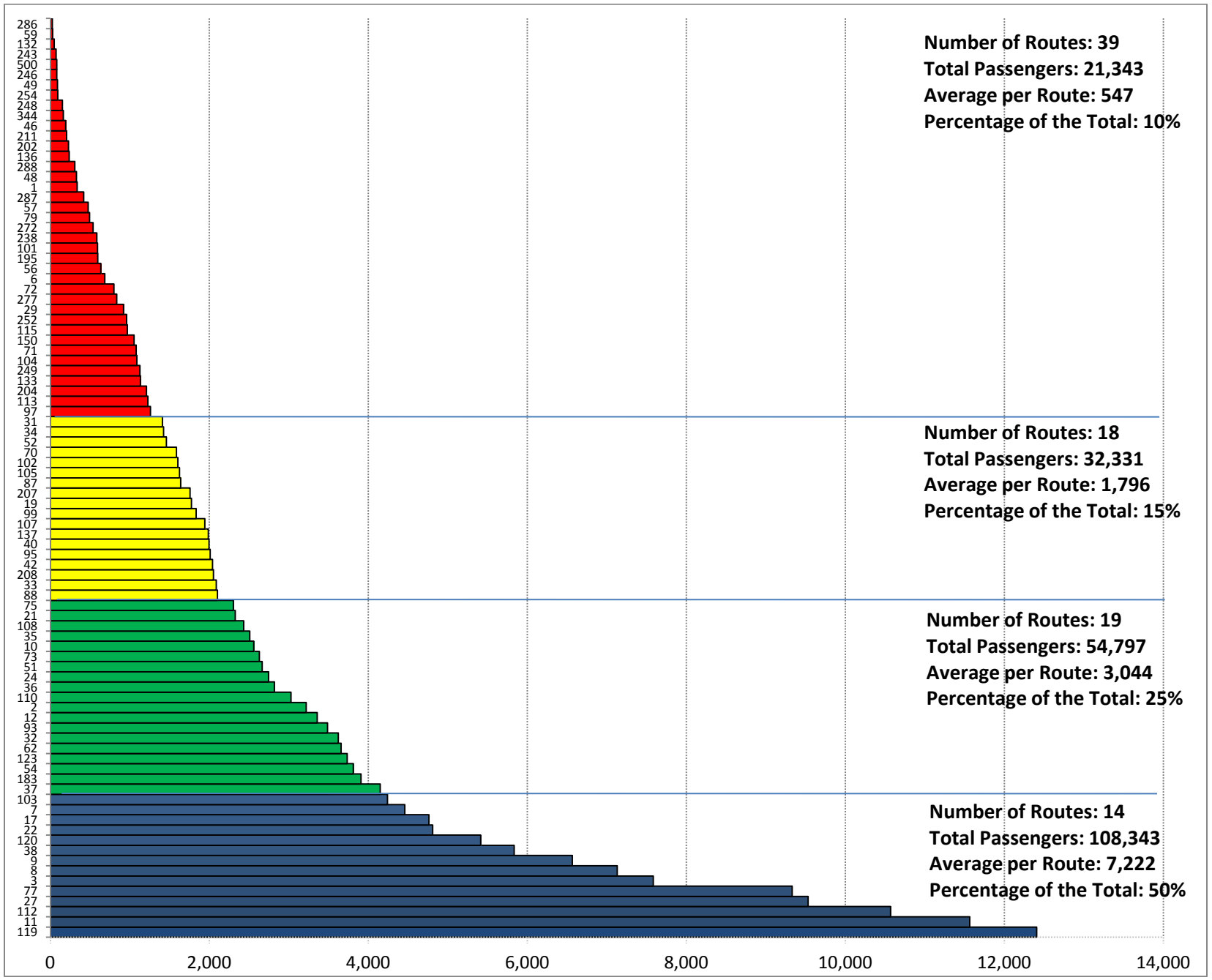
Lineup	Pass/ RM	Pass/ RH	Fare Rec.	DOC/ RM	DOC/ Pass
June 2009	2.5	35	$0.30	$8.10	$3.30
December 2009	2.4	34	$0.33	$8.36	$3.40
% Difference	-4.00%	-2.86%	10.00%	3.21%	3.03%

When comparing the results from June 2009 to December 2009, it can be observed that the overall route effectiveness, efficiency, and farebox recovery were improved. Direct Operating costs increased slightly after the implementation of the service changes.

Concentration of Services

A table was developed to determine the ranking of each route by daily boardings and daily service miles. **Appendix 5** shows the ranking of all MDT bus routes. As seen in **Figure 47**, the top 15 routes carry 50% of daily boardings and the bottom 39 routes carry 10% of daily boardings.

Figure 48: Routes by Percentage of Daily Ridership



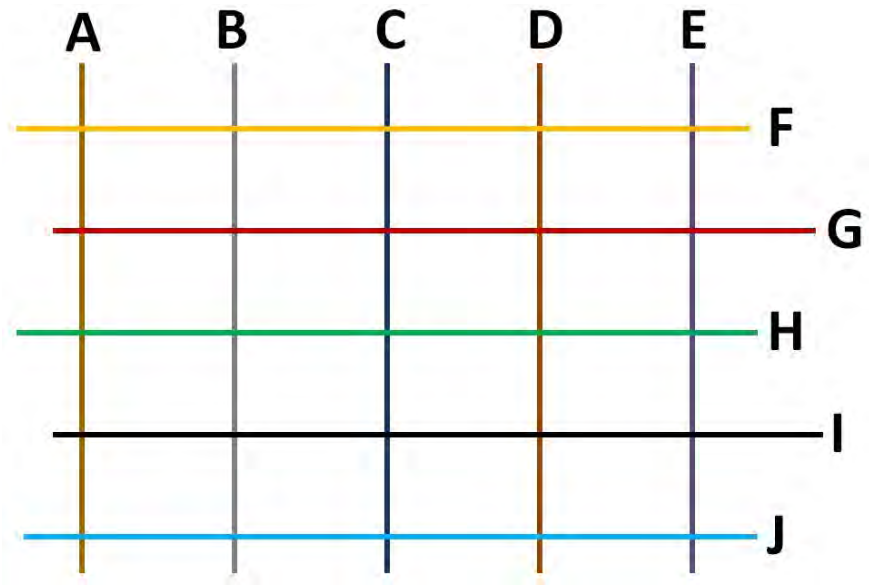
Recommendations

Service Design

The roadway network throughout Miami-Dade County is comprised of a grid system of arterial roadways, collectors, and local streets. Grid systems are comprised of streets that intersect forming 90 degree angles, creating traditional city blocks. Grid systems eliminate the complexities of angular or curved roads and create an easily walkable and navigable environment using close and consistent parallel streets. Grid systems often require riders to make one or more transfers and require more frequent headways.

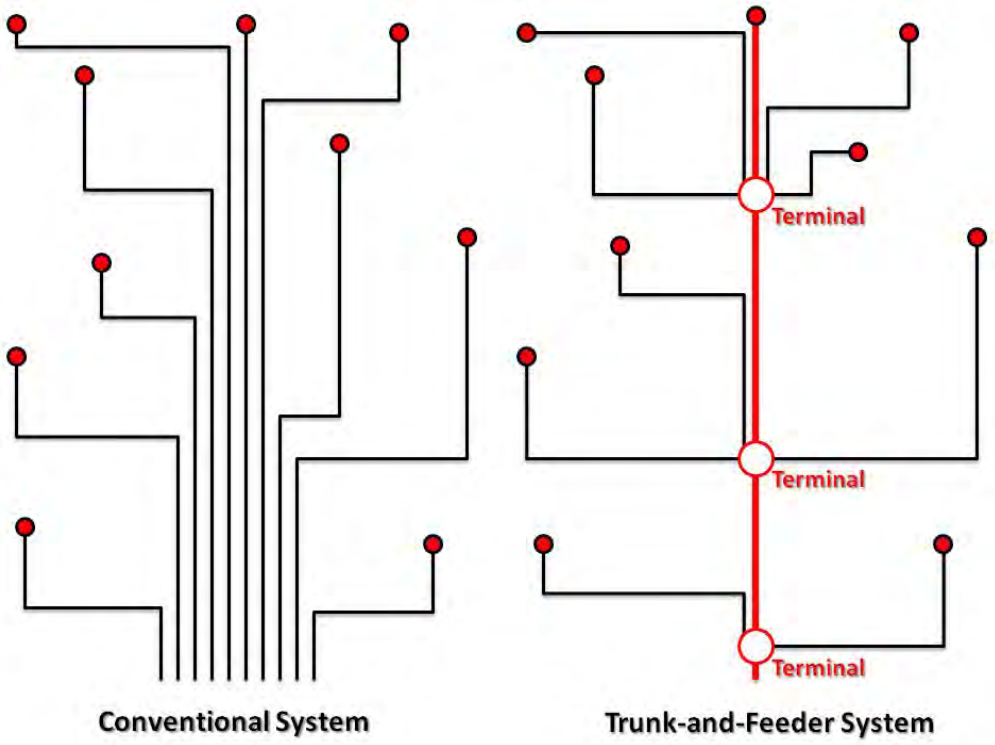
Grid systems create many travel benefits such as several alternative travel paths for individual trip pairs and an easily-definable functional hierarchy centered on section and half-section line roadways. A depiction of a grid network from the *Miami-Dade MPO Short Term Improvements Study* is provided in **Figure 48**. A grid network transit system requires large amount of resources to provide services on every major street of the grid. This is not feasible given the current budget forecasts.

Figure 49: Grid Roadway Network



It is possible for MDT to utilize hierarchy in the existing grid system to develop a trunk-and-feeder system given the existing budget. A trunk-and-feeder system is a system through which several terminals are established along a critical corridor on which one route with frequent headways, the trunk service, operates. Each terminal serviced on the corridor by the trunk line connects with several feeder services that reach destinations off of the main line. Trunk-and-feeder systems eliminate route overlap by providing services along major corridors that subsequently branch off at critical terminals to maximize coverage while minimizing overlap. An illustration of a trunk-and-feeder system is provided in **Figure 49**.

Figure 50: Truck-and-Feeder System Diagram



The non-local portion of the grid system in Miami-Dade County consists of section line and half-section line roadways. In general, section line roadways in Miami-Dade County serve as the principal arterial roadway system. MDT's bus services are mainly on section line and half-section line roadways. The development of a trunk-and-feeder system can be accomplished by providing "trunk services" on principal arterials. Examples of principal arterials include SW 8th Street, NW 27th Avenue, and US-1. The trunk services are supported by feeder services that travel on half-section lines, and even on local roadways, to provide the last-mile connectivity. Currently, such designation does not exist within MDT; rather, MDT currently provides multiple types of service based on the following degrees of hierarchy:

- Shuttle Service (e.g. Route 249, Brickell Key Shuttle) – These services provide point-to-point service, typically to serve a major attraction such as a downtown area or fixed-guideway services.
- Circulator Service (e.g. Route 254, Brownsville Circulator) - These services primarily connect community facilities with neighborhoods.
- Local Service (e.g. Route 8, Route 11) – These services travel on section and half-section line roadways. Some services also serve neighborhood streets.
- Limited-Stop Service (e.g. Route 51, Route 97) – These services are primarily on section-line roadways.
- Express Service (E.g. 95-Express, Route 150) – These services are primarily on limited-access roadways.

Additionally, there are eighteen municipal circulators operating in neighborhoods throughout the region that connect to MDT service. These circulators operate on headways ranging from 15 to 60 minutes and carry millions of riders each year. Several additional municipalities in the region are currently in the development stages of providing circulator services and may begin operating in the near future.

Each of these services may benefit from a well-defined trunk-and-feeder system, which will eliminate duplicate routes and maximize available resources. As described in the individual route and corridor analysis sections, several existing MDT routes currently overlap and may be operated more efficiently through the implementation of a trunk-and-feeder system. For example, Routes 3 and 62 should be combined along Biscayne Boulevard, Routes 11 and 51 should be combined along Flagler Street, and Routes 52, 252, and 287 should be combined with Routes 31 and 38 along the US-1 Busway, to consolidate services into trunk routes with various feeders rather than a myriad of overlapping routes along one roadway.

Use of Technology

Miami-Dade Transit has recently adopted several new technologies that can improve quality of service and efficiency of the system. Three major technologies are described below:

- Real-time Bus Tracking Program: The program known as "Bus Tracker" is currently in the pilot stage. It has been implemented for Route 288, which operates along Kendall Drive. Previously users could call in to check location of the bus. The program allows real-time tracking of bus on the MDT website. The program has potential to address service reliability. For instance, a patron can keep track of bus location to minimize wait time at stop locations.
- Easy Card: Users tap the card to the farebox to pay the fare. There are three main advantages of this technology from the transit planning point-of-view: minimizing revenue loss due to broken machines or turnstiles; reducing travel time by reducing boarding time, as patrons do not have to insert coins in the fare machine; and providing readily available and accurate data for planning analyses.
- Automatic Passenger Count (APC): APC technology consists of sensors placed in transit vehicles to collect boarding and alighting data by route, trip, location, and time-of-day. One of the best features of this technology is that the data becomes available almost immediately; therefore, the system can be analyzed on a monthly basis.

The three technologies listed above have potential to offer better and more competitive transit services. They also offer unprecedented tools for planners to analyze and improve the system. It is also recommended that an interface tool be developed with the ability to match, and thus validate, the number of boardings reported by both the APC and the East Card. This data cross-check would prove as an effective method of data quality assurance.

Use of Jitneys

Jitneys are currently operated in several parts of the County. Any business can start a jitney service by submitting a plan map and detailed proposed route alignment. Private jitneys may compete with MDT to provide services along high ridership corridors. Transit planners typically work with jitney operators to maximize user benefits. It is recommended that MDT, working with the County departments, encourage the private sector to use jitneys in connecting to new areas to provide service connections with MDT routes. The local nature of jitney service allows jitneys to be more flexible and respond to area residents' fluctuating needs. Jitneys also offer the convenience of ADA compliance, air conditioning in the van, and the appeal of a smaller vehicle with a steadfast driver.

Use of Private Sector

Overall, participation from the private sector should be encouraged. MDT recently worked with the private sector to plan and develop park-and-ride lots. Additionally, the privatization of existing routes with low ridership is also a possibility for the future. Similar initiates should be pursued more aggressively.

Strategic Visioning

In order to implement the proposed recommendations based on the individual route and system wide analyses of this study, an overall "Vision" or "Master Plan" for the MDT system should be developed that clearly outlines the goals and plan for the system. This "Vision" or "Master Plan" will identify the necessary steps to reach the outlined goals by providing both a consistent and continuous approach to corridor and route prioritization, implementation of BRT/EBS, route improvements, and operational changes.

The "Vision" or "Master Plan" should provide a logical and systematic approach to achieve a complete trunk-and-feeder transit system utilizing available resources as efficiently and effectively as possible. The "Vision" or "Master Plan" should also identify financial resources, benefits, costs, ridership, and marketing associated with the planned improvements and offer a timeline of anticipated steps for implementation and resource allocation. Once the plan is in place, the on-going monitoring program discussed in the next section can be utilized to examine the impacts of the plan on a route, corridor, and system wide level.

ON-GOING MONITORING PROGRAM

MDT has a vast amount of available data, from various sources including APC, Omnibus Reports, and Productivity Reports, at all levels from system wide down to the stop level. An on-going monitoring system will allow MDT to evaluate route and system performance based on the performance measures identified in this study and will streamline the process.

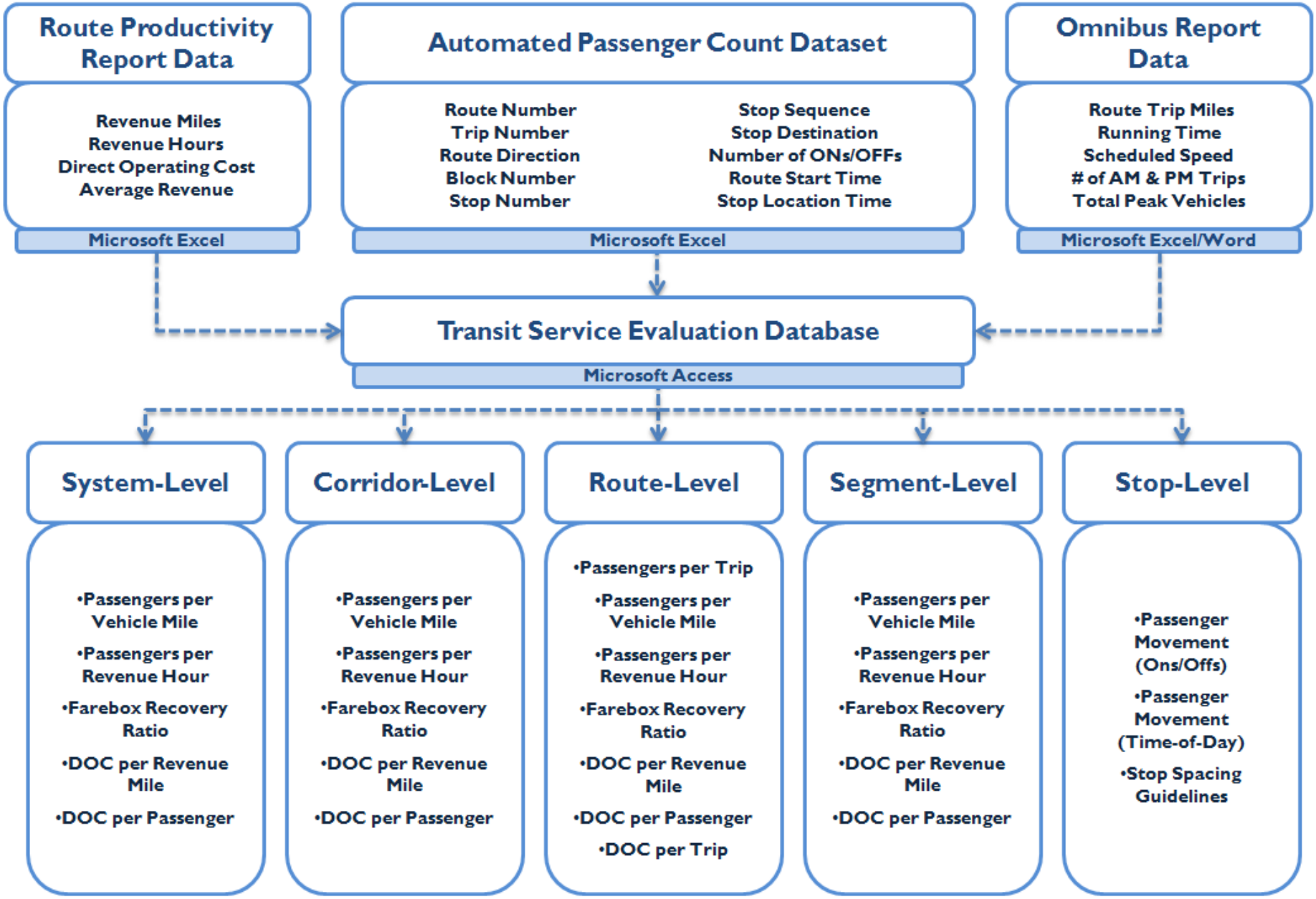
The APC system provides a sizable quantity of data. Through coordination with UTA, the identified data were provided in Excel format. Each Excel file represented average counts for a route in a given time period. The data were aggregated at route and segment levels and included the following fields:

1. Route Direction
2. Trip Number
3. Block Number
4. Stop sequence
5. Stop Number
6. Description of Stop Location
7. Average Number of ONs
8. Average Number of OFFs
9. Average Passenger Load
10. Geographic Location in the form of Longitude and Latitude
11. Number of Samples
12. Time of Day

For the purposes of this study, a database using Microsoft Access was developed to conduct data mining and prepare summary reports of the information provided by UTA. The data summary reports developed through the data mining process were then used to (1) determine exactly what data was available at the route and stop level and (2) use this available data, along with the MDT data, to calculate a variety of performance measures for consideration in service evaluation. These various performance measures were reviewed, and the seven performance measures used to evaluate each route in this report were selected.

A depiction of the data mining process is included in **Figure 50**. Each of the variables that were used in the calculation of the performance measures are included in at least one of MDT's system summary reports, including the Omnibus Reports, Productivity Reports, and cost summaries. This work was conducted manually; therefore, it is not recommended for an on-going program. MDT should request passenger reports by route from UTA to minimize the need for further data manipulation. It should be noted that the seven performance measures selected for evaluation do not include stop level information; therefore, the APC data summaries from UTA will only require number of passengers by route.

Figure 51: Data Analysis Process



For ongoing evaluation studies, it is recommended that UTA extracts the number of passengers by route from the master database and incorporates them into an individual spreadsheet performance evaluation. Additionally, MDT staff will continuously update a spreadsheet including agency information used for the calculation of the seven established performance measures for each route. Using the data from the UTA data spreadsheet and the MDT Data spreadsheet, a third spreadsheet will calculate the seven selected performance measures values.

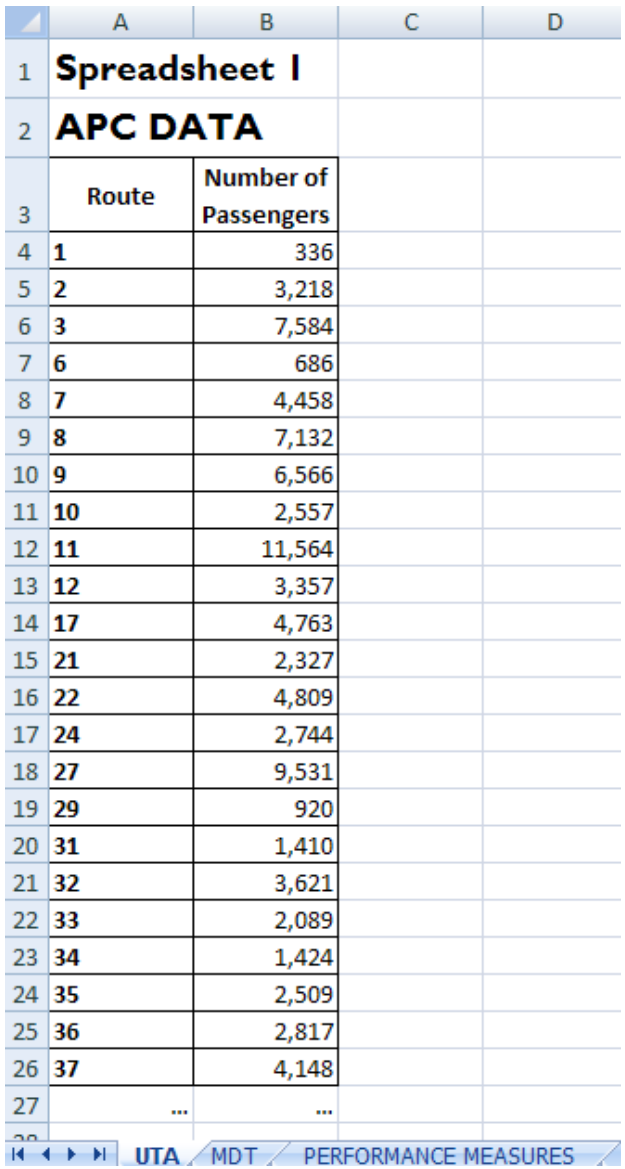
Through the application of equations to calculate each performance measure, a final report of performance measures by route (similar to the data reports included in Appendices) will then be produced and evaluated. This process would consolidate data into a user-friendly Excel workbook and minimize the need for extensive data manipulation in the calculation of performance measures.

Table 18 provides a summary of each variable required for the calculation of the performance measures included in this study, as well as the calculations applied to obtain each performance measure. **Figure 51** and **Figure 52** illustrate the Spreadsheet formats applied to calculate the performance measures.

Table 18: Data for Incorporation in On-Going Monitoring Performance Measurement Reports

Data	Source
Number of Passengers	APC Data
Number of Trips	Omnibus Report
Revenue Miles	Omnibus Report/Productivity Reports
Revenue Hours	Omnibus Report/Productivity Reports
Direct Operating Cost	MDT Cost Reports/Productivity Reports
Revenue	Productivity Reports
Performance Measures (By Route)	**Equation**
Passengers per Trip	Number of Passengers/Number of Trips
Passengers per Revenue Mile	Number of Passengers/Revenue Miles
Passengers per Revenue Hour	Number of Passengers/Revenue Hours
Farebox Ratio	Revenue/Direct Operating Cost
Direct Operating Cost per Revenue Mile	Direct Operating Cost/Revenue Miles
Direct Operating Cost per Passenger	Direct Operating Cost/Number of Passengers
Direct Operating Cost per Trip	Direct Operating Cost/Number of Trips

Figure 52: Performance Measures Excel Workbook- Source Data Spreadsheets



Spreadsheet 1

APC DATA

Route	Number of Passengers
1	336
2	3,218
3	7,584
6	686
7	4,458
8	7,132
9	6,566
10	2,557
11	11,564
12	3,357
17	4,763
21	2,327
22	4,809
24	2,744
27	9,531
29	920
31	1,410
32	3,621
33	2,089
34	1,424
35	2,509
36	2,817
37	4,148
...	...

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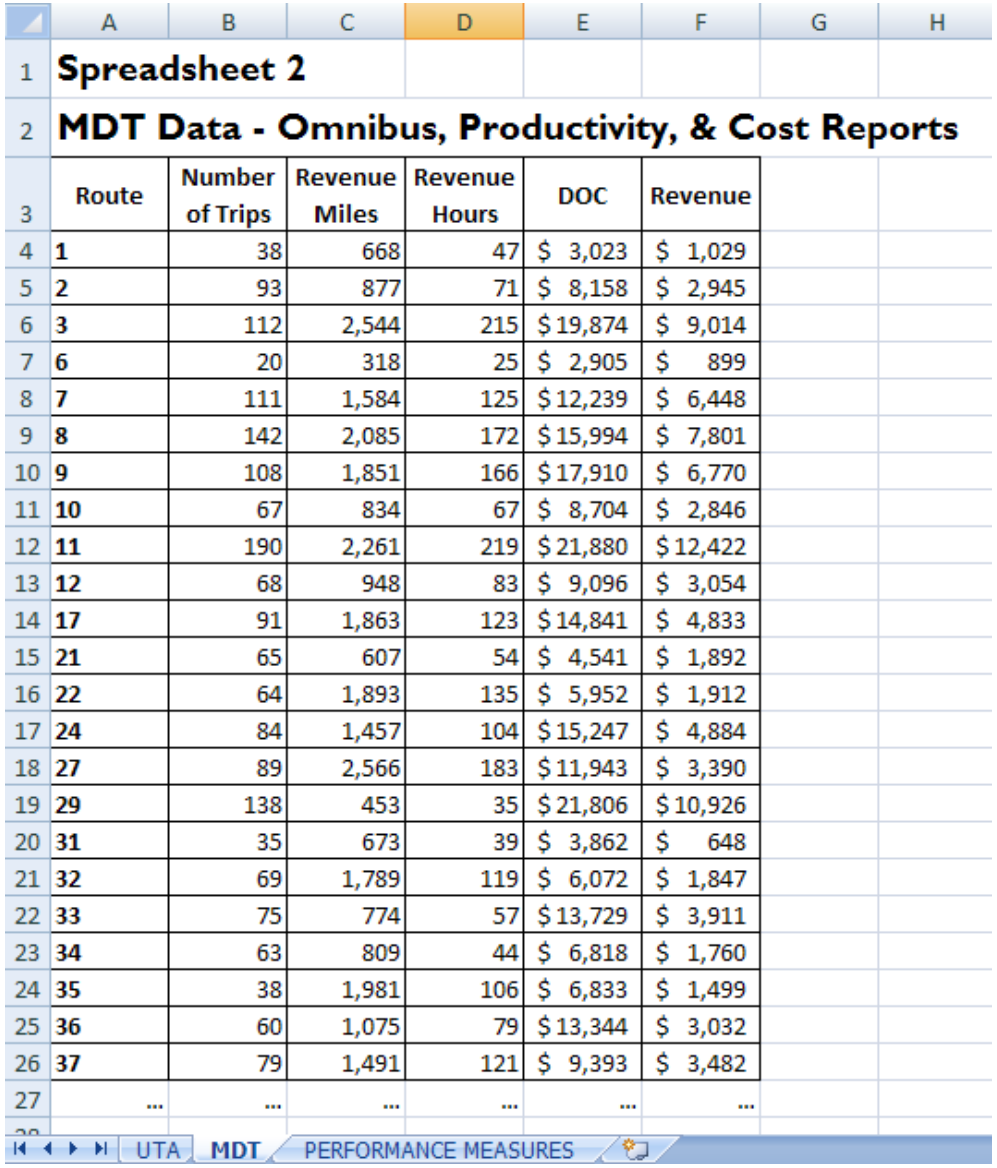

Spreadsheet 2

MDT Data - Omnibus, Productivity, & Cost Reports

Route	Number of Trips	Revenue Miles	Revenue Hours	DOC	Revenue
1	38	668	47	$ 3,023	$ 1,029
2	93	877	71	$ 8,158	$ 2,945
3	112	2,544	215	$ 19,874	$ 9,014
6	20	318	25	$ 2,905	$ 899
7	111	1,584	125	$ 12,239	$ 6,448
8	142	2,085	172	$ 15,994	$ 7,801
9	108	1,851	166	$ 17,910	$ 6,770
10	67	834	67	$ 8,704	$ 2,846
11	190	2,261	219	$ 21,880	$ 12,422
12	68	948	83	$ 9,096	$ 3,054
17	91	1,863	123	$ 14,841	$ 4,833
21	65	607	54	$ 4,541	$ 1,892
22	64	1,893	135	$ 5,952	$ 1,912
24	84	1,457	104	$ 15,247	$ 4,884
27	89	2,566	183	$ 11,943	$ 3,390
29	138	453	35	$ 21,806	$ 10,926
31	35	673	39	$ 3,862	$ 648
32	69	1,789	119	$ 6,072	$ 1,847
33	75	774	57	$ 13,729	$ 3,911
34	63	809	44	$ 6,818	$ 1,760
35	38	1,981	106	$ 6,833	$ 1,499
36	60	1,075	79	$ 13,344	$ 3,032
37	79	1,491	121	$ 9,393	$ 3,482
...	...	...	...	...	...

UTA | MDT | PERFORMANCE MEASURES

Figure 53: Performance Measures Excel Workbook- Calculations Spreadsheet

	A	B	C	D	E	F	G	H
1	**Spreadsheet 3**							
2	**Performance Measure Calculations**							
3	**Route**	**Passengers / Trip**	**Passengers / Revenue Mile**	**Passengers / Revenue Hour**	**Farebox Ratio**	**DOC / Revenue Mile**	**DOC / Passenger**	**DOC / Trip**
4	**1**	**=UTA!B4/MDT!B4**	**=UTA!B4/MDT!C4**	**=UTA!B4/MDT!D4**	**=MDT!F4/MDT!E4**	**=MDT!E4/MDT!C4**	**=MDT!E4/UTA!B4**	**=MDT!E4/MDT!B4**
5	**2**	35	3.7	46	0.36	9.3	2.54	87.72
6	**3**	68	3	35	0.45	7.81	2.62	177.45
7	**6**	34	2.2	28	0.31	9.12	4.24	145.25
8	**7**	40	2.8	36	0.53	7.73	2.75	110.26
9	**8**	50	3.4	41	0.49	7.67	2.24	112.63
10	**9**	61	3.5	39	0.38	9.68	2.73	165.83
11	**10**	38	3.1	38	0.33	10.44	3.4	129.91
12	**11**	61	5.1	53	0.57	9.68	1.89	115.16
13	**12**	49	3.5	41	0.34	9.6	2.71	133.76
14	**17**	52	2.6	39	0.33	7.97	3.12	163.09
15	**21**	36	3.8	43	0.42	7.48	1.95	69.86
16	**22**	75	2.5	36	0.32	3.15	1.24	93
17	**24**	33	1.9	26	0.32	10.46	5.56	181.51
18	**27**	107	3.7	52	0.28	4.65	1.25	134.19
19	**29**	7	2	27	0.5	48.17	23.71	158.01
20	**31**	40	2.1	36	0.17	5.74	2.74	110.34
21	**32**	52	2	30	0.3	3.39	1.68	88
22	**33**	28	2.7	37	0.28	17.74	6.57	183.05
23	**34**	23	1.8	33	0.26	8.43	4.79	108.22
24	**35**	66	1.3	24	0.22	3.45	2.72	179.82
25	**36**	47	2.6	36	0.23	12.41	4.74	222.4
26	**37**	53	2.8	34	0.37	6.3	2.26	118.9
27	...	...	...	...	...	...	...	...

FORMULA VIEW

UTA | MDT | PERFORMANCE MEASURES

This performance measure spreadsheet calculation methodology will easily allow MDT to sum and average the values for each route to determine system wide performance measure values, as well as take sums and averages of data for select routes for corridor analysis. This system wide and corridor level data availability will also allow MDT to easily review route performance on an aggregate level. Additionally, this reporting system will allow MDT to routinely monitor the performance of individual routes by analyzing the trends for each performance measure across a given timeframe of analysis.

SUMMARY OF RECOMMENDATIONS

Recommendations were provided for bus stops, individual routes, and system wide design. This section provides a summary of the recommendations provided in this analysis.

Bus Stop Recommendations

Overall recommendations for bus stop improvements include the following:

- Eliminate or consolidate low use stops with fewer than five boardings and alightings on a weekday;
- Eliminate or consolidate stops with respect to their surrounding area types to meet spacing requirements of the *MDT Service Standards*;
- Use the *MDT Service Standards* for the design of new bus stop amenities throughout the entire system; and
- Construct bicycle lockers at all transit hubs.

Route Recommendations

Recommendations for individual routes fall into five main categories: alignment adjustments, operational adjustments, partial route consolidation, entire route consolidation, and route elimination. **Table 19** provides a summary of individual route recommendations by category.

Table 19: Route Recommendation Summary

Alignment Adjustments	Operational Adjustments	Partial Route Consolidation	Entire Route Consolidation	Route Elimination	Further Evaluation	
3	2	12	35/52	248	1	115
6	22	21	36/132	286	3	135
17	38	35	37/136	344	6	137
22	19	56	49/183	46*	9	202
27	123	57	287/70	48*	11	211
29	248	62	3/62/93 (Long term)	136*	36	246
31	252	104	9/10 (Long term)	238*	54	252
35		110	11/51 (Long term)	243*	59	254
40		204	27/97 (Long term)		71	272
42			46*		75	500
51			48*		95	
56			136*		108	
57			238*		115	
62			243*		135	
70					137	
88					202	
					211	

* Routes recommended for either complete consolidation or elimination

Alignment adjustment recommendations generally involve splitting a route, route deviation, or deletion of a part of a route. Operational adjustment recommendations involve increases or decreases in headway in different time periods of the day. Partial route consolidation involves combining services along similar roadways, and in some cases the creation of a feeder route that connects to a trunk system. Consolidating entire routes involves the combining of routes along similar roadways in order to merge services to increase efficiency. Route elimination entails the discontinuing the entire route.

Corridor Recommendations

Overall recommendations for corridor level improvements include the following:

- Biscayne Corridor: Implement BRT/EBS service along Biscayne Boulevard and truncate Route 62 at Biscayne Boulevard to create a feeder route to Routes 3 and 93 in a trunk-and-feeder system;
- Flagler Corridor: Implement BRT/EBS service along Flagler Street, which will include the combination of Routes 11 and 51 on a long term scale;
- NE 2nd Avenue Corridor: Implement BRT/EBS service NE 2nd Avenue, which will include the combination of Routes 9 and 10;
- South Miami-Dade Busway Corridor: Develop a trunk-and-feeder service by truncating Routes 52, 252, and 287 before entering the Busway and improve headways on Routes 31 and 38 to accommodate the riders from these feeder routes;
- State Road 7 Corridor: Maintain existing service along State Road 7; and
- North Corridor: Separate Route 27 at the Brownsville Metrorail Center into two parts and continue the existing Route 97 limited stop service. Long term plans for this corridor involve the construction of a Metrorail extension to the north portion of the County.

System Wide Recommendations

Overall recommendations for system wide improvement include the following:

- Initiate trunk-and-feeder systems along major corridors to maximize available resources;
- Maximize capabilities of recently adopted technologies, including the real-time bus tracking program, Easy Card fare collection, and APC data collection;
- Coordinate with local jitney services to provide connections to communities out of the MDT system's reach; and
- Develop a "Vision" or "Master Plan" to identify and prioritize long term goals for the MDT system, outline the steps and resources to achieve the vision, and utilize the on-going monitoring system described above to evaluate the impacts of these changes as they are implemented.

ACTION PLAN

The actions discussed in this report fall into three categories: (1) consideration of the stop, route, and corridor recommendations, (2) implementation of the on-going system monitoring program, and (3) development of the MDT "Vision" or "Master Plan".

The recommendations listed in the section above are based on route and system wide analyses and provide guidance on proposed actions. It was beyond the scope of this effort to design specific operating changes. As such, additional refinement of recommended actions will need to be undertaken by MDT. Once detailed operational plans are completed, it will be possible to estimate the cost implications of the recommended actions. In addition, there may be mobility needs for special populations and other operational factors that may require modifying the systems level route suggestions of this analysis. Given the operational scope and nature of the recommendations, they could be implemented incrementally in upcoming lineup changes, following a detailed operational plan for each route modification.

The implementation of the continuous monitoring process involves the input of UTA and MDT data into the performance measure spreadsheets to maintain a record of changes during and in transition periods between lineup adjustments. Then, every six months, prior to the next lineup change, the performance measure trends in conjunction with agency knowledge of the corridors and existing conditions will be used to evaluate and compare route and system wide changes and develop suggestions for adjustments. Performance measures taken at the corridor level will also be effective in premium service feasibility analyses, such as BRT/EBS studies or express service considerations along major roadways in the MDT system.

Once the initial recommendations and considerations discussed in this report are addressed and the on-going monitoring program is in place, initiation of the "Vision" or "Master Plan" should commence. The purpose of the "Vision" or "Master Plan" will be to identify broad and specific goals and plan with both a short- and long-term timeframe in consideration for a more efficient system. The "Vision" or "Master Plan" will also help to focus line-up changes and service adjustments to align toward this set of goals. The "Vision" or "Master Plan" will guide the recommendations based on future service evaluations using the on-going monitoring program to ensure that changes are contributing toward the overall system vision.

The Action Plan can be summarized below:

- Review the proposed recommendations in this report;
- Prioritize recommendations to be implemented;
- Further evaluate routes and recommendations as necessary;
- Continue to monitor APC data and performance measures on a route, corridor, and system wide basis; and
- Develop a Vision for the MDT system.