Memorandum

MIAMI-DADE COUNTY

Date: November 3, 2009

Agenda Item No. 8(J)(1)(C)

To: Honorable Chairman Dennis C. Moss
and Members, Board of County Commissioners

From: George M. Burgess
County Manager

Subject: Resolution Adopting the Annual Update of the 2009 Transit Development Plan Covering the Period From 2010-2019

RECOMMENDATION

It is recommended that the Board of County Commissioners (Board) adopt the Miami-Dade Transit (MDT) submission of the Annual Update of the 2009 Transit Development Plan (TDP) covering the ten-year period from 2010-2019. This year's update is a major update. A major update is required every five years and provides more comprehensive data, as opposed to the minor administrative updates which are approved by the Board annually. This major update includes Miami-Dade Transit's Service Standards which are the framework for guiding the decisions on which transit services are created and evaluated.

SCOPE

The updates delineated in this item benefit the riding public and therefore has a county-wide impact.

FISCAL IMPACT

There is a positive fiscal impact associated with the development of this report. Once the report is adopted by the Board, it will be forwarded to the Florida Department of Transportation (FDOT) for their consideration, approval and release to MDT of Public Transit State Block Grant funds. The annual eligibility for receipt of the Block Grant is contingent upon having an approved TDP filed with the State each year.

TRACK RECORD/ MONITOR

In prior years, the MPO had served as the entity responsible for facilitating adoption of this plan, a requirement of the State. However, a ruling from FDOT, effective on February 20, 2007 mandated that a TDP be adopted by a provider's governing body. Since MDT is the provider of transportation services for Miami-Dade County, the appropriate governing body is the Board. Since that time, the Board has approved two minor updates (R-973-07 and R-1323-08).

The program monitor responsible for the Transit Development Plan is Maria Batista, Principal Planner, MDT.

DELEGATED AUTHORITY

In accordance with Section 2-8.3 of the Miami-Dade County Code related to identifying delegation of Board authority, there are no authorities beyond that specified in the resolution which include authority for the Mayor, or his designee, to submit the attached Plan to the Florida Department of Transportation.

BACKGROUND

Transit Development Plans (TDPs) are required for State Block Grant program recipients such as, MDT as described in Section 341.052, F.S. A TDP shall be the provider's planning, development, and operational guidance document. A TDP or an annual update (attached) is used in developing the Department's ten-year Work Program, the Transportation Improvement Program, and the Department's Program and Resource Plan. Public transit funds will be considered by the State on the basis of public transit needs as identified in TDPs. The FDOT is authorized to fund up to such percentages as are designated for each type of public transportation project by Chapter 341, F.S., for the respective state and federal projects described therein.

This item represents a Major Update of the TDP and was prepared to fulfill State of Florida statutory requirements, which requires that all transit properties receiving Public Transit Block Grants prepare or update annually a ten-year TDP. This mandate is spelled out under Sections 341.052 and 341.071 of the Florida Statutes. With the ruling published in February 20, 2007, a major update is required every five years. As opposed to the minor/administrative annual update that provides minimal transit data such as existing services and the proposed new services within the operating environment and its associated financial component, this 2009 Major Update includes an extensive demographic and travel characteristics section. It also includes a situation appraisal section depicting the effects of land-use on transportation as well as presenting the operating environment, which contains an update of MDT's existing transit services. Additionally, it includes a Peer Review section, comparing MDT with other similar transit agencies throughout the Country. It contains a summary of local transit policies within the region, development of proposed transit enhancements, committed improvements/adjustments, a new 10-year Recommended Service Plan (RSP), and the financial analysis of proposed transit improvements/adjustments for the ten-year period ending in 2019. Finally, it also includes a Public Involvement section from where MDT has gathered public information/input to formulate the 10-year RSP.

Miami-Dade Transit's Service Standards, included in this year's TDP, are intended to support the goals and objectives of Miami-Dade County. These service standards lead to a fair, equitable, and objective comparison of all requests and proposals generated regarding Transit service from the general public, elected officials, and MDT staff. Miami-Dade Transit's Service Standards affect the amount of service delivered, and the amount of service to be provided within the bounds of existing financial resources.

Assistant County Manager

MEMORANDUM
(Revised)

TO: Honorable Chairman Dennis C. Moss and Members, Board of County Commissioners

DATE: November 3, 2009

FROM: R. A. Cuevas, Jr. County Attorney

SUBJECT: Agenda Item No. 8(J)(1)(C)

Please note any items checked.

_____ **"3-Day Rule" for committees applicable if raised**

_____ **6 weeks required between first reading and public hearing**

_____ **4 weeks notification to municipal officials required prior to public hearing**

_____ **Decreases revenues or increases expenditures without balancing budget**

_____ **Budget required**

_____ **Statement of fiscal impact required**

_____ **Ordinance creating a new board requires detailed County Manager's report for public hearing**

_____ **No committee review**

_____ **Applicable legislation requires more than a majority vote (i.e., 2/3's ____, 3/5's ____, unanimous _____) to approve**

_____ **Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required**

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 8(J)(1)(C)
11-3-09

RESOLUTION NO. _____

RESOLUTION ADOPTING THE MIAMI-DADE TRANSIT (MDT) SUBMISSION OF THE ANNUAL UPDATE OF THE 2009 TRANSIT DEVELOPMENT PLAN (TDP) COVERING THE TEN-YEAR PERIOD FROM 2010-2019 WHICH INCLUDES MIAMI-DADE TRANSIT'S SERVICE STANDARDS

WHEREAS, on February 20, 2007, the State of Florida Department of Transportation issued new regulations regarding the adoption of local Transit Development Plans; and

WHEREAS, Transit Development Plans are required for grant recipients, such as Miami-Dade Transit and as described in Section 341.052, F.S. ; and

WHEREAS, Transit Development Plans are to be adopted by the provider's governing body, and Miami-Dade Transit's governing body is the Board of County Commissioners; and

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying Manager's Memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board hereby adopts the Annual Major Update of the 2009 Transit Development Plan covering the period from 2010-2019 which includes Miami-Dade Transit's Service Standards, and authorizes the Mayor, or his designee, to submit the attached TDP to the Florida Department of Transportation (FDOT) in substantially the form attached hereto and made a part hereof.

The foregoing resolution was offered by Commissioner , who moved its adoption. The motion was seconded by Commissioner and upon being put to a vote, the vote was as follows:

Dennis C. Moss, Chairman
Jose "Pepe" Diaz, Vice-Chairman

Bruno A. Barreiro	Audrey M. Edmonson
Carlos A. Gimenez	Sally A. Heyman
Barbara J. Jordan	Joe A. Martinez
Dorrin D. Rolle	Natacha Seijas
Katy Sorenson	Rebeca Sosa
Sen. Javier D. Souto	

The Chairperson thereupon declared the resolution duly passed and adopted this 3rd day of November, 2009. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By:_____
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.

Bruce Libhaber

Memorandum

MIAMI-DADE COUNTY

Date: October 14, 2009

Supplement

To: Honorable Chairman Dennis C. Moss
and Members, Board of County Commissioners

From: George M. Burgess
County Manager

Subject: Supplement to Resolution Adopting the Annual Update of the 2009 Transit Development Plan Covering the period From 2010-2019

This supplement provides scrivener error corrections to the Transit Development Plan (TDP) attached to Agenda Item 3C. It is recommended that the item be forwarded to the full Board as amended by the below.

- On page 2-29, remove duplicate route 42 listing.
- On page 3-11, Table 3-2, the referenced footnote documenting the source should read, "National Transit Database 2008 data".
- On page 3-14, Other Factors to Note, Service, 4th bullet, strike out the phrase "...and will increase ridership".
- On page 3-18, Miami Gardens Drive/NW 73rd Avenue, add the phrase "with 125 spaces" at the end of the paragraph.
- On page 4-26, Table 4-5, (Automated Guideway Peer Comparison), replace listings in the column labeled "MDT" as reflected in the attached.
- On page 9-25, second paragraph, reference to eight MDT staff members should read "nine MDT staff members." In addition, a bullet should be added in this section to include "Chief, Strategic Planning and Performance Management (Co-chair)." Reference to Chief, Quality Assurance as (Co-chair) should be stricken.
- On page 9-41, Section 9.8.3, second line, should begin, "Five...".
- On page 9-42, NW 27 Avenue Rapid Bus, reference to 20 minute peak headway should read "6.5 minutes"; 40 minute mid-day should read "10 minutes"; Weekend listing should read "N/S"; Cost for 2012-2019 should read "$3.1M"; and PVR should read "12".
- Page 9-43, SW 8 Street Rapid Bus, add 6.5 minute peak headway; add 10 minute mid-day headway, weekend N/S.
- Page 10-18, Bus Route Improvements, 5th sentence, reference to 12 year bus replacement plan should read "15 year"; in sentence 6, reference to $500K should read "$600K" per 40 ft. hybrid vehicle; and Table 10-13 (Proposed Bus Route Improvements (Unfunded)) is corrected as reflected in the attached.
- Page 10-21, Table 10-16 (Total Unfunded Needs, FY2010-2019 (YOE millions)) is corrected as reflected in the attached.

Assistant County Manager

6

Table 2-14: Tri-Rail Stations and MDT Route Connections

Tri-Rail Station	MDT Route	Major Destinations	Tri-Rail Station	MDT Route	Major Destinations
Golden Glades	E	Miami Lakes Corporate Center, Golden Glades Park and Ride, Opa Locka City Hall, Aventura Mall and Mall at 163rd Street	Opa Locka	E	Miami Lakes Corporate Center, Golden Glades Park and Ride, Opa Locka City Hall Aventura Mall and Mall at 163rd Street
	22	The Mall at 163rd Street, University of Miami/Jackson Memorial Hospital/Clinics		32	Florida Memorial University, Miami-Dade College-North Campus St. Thomas University, Northside Metrorail Station, Santa Clara Metrorail Station, Omni Mover Terminal
	42	Golden Glades Park and Ride, Opa Locka City Hall, Douglas Road Metrorail Station, Coconut Grove Metrorail Station, MIA			
	77	Culmer Metrorail Station, Government Center Metrorail Station, Golden Glades Park and Ride	Tri-Rail/ Metrorail Transfer	L	Lincoln Road, Miami Beach Convention Center, Amtrak Terminal, Hialeah Metrorail Station
	95 Express	Golden Glades Station, Downtown Civic Center, Earlington Heights Metrorail Station		42	Golden Glades Park and Ride, Opa Locka City Hall, Douglas Road Metrorail Station, Coral Gables Metrorail Station
	246 Night Owl	Government Center Metrorail Station, Civic Center Metrorail Station, Jackson Hospital North, The Mall at 163rd Street	Hialeah Market	132 Doral/Tri-Rail Shuttle	Koger Executive Center, Doral Country Club, Hialeah Station
	277 7th Ave MAX	Downtown Miami, Government Center Metrorail Station, Culmer Metrorail Station, NW 7 Ave., Lindsey Hopkins, Edison Center, North Miami, Biscayne Gardens, Golden Glades Park & Ride	Miami International Airport	37	Hialeah Metrorail Station, Douglas Road Metrorail Station, Miami International Airport, South Miami Metrorail Station MIA, Hertz Car Rental, Tri-Rail Station
			Miami International Airport	133 Airport/Tri-Rail Shuttle	Windham Airport Hotel, MIA, Hertz Car Rental, Tri-Rail Station
				238 East-West Connection	Dolphin Mall, Miami International Mall, MIA, Earlington Heights Metrorail Station

Source: Miami-Dade Transit, June 2009

7

Table 3-2: MDT Service Characteristics by Transit Mode, 2008

System Characteristics	Metrobus	Metrorail	Metromover	STS
Operating Hours	24 hours[6]	5:00am - 12:48am	5:00am - 12:00am	24 hours
Number of Routes	96 [7]	1	3	Demand Response
Number of Stations/Stops	8,947	22	21	N/A
Peak Headways	7½ - 60 minutes	7½ minutes	1 ½ -3 minutes	Pick up +/-30 minutes of scheduled time
Midday Headways	12 - 60 minutes	15 minutes	2½ minutes	
Weekend Headways	10 - 60 minutes	30 minutes	2½ minutes	
Routes Miles	2,866 round trip miles	22.4 miles	4.4 miles	N/A
Peak Vehicle Requirements	744	84	18	276
Total Fleet Size (Section 15 Report)	893 (772 full-size/ 121 minibus)	136	29	359 (200 sedans, 54 vans, 105 lift equipped vans)
Annual Revenue Miles	32,402,595	6,743,666	934,906	13,292,816
Annual Boardings	85,789,745	18,538,741	8,839,156	1,634,468
Park-Ride Spaces	1,722	9,658	0	N/A
Annual Operating Expenses (budgeted)	$337,894,421	$82,381,902	$22,842,866	$44,829,765
Annual Operating Revenues (budgeted)	$71,722,693	$13,246,540	$0	$4,303,798
Annual Revenues (Other) [8] (budgeted)	$5,456,827	$0	$0	N/A
Base Fare	$2.00	$2.00	Free	$3.00

Source: National Transit Database 2008 data.

3.2 Miami-Dade Transit Passenger Fare Structure

The MDT fare structure is a flat priced system where a passenger pays a set rate for a single trip regardless of distance traveled for that trip. MDT provides passenger reduced fares for people with disabilities, Medicare recipients, and Miami-Dade students in grades 1-12. To keep up with rising operating costs, MDT increased fares

[6] Six Metrobus routes (L, S, 3, 11, 27, 38/Busway MAX) operate 24 hours per day. Two other routes, 246/Night Owl and 500/Midnight Owl, provide hourly bus service approximately between the hours of 10:30pm and 6:30am.

[7] 94 Metrobus operated routes plus 2 contracted routes.

[8] All transit revenues derived from advertising and concessions are reported here (including Bus, rail and Mover a total of $4,257,539). This figure also includes Park & Ride revenues in the amount of $1,199,288.

Other Factors to Note

Impediments

- Since the passage of the PTP in November 2002, the senior citizen ridership (65 years and over) has increased two-fold due to the implementation of the Golden Passport which allows these riders to ride free. This has had a substantial impact on farebox recovery although it has increased ridership.
- Additionally, the removal of the Mover fare has negatively impacted fare revenue since this now a free fare service when previously fare revenue was collected from passengers.

Service

- MDT is in discussion with FDOT, Broward County Transit and SFRTA to see what improvements can be made to the Golden Glades Transportation facility.
- MDT has been utilizing the Trapeze Software to assist with assigning productive routes and runs and eliminating unproductive ones.
- Busway extension to Florida City will assist with increasing ridership
- MDT plans to build pedestrian overpasses at its University and South Miami Metrorail stations which will provide easier and safer access to Metrorail facilities.
- FDOT, FTA, MDT and Broward County Transit are in the process of implementing an I-95 managed lanes project by fiscal year 2010 between Miami-Dade County and Broward County.

Customer Service

- Delivering effective customer service is our number one priority. All transit employees strive for excellence when interacting with all customers on a day to day basis.
- MDT has an ambassador program where volunteers ride our Metrorail system to provide assistance to patrons in need.
- Miami-Dade Transit has been marketing a variety of programs to keep customers informed of our services.
- Station attendants will be assigned at each rail station to assist passengers with the transitioning process once the new Automated Fare Collection System is implemented.

The New Bus Automated Fare Collection System (AFCS)

The new Bus Automated Fare Collection System (AFCS) brings new technology that provides validation of coins and bills inserted into the farebox. The AFCS Validating Farebox rejects foreign or counterfeit coins or bills thus reducing fraudulent payment. The introduction of the Contactless Smart Card (EASY Ticket/Card) will decrease fare evasion since the equipment will be capable of recognizing and legitimizing the fare

Douglas Road Metrorail Station

An existing, but recently unused surface lot, underneath the Metrorail guideway will be re-opened and will add approximately 50 additional parking spaces.

Miami Gardens Drive / NW 73rd Avenue

An interdepartmental Agreement dated March 23, 2006, was created between Miami-Dade County Parks and Recreation Department and MDT for parcel #1176, a 2.03-acre site of park owned land, under FPL power lines, to be used by MDT for a bus Park and Ride lot that will include 125 parking spaces.

Proposed Park and Ride Locations

The following Park and Ride locations are in various planning stages of implementation.

Dadeland North Metrorail Parking Garage

The Dadeland North Metrorail Parking Garage in its original configuration contained approximately 1,970 parking spaces. The garage reached 100% occupancy prior to the Fall of 2000. During this time, MDT received many complaints from riders who were unable to find parking at this station. In October of 2000, the garage was reconfigured to provide an additional 89 spaces. These additional spaces were immediately absorbed by the demand for parking at this station. On workdays, the garage fills up to capacity by 8:30 am. Since parking at the Dadeland South Station is also 100 percent (100%) full by this time, Metrorail riders arriving after 8:30 am are forced to either drive to the South Miami Station garage or to drive to their destination.

Throughout 2008, various options were explored for the Dadeland North site, including the potential of resuming negotiations with the FEC to purchase its property. Time constraints related to the age of the initial Joint Participation Agreement (JPA) with the Florida Department of Transportation (FDOT) have now made it increasingly difficult to reach an acceptable solution for this site. MDT has continued to explore other options, but at publication time for this document had not reached a final conclusion, although it will coordinate possible options, including reprogramming of the funds for future Park & Ride projects, with FDOT.

Kendall Drive / SW 127th Avenue

MDT is in the process of negotiating the acquisition of approximately 2.3 acres of land under the FPL power lines to be developed as a Park and Ride lot.

Kendall Drive / SW 97th Avenue

This property is owned by MDX and MDT will seek permission to use this site when the SR 874/SR 878 construction project is completed. Site is currently being used as a construction staging area.

MIAMI-DADE COUNTY TRANSIT

Table 4-5: Automated Guideway Peer Comparison

Agency	*MDT*	*JTA*	*DTC*	*LVMC*	Peer Mean
City	Miami, FL	Jacksonville, FL	Detroit, MI	Las Vegas, NV	
NTD Number	4034	4040	5141	9204	
Unlinked Passenger Trips	8,622,729	619,414	2,307,804	9,329,974	5,219,980
Average Age (yrs.) of Bus Fleet					
Passenger Miles Traveled	8,840,136	255,898	3,543,035	2,217,870	3,714,235
Average Passenger Trip Length	1.03	0.41	1.54	0.24	1
Vehicle Revenue Hours	91,657	19,013	56,932	26,771	48,593
Vehicle Revenue Miles	934,906	254,228	552,640	488,298	557,518
Passenger Trips Per Revenue Hours	94.08	32.58	40.54	348.51	129
Passenger Trips Per Revenue Miles	9.22	2.44	4.18	19.11	9
Operating Costs Per Passenger Trip	$2.44	$7.44	$5.56	$5.75	$5.30
Operating Costs Per Revenue Hour	$229.12	$242.51	$225.32	$2,005.49	$675.61
Weekend Service Availability	Yes Sat (0530-0000) Sun (0530-0000)	Yes Sat (1000-2300) Sun (None)	Yes Sat (0900-2000) Sun (1200-2400)	Yes Sat 0700-0300) Sun (0700-0200)	
Operating Expenses	$21,000,653	$4,610,771	$12,827,644	$53,688,939	$23,032,002
Maintenance Expenses	$11,439,965	$2,890,659	$6,173,028	$0	$5,125,913
Fare Revenues	$0	$336,188	$1,068,241	$29,446,783	$7,712,803
Farebox Recovery	0.00%	7.29%	8.33%	54.85%	17.62%

Data Source: NTD (2007)

Table 4-6: MDT Metromover 2003-2008 Trends

Performance Measures	2003	2004	2005	2006	2007	2008
Unlinked Passenger Trips	6,229,321	7,768,509	9,444,910	8,221,687	8,622,729	8,839,156
Average Age (yrs.) of Fleet	12.9	13.9	14.9	15.6	16.4	16.2
Passenger Miles Traveled	6,391,523	7,910,898	9,437,646	8,213,863	8,840,136	8,593,648
Average Passenger Trip Length	1.03	1.02	1.00	1.00	1.03	0.97
Vehicle Revenue Hours	94,617	93,515	91,705	92,321	91,657	110,228
Vehicle Revenue Miles	1,031,321	953,848	935,393	941,678	934,906	1,120,647
Passenger Trips Per Revenue Hours	65.84	83.07	102.99	89.06	94.08	80.19
Passenger Trips Per Revenue Miles	6.04	8.14	10.10	8.73	9.22	7.89
Operating Costs Per Passenger Trip	$3.10	$2.40	$2.21	$2.33	$2.44	$2.58
Operating Costs Per Revenue Hour	$204.24	$199.68	$227.90	$207.80	$229.12	$207.23
Weekend Service Availability	Yes Sat(24 Hours) Sun(24 Hours)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)
Operating Expenses	$19,324,185	$18,672,871	$20,899,603	$19,184,690	$21,000,653	$22,842,866
Maintenance Expenses	$11,648,797	$11,333,016	$12,290,807	$10,656,675	$11,439,965	$11,711,857
Fare Revenues	$47,865	$0	$0	$0	$0	$0
Farebox Recovery	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%

Data Source: NTD (2003-07) and MDT (2008)

A completed Project Prioritization and Budget Approval Form (PPBA) is submitted to the MDT Office of Strategic Planning and Performance Measurement (OSPPM), which coordinates the review of the project request with the Planning Advisory Board. The Planning Advisory Board consists of nine MDT staff members:

- Assistant Director, Rail Services
- Assistant Director, Bus Services
- Senior Chief, Information Technology
- Chief, Infrastructure, Engineering and Maintenance
- Chief, Strategic Planning and Performance Management (Co-Chair)
- Chief, Office of Safety and Security
- Chief, Design and Engineering
- Chief, Quality Assurance
- Chief, Budget and Performance Reporting (Co-Chair)

The Planning Advisory Board holds one or more meetings to discuss and prioritize the submitted project request. Each project is assigned into one of five categories:

1. Existing project in TIP (Transportation Improvement Program), IRP (Infrastructure Renewal Program), OSP (Operational Support Project), or CIP (Capital Improvement Program) for implementation with local, state, and federal sources.
2. New project approved for implementation. Add the project to the TIP, IRP, OSP, or CIP.
3. Project to be placed on hold for next year's funding cycle.
4. Project to be placed on hold for next planning cycle (project does not exist in TIP, IRP, OSP, or CIP), or
5. Rejected.

The Planning Advisory Board then discusses the project recommendations with the planning Approval Board and finalizes the list of projects. The Approval Board consists of four MDT staff members:

- MDT Director
- Deputy Director, Operations
- Assistant Director, Engineering, Planning and Development
- Assistant Director, Finance

If the project is approved for state and/or federal funding, the PPBA form is forwarded to the MDT Resource Allocation Division and/or Legislative Office for action. If the project is approved but to be re-evaluated the next planning cycle, the PPBA form is

9.8.3 2019 Recommended Service Plan – New Transit Routes

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

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

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

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

MIAMI-DADE COUNTY TRANSIT

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

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

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

New Route	Description	Headways			2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Peak	Mid Day	Week End	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
SR 836 Express	This route would provide limited-stop service between west Miami-Dade County and the MIC and/or downtown Miami via the Dolphin Expressway (SR836) during the morning and afternoon peak periods only every 15 minutes. To be operated as one of the special use lanes project routes. Possibly funded by FDOT.	15	N/S	N/S	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7
SW 8 Street Rapid Bus	This route would provide limited-stop service along SW 8 Street between west Miami-Dade (approximately SW 147 Avenue) and downtown Miami.	6.5	10	N/S							$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8
INCREMENTAL TOTALS					$7,580,000	33	$9,130,000	3	$12,230,000	9	$15,712,000	8	$15,712,000	0	$15,712,000	0	$15,712,000	0	$15,712,000	0	$15,712,000	0	$15,712,000	0
(MINI-BUSES)						0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)						33		3		9		8		0		0		0		0		0		0
CUMULATIVE TOTALS					$7,580,000	33	$16,710,000	36	$28,940,000	45	$44,652,000	53	$60,364,000	53	$76,076,000	53	$91,788,000	53	$107,500,000	53	$123,212,000	53	$138,924,000	53
(MINI-BUSES)						0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)						33		36		45		53		53		53		53		53		53		53

The necessary capital and operating funds to support these unfunded service areas over the ten-year TDP planning period is presented below. These projects have been described in greater detail previously in the Implementation Plan chapter, so a full description is not provided here. In addition, the project costs here are presented in year-of-expenditure (YOE) dollars, according to the planned implementation schedules and inflation assumptions.

10.4.1 Bus Route Improvements

MDT has identified a significant number of improvements to existing routes as well as entirely new routes that it will implement if and when funding becomes available. The projected year-of-expenditure costs of implementing these services are presented in Table 10-13 below. These improvements have both associated capital costs and operating costs. The operating costs are recurring in every year after the service is introduced, and these costs are assumed to grow with inflation at 3.5 percent annually, which is roughly the rate of inflation for existing Metrobus service as projected in the Pro Forma. The capital costs, which represent the purchase of new hybrid buses to support the services is based on the 15 year bus replacement plan. A 20 percent (20%) spare ratio is assumed, and bus costs are assumed to be $600,000 per 40 ft. hybrid vehicle in 2009 dollars, which grows at a five percent (5%) annual cost inflation over the period of the TDP Major Update.

Table 10-13: Proposed Bus Route Improvements (Unfunded)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Existing Routes											
Operating Costs	$0.2	$1.6	$5.6	$6.8	$7.1	$7.3	$7.6	$8.3	$8.7	$9.1	$62.2
Capital Costs	$0.0	$0.0	$5.8	$3.5	$0.0	$0.0	$0.0	$3.2	$1.1	$0.0	$13.6
New Routes											
Operating Costs	$7.8	$9.8	$13.6	$18.0	$18.7	$19.3	$20.0	$20.7	$21.4	$22.2	$171.4
Capital Costs	$24.9	$2.4	$7.5	$7.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$41.8
TOTAL (millions)	**$33.0**	**$13.8**	**$32.5**	**$35.3**	**$25.7**	**$26.6**	**$27.5**	**$32.2**	**$31.3**	**$31.2**	**$289.2**

(Source: MDT; YOE capital costs assume a 5% annual cost inflation rate; YOE operating costs assume a 3.5% annual cost inflation rate)

10.4.2 Priority Corridors

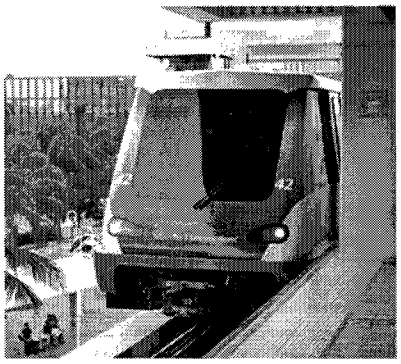
The eleven identified priority corridors are proposed to be implemented at the rate of approximately one corridor per year beginning in 2011, with two corridors being implemented in each of 2018 and 2019. Table 10-14 shows the unfunded capital cost associated with these priority corridor improvements.

#16

Table 10-16: Total Unfunded Needs, FY2010-2019 (YOE millions)

Service Improvement Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Unfunded Needs FY10-19
Bus Improvements (Operating)	$ 8.0	$ 11.4	$ 19.1	$ 24.8	$ 25.7	$ 26.6	$ 27.5	$ 29.0	$ 30.2	$ 31.2	$ 233.7
Bus Improvements (Capital)	$ 24.9	$ 2.4	$ 13.3	$ 10.5	$ -	$ -	$ -	$ 3.2	$ 1.1	$ -	$ 55.5
Priority Corridors (Capital)	$ -	$ 106.9	$ 44.8	$ 29.4	$ 80.3	$ 64.5	$ 41.3	$ 110.6	$ 172.6	$ 121.9	$ 772.4
CIP Projects (Capital)	$ -	$ -	$ 5.7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.7
TOTAL UNFUNDED NEEDS	**$ 33.0**	**$ 120.7**	**$ 83.0**	**$ 64.8**	**$ 106.0**	**$ 91.1**	**$ 68.9**	**$ 142.8**	**$ 203.9**	**$ 153.1**	**$ 1,067.2**

October 2009

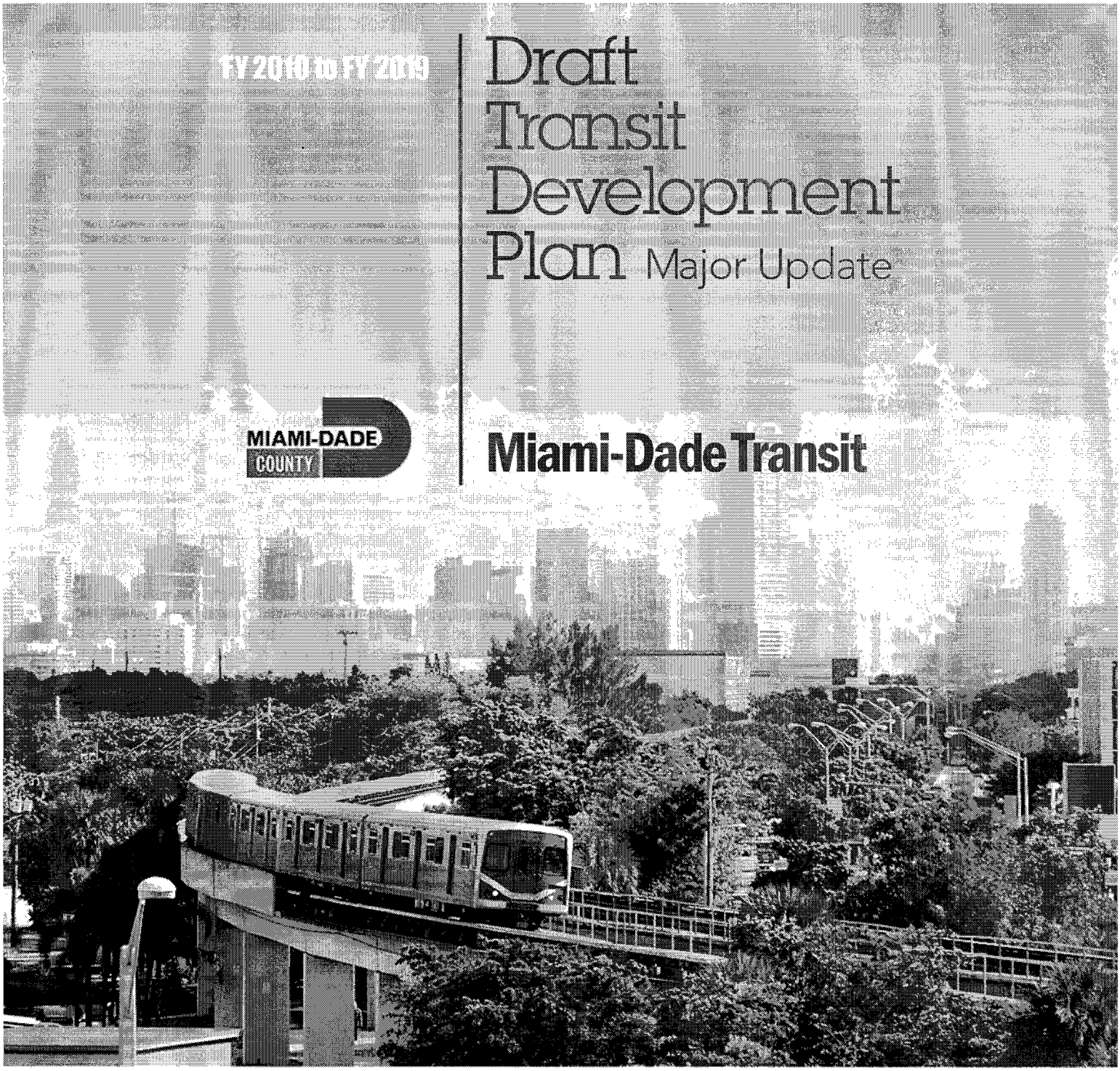


FY 2010 to FY 2019

Draft Transit Development Plan Major Update

MIAMI-DADE COUNTY

Miami-Dade Transit



MIAMI-DADE COUNTY TRANSIT

DRAFT

TRANSIT DEVELOPMENT PLAN FY 2010 TO 2019

October 2009

Rev.10-9-09

Table of Contents

1.0 INTRODUCTION 1-1
1.1 FLORIDA STATUTES (F.S.) 1-1
1.2 AMENDED TDP REQUIREMENTS 1-1
1.3 TDP ADOPTION PROCESS 1-2
2.0 OPERATING ENVIRONMENT 2-1
2.1 SERVICE AREA DESCRIPTION 2-1
2.1.1 Land Use 2-1
2.1.2 Major Trip Generators 2-3
2.1.3 Transportation System 2-8
2.1.4 Roadway Capacity 2-10
2.1.5 Miami-Dade Freight Network 2-12
2.2 DEMOGRAPHIC AND ECONOMIC ANALYSIS 2-13
2.2.1 Data Sources 2-13
2.2.2 Miami-Dade County Population Characteristic 2-14
2.2.3 Age Distribution Characteristics 2-16
2.2.4 Household Characteristics 2-19
2.2.5 Racial and Ethnic Characteristics 2-21
2.2.6 Travel Time to Work 2-21
2.2.7 Transportation Disadvantaged Population Characteristics 2-24
2.3 REGIONAL TRANSIT SERVICE CONNECTIONS 2-28
2.3.1 South Florida Regional Transportation Authority 2-28
2.3.2 Broward County Transit (BCT) 2-30
3.0 EXISTING SERVICES 3-1
3.1 MIAMI-DADE TRANSIT SYSTEM DESCRIPTION 3-1
3.1.1 Miami-Dade Transit System Description 3-1
3.2 MIAMI-DADE TRANSIT PASSENGER FARE STRUCTURE 3-11
3.2.1 Farebox Recovery Ratio 3-13
3.2.2 Transit Facilities 3-15
3.2.3 Miami-Dade Transit's Special Programs 3-23
4.0 PEER REVIEW 4-1
4.1 PEER AND TREND ANALYSIS 4-1
4.2 FINDINGS SUMMARY 4-2

4.3 BUS PEER COMPARISON AND TRENDS 4-3
4.4 HEAVY RAIL PEER COMPARISON AND TRENDS 4-14
4.5 AUTOMATED GUIDEWAY PEER COMPARISON 4-25
4.6 DEMAND RESPONSE PEER COMPARISON 4-36
5.0 PUBLIC INVOLVEMENT 5-1
5.1 INTRODUCTION 5-1
5.2 PUBLIC INVOLVEMENT OBJECTIVES 5-1
5.3 TDP MAJOR UPDATE REVIEW COMMITTEES 5-2
5.3.1 TDP Advisory Review Committee 5-2
5.3.2 Transportation Disadvantaged Local Coordinating Board 5-2
5.3.3 Citizens Transportation Advisory Committee 5-3
5.3.4 Transportation, Infrastructure, and Roads Committee 5-3
5.3.5 Miami-Dade County Board of County Commissioners 5-3
5.4 COMMUNITY INVOLVEMENT 5-3
5.4.1 2008 TRANSIT SUMMIT 5-4
5.4.2 2035 LRTP Public Meetings 5-4
5.4.3 MIAMI-DADE 2009 METRORAIL TRANSIT SURVEY 5-5
5.4.4 3-1-1 Public Feedback 5-5
5.4.5 SOUTH FLORIDA WORKFORCE COORDINATION 5-6
6.0 GOALS AND OBJECTIVES 6-1
6.1 TDP MAJOR UPDATE GOALS AND OBJECTIVES 6-1
7.0 RELATIONSHIP TO OTHER PLANS 7-1
7.1 TRANSPORTATION PLANS CONSISTENCY 7-1
7.2 FLORIDA DEPARTMENT OF TRANSPORTATION 7-1
7.2.1 2025 Florida Transportation Plan 7-1
7.3 REGIONAL PLANNING COUNCILS 7-3
7.3.1 South Florida Regional Planning Council (SFRPC) 7-3
7.3.2 South East Florida Transportation Council (SEFTC) 7-3
7.4 SOUTH FLORIDA REGIONAL TRANSPORTATION AUTHORITY (SFRTA) 7-4
7.5 MIAMI-DADE COUNTY TRANSPORTATION PLANS 7-6
7.5.1 Miami-Dade Metropolitan Planning Organization 7-6
7.5.2 Miami-Dade County Comprehensive Development Master Plan . 7-9

7.5.3 Miami-Dade County Strategic Plan 2003-2007 7-9
7.5.4 Miami-Dade Transit Business Plan FY 2009 and 2010 7-11
7.5.5 Miami-Dade County Transportation Disadvantaged Service Plan.. 7-12

8.0 SITUATIONAL APPRAISAL 8-1

8.1 MIAMI-DADE TRANSIT AGENCY COORDINATION 8-1

8.2 LOCAL AND REGIONAL TRANSPORTATION PLANS 8-2

8.2.1 MPO 2030 LRTP 8-2
8.2.2 MPO 2035 LRTP 8-2
8.2.3 MPO Short-Term Transit Improvement Options Study 8-3
8.2.4 MPO Metrorail Survey 8-3
8.2.5 SFRTA Strategic Regional Transit Plan 8-6

8.3 INFORMATION TECHNOLOGY 8-7

8.4 ASSESSMENT OF MIAMI-DADE COUNTY COMPREHENSIVE DEVELOPMENT MASTER PLAN 8-9

8.4.1 General Observations 8-9
8.4.2 CDMP Evaluation Criteria 8-9
8.4.3 Land Use Element Evaluation 8-9
8.4.4 Transportation Element Evaluation 8-11
8.4.5 Suggested Policy Amendments 8-12

8.5 LAND USE 8-15

8.6 SYSTEMWIDE TRAVEL DEMAND MODEL ESTIMATES 8-16

8.6.1 Methodology 8-16
8.6.2 Ten Year Model Estimate Forecast (2009 – 2019) 8-16

8.7 TRANSIT PROPENSITY 8-21

8.7.1 Roadway Level of Service 8-29
8.7.2 Population and Employment Density 8-37

8.8 IDENTIFYING UNMET TRANSIT NEEDS 8-39

8.8.1 Alignment with TDP Major Update Goals and Objectives 8-45

8.9 SERVICE STANDARDS 8-70

9.0 TEN YEAR IMPLEMENTATION PLAN 9-1

9.1 CAPITAL IMPROVEMENT PLAN -- COMMITTED TRANSIT IMPROVEMENT INITIATIVES 9-1

9.2 PROPOSED CORRIDOR PROJECTS AND RELATED PROJECTS (COMMITTED) 9-1

9.2.1 Orange Line Phase 1 MIC-Earlington Heights Connector 9-1
9.2.2 Metrorail Station Graphics and Signage Upgrade 9-1

9.3 VEHICLE PROCUREMENT (COMMITTED) 9-4
9.3.1 Metrorail New Vehicle Replacement 9-4
9.3.2 Metromover New Vehicle Replacement 9-4
9.3.3 Metrobus New Vehicle Procurement 9-4
9.3.4 Fare Collection 9-4

9.4 OTHER PROJECTS (COMMITTED) 9-5
9.4.1 NW 7th Avenue Transit Village 9-5
9.4.2 Park and Ride Facilities 9-5
9.4.3 Additional Minor Park and Ride locations 9-5
9.4.4 Transit Operating System Replacement Project 9-6

9.5 2008 TDP OPERATIONAL SERVICE COMMITMENTS 9-6
9.5.1 Assessment of Implemented Bus Service Improvements and Adjustments (2008) 9-6

9.6 COMMITTED BUS SERVICE IMPROVEMENTS AND ADJUSTMENTS (2009) 9-14
9.6.1 Urban Corridor Development 9-24

9.7 INFRASTRUCTURE RENEWAL PROGRAM – COMMITTED PROJECTS 9-24
9.7.1 IRP Project Prioritization and Budget Approval Process Procedure 9-24
9.7.2 Maintenance Facilities – Committed Projects 9-29
9.7.3 Systems – Committed Projects 9-30
9.7.4 Safety and Security – Committed Projects 9-30

9.8 2019 RECOMMENDED SERVICE PLAN 9-31
9.8.1 Recommended Service Plan – Metrobus 9-31
9.8.2 Transit Hubs and Feeder Routes for Existing Routes 9-37
9.8.3 2019 Recommended Service Plan – New Transit Routes 9-41
9.8.4 Recommended Service Plan – Metrorail 9-44
9.8.5 Recommended Service Plan – Metromover 9-47
9.8.6 Special Transportation Services 9-47

9.9 CAPITAL NEEDS 9-47
9.9.1 Transit Terminals 9-47
9.9.2 Bus Fleet Expansion 9-47
9.9.3 Priority Transit Corridor Needs 9-49

9.9.4 Infrastructure Renewal Program Needs 9-51

10.0 FINANCIAL PLAN 10-1

10.1 INTRODUCTION 10-1

10.1.1 Purpose 10-1

10.1.2 Financial Challenges Facing MDT 10-1

10.1.3 Methodology 10-1

10.2 BASELINE OPERATING EXPENSES AND REVENUES 10-2

10.2.1 Operating Expenses 10-2

10.2.2 Operating Revenues 10-10

10.2.3 Summary of Baseline Operating Budget 10-14

10.3 BASELINE CAPITAL EXPENDITURES AND FUNDING SOURCES 10-14

10.3.1 Planned Capital Expenditures 10-14

10.3.2 Capital Funding Sources 10-17

10.3.3 Summary of Baseline Capital Plan 10-17

10.4 NEW SERVICE INITIATIVES AND ADDITIONAL FUNDING NEEDS ... 10-17

10.4.1 Bus Route Improvements 10-18

10.4.2 Priority Corridors 10-18

10.4.3 CIP Projects 10-19

10.4.4 Total Unfunded Needs 10-20

10.5 FDOT TDP FINANCIAL PLANNING TOOL 10-22

10.6 FUTURE FUNDING AND FINANCING OPTIONS 10-22

10.6.1 Sources of Funding for MDT and Peer Transit Agencies 10-23

10.6.2 Analysis of Individual Funding, Financing, and Implementation Options 10-25

10.6.3 Description of Potential Funding Sources and Increases in Existing Taxes 10-26

10.6.4 Important Considerations Regarding Local Taxes as the Source of Funding 10-34

10.6.5 Alternative Project Delivery Strategies 10-35

10.6.6 Alternative Financing Options 10-37

10.6.7 Joint Development and Benefit Capture 10-39

10.7 FINANCIAL ANALYSIS SUMMARY 10-43

List of Tables

Table 2-1: Miami-Dade County Land Uses 2-3
Table 2-2: MDT Major Trip Generators, December 2008 2-4
Table 2-3: Miami-Dade County Principal Interstate, Freeway, and Expressway Arterials 2-10
Table 2-4: South Florida Population Growth, 1990-2007 2-14
Table 2-5: Age Distribution Characteristics, 2000-2007 2-16
Table 2-6: Miami-Dade County Household Characteristics, 2000-2007 2-19
Table 2-7: Miami-Dade County Racial Characteristics, 2000-2007 2-21
Table 2-8: Miami-Dade County Distribution of Workers by Industry, 2005-2007 2-21
Table 2-9: Miami-Dade County Transportation Disadvantaged Characteristics, 2000-2007 2-24
Table 2-10: Miami-Dade County Major Employers 2-25
Table 2-11: Miami-Dade County Income Characteristics, 2000-2007 2-26
Table 2-12: Number of Vehicles Available, 2005-2007 2-26
Table 2-13: Mobility Limited Populations, 2000-2007 2-28
Table 2-14: Tri-Rail Stations and MDT Route Connections 2-29
Table 2-15: BCT Routes Serving Miami-Dade County 2-31
Table 3-1: MDT Metrobus Route Headways (December 2008) 3-3
Table 3-2: MDT Service Characteristics by Transit Mode, 2008 3-11
Table 3-3: MDT Fare Policy Summary, December 2008 3-12
Table 3-4: Five Year Farebox Recovery History 3-13
Table 3-5: Park and Ride Selection Criteria 3-20
Table 3-6: Park and Ride Locations for Consideration 3-21
Table 4-1: Bus Peer Comparison 4-4
Table 4-2: MDT Metrobus 2003-2008 Trends 4-4
Table 4-3: Heavy Rail Peer Comparison 4-15
Table 4-4: MDT Metrorail 2003-2008 Trends 4-15
Table 4-5: Automated Guideway Peer Comparison 4-26
Table 4-6: MDT Metromover 2003-2008 Trends 4-26
Table 4-7: Demand Response Peer Comparison 4-37
Table 4-8: MDT Demand Response 2003-2008 Trends 4-37
Table 5-1: 2035 LRTP Public Meetings 5-5
Table 6-1: TDP Major Update Goals, Objectives and Measures 6-2
Table 8-1: CDMP Land Use Policy Statements 8-10
Table 8-2: CDMP Transportation Policy Statements 8-11
Table 8-3: 2009 Estimated Transit System Summary 8-17

Table 8-4: 2019 Transit System Summary 8-17
Table 8-5: Difference between 2009 and 2019 Transit System Summary 8-19
Table 8-6: Proposed Priority Corridor Transit Routes 8-40
Table 8-7: Average Peak Transit Travel Time 8-46
Table 8-8: Estimated Peak Travel Times (minutes) 8-47
Table 8-9: MDT Annual On-Time Performance (2008) 8-48
Table 8-10: Number of Transit Service Route Miles by Transit Mode 8-49
Table 8-11: Transit Service Miles in Corridors of Regional Significance 8-50
Table 8-12: Number of Station Stops Per Route Mile 8-51
Table 8-13: Travel Time by Bus (2009) 8-53
Table 8-14: Travel Time by Bus (2019) 8-53
Table 8-15: Travel Time by Express Bus (2009) 8-53
Table 8-16: Travel Time by Express Bus (2019) 8-54
Table 8-17: Transit Service Route Miles within ¼ mile of Urban Centers 8-58
Table 8-18: Average Travel Time to Urban Centers for work Trips (Minutes) 8-58
Table 8-19: Transit Service Route Miles within 1.4 Mile of Tourist Attractions 8-59
Table 8-20: Transit Service Route Miles within ¼ mile of MIA and Port of Miami 8-60
Table 8-21: Transit Service Route Miles within ¼ mile of Redevelopment Areas 8-62
Table 8-22: Total Vehicle Miles Traveled / Vehicle Hours Traveled (2005 and 2030) ... 8-63
Table 8-23: Transit Service Route Miles Within ¼ mile of Urban Infill Area 8-64
Table 8-24: Percent of Adherence to Preventative Maintenance Program by Mode . 8-70
Table 8-25: Average distance between Service Disruption by Mode 8-70
Table 9-1: MDT FY 2009 – 2010 Proposed Capital Budget and Multi-Year Capital Plan 9-2
Table 9-2: Proposed Parking Lots/Park and Ride/Garages under Negotiation 9-6
Table 9-3: 2008 TDP Consistency Analysis Summary 9-7
Table 9-4: 2009 Committed Bus Service Improvements/Adjustments 9-14
Table 9-5: FY 2009 – 2010 Prioritized New IRP Projects for Budget Approval (2009$) 9-28
Table 9-6: 2019 Recommended Service Plan Summary for Existing Transit Bus Routes (2009$) 9-32
Table 9-7: Transit Hub Locations and Feeder Routes for Existing Bus Routes 9-38
Table 9-8: 2019 Recommended Service Plan New Routes Description (2009$) 9-42
Table 9-9: Transit Hub Locations and Feeder Routes for New Routes 9-44
Table 9-10: 2019 Recommended Service Plan Transit Hub Needs 9-48
Table 9-11: Priority Transit Corridors 9-50

Table 9-12: Proposed Infrastructure Renewal Program Needs (2019) 9-52
Table 10-1: MDT Projected FY2010 Direct Operating Expenses 10-2
Table 10-2: MDT Projected FY 2010 Other Operating Expenses 10-3
Table 10-3: MDT Projected FY 2010 Metrobus Operating Expenses 10-3
Table 10-4: MDT Projected FY 2010 Metrorail Operating Expenses 10-4
Table 10-5: MDT Projected FY 2010 Metromover Operating Expenses 10-5
Table 10-6: MDT Projected FY 2010 Operational Support Expenses 10-6
Table 10-7: MDT Operating Expense Inflation Assumptions 10-9
Table 10-8: MDT Projected FY 2010 Operating Revenues 10-10
Table 10-9: MDT Operating Revenue Growth Assumptions 10-14
Table 10-10: Planned MDT Capital Expenditures FY 2010-2019 10-15
Table 10-11: MDT Annual Funded Capital Projects 10-16
Table 10-12: Projected "Cash" Revenue Sources for Capital Projects, FY 2010-2019 10-17
Table 10-13: Proposed Bus Route Improvements (Unfunded) 10-18
Table 10-14: Proposed Investments in Priority Corridors (Unfunded) 10-19
Table 10-15: Additional Capital Improvement Program (CIP) Projects (Unfunded) .. 10-20
Table 10-16: Total Unfunded Needs, FY2010-2019 (YOE millions) 10-21
Table 10-17: Peer Transit Agencies 10-23
Table 10-18: Summary of Alternative Funding Sources 10-28

List of Figures

Figure 2-1: Existing Land Use Map 2-2
Figure 2-2: Miami-Dade County Major Trip Generators 2-6
Figure 2-3: Miami-Dade County Colleges and Universities 2-7
Figure 2-4: Miami-Dade County Interstates, Freeways, and Expressways 2-9
Figure 2-5: Level of Service (2005) 2-11
Figure 2-6: Freight Shipments 2-13
Figure 2-7: Miami-Dade County Population Density, 2009 2-15
Figure 2-8: Miami-Dade County Population Density under 16 Years of Age 2-17
Figure 2-9: Miami-Dade County Population Density age 65 Years and Over 2-18
Figure 2-10: Housing Density (2009) 2-20
Figure 2-11: Miami-Dade County Commute Times Greater than 30 Minutes in 2000 ... 2-22
Figure 2-12: Miami-Dade County Commute Times Greater than 45 Minutes in 2000 ... 2-23
Figure 2-13: Zero Car Household Density, 2009 2-27
Figure 3-1: MDT Metrobus Route Map 3-2
Figure 3-2: MDT Metrorail System Map 2009 3-8
Figure 3-3: MDT Metromover Route Map 2009 3-9
Figure 3-4: Park and Ride Lots 3-22
Figure 4-1: Bus Unlinked Passenger Trips 4-5
Figure 4-2: Bus Passenger Miles Traveled 4-6
Figure 4-3: Bus Vehicle Revenue Hours 4-7
Figure 4-4: Bus Vehicle Revenue Miles 4-8
Figure 4-5: Bus Passenger Trips per Revenue Hour 4-9
Figure 4-6: Bus Passenger Trips per Revenue Mile 4-10
Figure 4-7: Bus Operating Cost per Passenger Trip 4-11
Figure 4-8: Bus Operating Cost per Revenue Hour 4-12
Figure 4-9: Bus Farebox Recovery Ratio 4-13
Figure 4-10: Rail Unlinked Passenger Trips 4-16
Figure 4-11: Rail Passenger Miles Traveled 4-17
Figure 4-12: Rail Vehicle Revenue Hours 4-18
Figure 4-13: Rail Vehicle Revenue Miles 4-19
Figure 4-14: Rail Passenger Trips per Revenue Hour 4-20
Figure 4-15: Rail Passenger Trips per Revenue Mile 4-21
Figure 4-16: Rail Operating Cost per Passenger Trip 4-22
Figure 4-17: Rail Operating Cost per Revenue Hour 4-23

Figure 4-18: Rail Farebox Recovery Ratio 4-24
Figure 4-19: Automated Guideway Unlinked Passenger Trips 4-27
Figure 4-20: Automated Guideway Passenger Miles Traveled 4-28
Figure 4-21: Automated Guideway Vehicle Revenue Hours 4-29
Figure 4-22: Automated Guideway Vehicle Revenue Miles 4-30
Figure 4-23: Automated Guideway Passenger Trips per Revenue Hour 4-31
Figure 4-24: Automated Guideway Passenger Trips per Revenue Mile 4-32
Figure 4-25: Automated Guideway Operating Cost per Passenger Trip 4-33
Figure 4-26: Automated Guideway Operating Cost per Revenue Hour 4-34
Figure 4-27: Automated Guideway Farebox Recovery Ratio 4-35
Figure 4-28: Demand Response Unlinked Passenger Trips 4-38
Figure 4-29: Demand Response Passenger Miles Traveled 4-39
Figure 4-30: Demand Response Vehicle Revenue Hours 4-40
Figure 4-31: Demand Response Vehicle Revenue Miles 4-41
Figure 4-32: Demand Response Passenger Trips per Revenue Hour 4-42
Figure 4-33: Demand Response Passenger Trips per Revenue Mile 4-43
Figure 4-34: Demand Response Operating Cost per Passenger Trip 4-44
Figure 4-35: Demand Response Operating Cost per Revenue Hour 4-45
Figure 4-36: Demand Response Farebox Recovery Ratio 4-46
Figure 8-1: MPO Metrorail Survey Responses – Origin and Destination 8-5
Figure 8-2: Operating Plan Used for Travel Forecast Estimates 8-18
Figure 8-3: Difference in 2009 and Projected 2019 Passenger Trips 8-19
Figure 8-4: Difference in 2009 and Projected 2019 Passenger Miles 8-20
Figure 8-5: Difference in 2009 and Projected 2019 Passenger Hours 8-20
Figure 8-6: Percentage of People 65 Years and Older 8-22
Figure 8-7: Percentage of Low Income Households 8-23
Figure 8-8: Pecentage of Zero Car Households 8-24
Figure 8-9: Highest Concentration of Transit Dependant Population 8-25
Figure 8-10: Transit Propensity Map 8-26
Figure 8-11: Disabled Popluation Distribution 8-28
Figure 8-12: Roadway Level of Service (2005) 8-31
Figure 8-13: Projected Roadway Level of Service (2015) 8-32
Figure 8-14: 2009 Bus Travel Time to Downtown Miami 8-33
Figure 8-15: 2009 Express Bus Travel Time to Downtown Miami 8-34
Figure 8-16: 2019 Bus Travel Time to Downtown Miami 8-35
Figure 8-17: 2019 Express Bus Travel Time to Downtown Miami 8-36

Figure 8-18: Difference between Population and Employment Density (2009 – 2019) . 8-38
Figure 8-19: Priority Transit Corridors 8-42
Figure 8-20: Park and Ride Areas 8-44
Figure 8-21: Difference in 2009 and Projected 2009 Passenger Trips 8-50
Figure 8-22: TAZ Districts of Population 65 and Older 8-55
Figure 8-23: Economic Development and Redevelopment Areas 8-61
Figure 8-24: Urban Infill Area with Transit System Overlay 8-65
Figure 9-1: Infrastructure Renewal Program Prioritization Process 9-27
Figure 9-2: Earlington Heights – MIC Connector 9-45
Figure 9-3: Proposed Operating Plan with MIC-Earlington Heights Connector in Service 9-46
Figure 10-1: Growth in MDT Modal Operating Expenses, 1998-2007 10-7
Figure 10-2: Projected Growth in MDT Direct Operating Expenses, FY 2010-2019 .. 10-9
Figure 10-3: Change in MDT Operating Revenues (1998-2007) 10-12
Figure 10-4: Projected Growth in MDT Operating Revenues, FY 2010-2019 10-13
Figure 10-5: Sources of Operating Funding 10-24
Figure 10-6: Sources of Capital Funding 10-24

Section 1 Introduction

MIAMI-DADE COUNTY

1.0 INTRODUCTION

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

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

1.1 Florida Statutes (F.S.)

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

Section 341.052

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

Section 341.072

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

1.2 Amended TDP Requirements

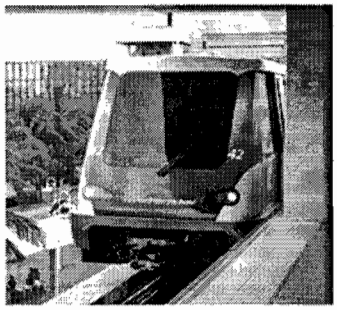
The TDP requirements were amended in February 2007 and this TDP meets the requirements for a major TDP update in accordance with Rule Chapter 14-73, Florida Administrative Code (FAC).

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

1.3 TDP Adoption Process

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

This TDP Major Update is scheduled to go before the Miami-Dade County Board of County Commissioners on November 3, 2009 for adoption.



Section 2 Operating Environment

MIAMI-DADE COUNTY

2.0 OPERATING ENVIRONMENT

The purpose of this section is to provide an overview of the operating environment in which MDT provides transit service. The primary areas of focus include analysis of existing demographics, economic conditions, and land use patterns. These factors are presented in an effort to create a description of Miami-Dade County and measure the extent to which MDT service effectively meets the transportation needs of the county.

2.1 Service Area Description

According to the U.S. Census Bureau, Miami-Dade County encompasses a total area of 2,431 square miles. Approximately 1,946 square miles (80%) of the County is land and 485 square miles (20%) is comprised of water, most of which is Biscayne Bay and another significant portion being the adjacent waters of the Atlantic Ocean. Miami-Dade County borders two national parks. Biscayne National Park is located east of the mainland, in Biscayne Bay, and the western third of Miami-Dade County lies within Everglades National Park.

The Urban Area is approximately 420 square miles (excluding bay and ocean waters) of which MDT's service area covers approximately 342 square miles or 81.4 percent (81.4%). Miami-Dade County as a whole is composed of 35 individual municipalities.

Biscayne Bay is separated from the Atlantic Ocean by the many barrier isles along the coast, one of which is where well-known Miami Beach is located, home to South Beach and the Art Deco district.

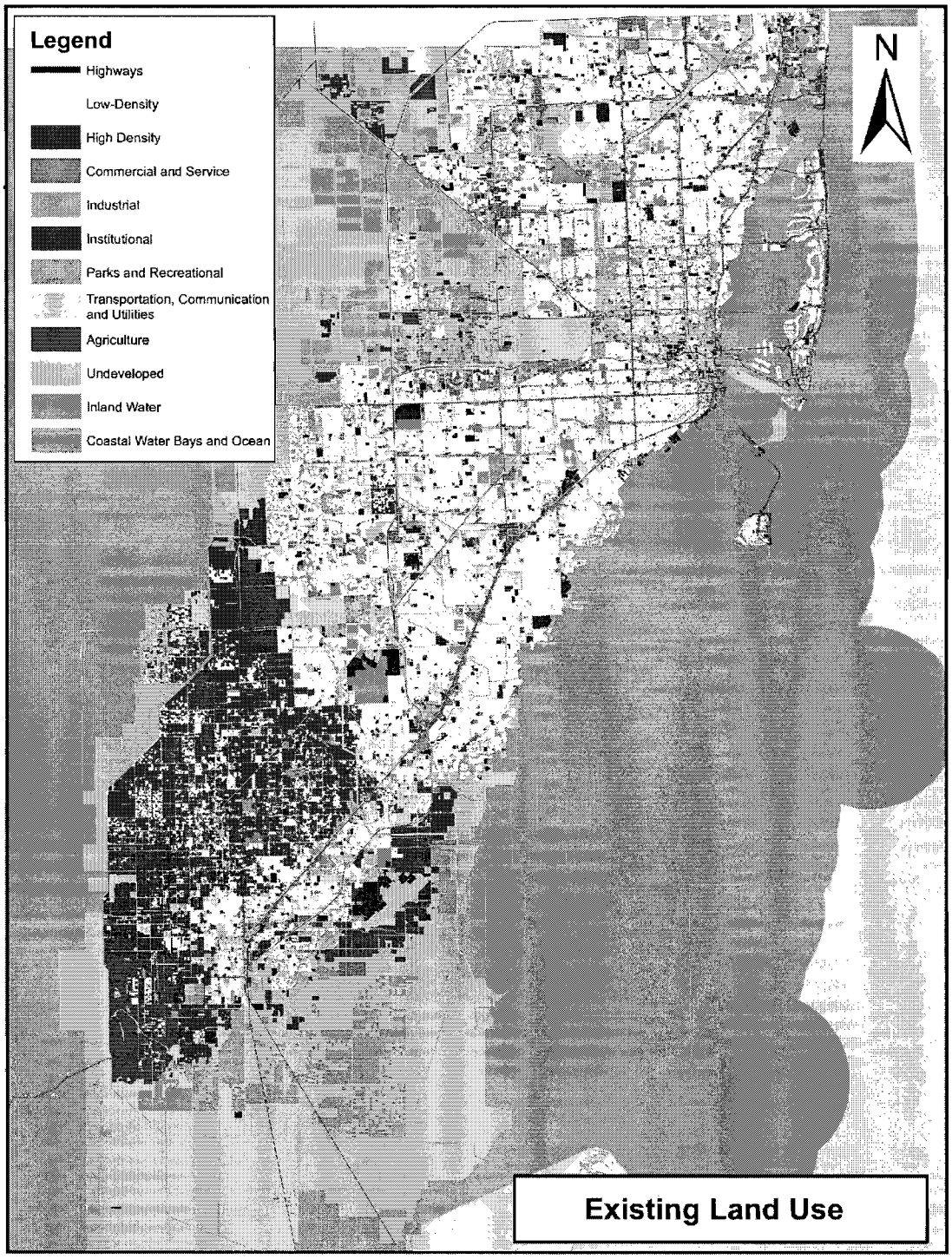
2.1.1 Land Use

The land use for Miami-Dade County is classified by ten (10) categories: Residential, Commercial and Office, Industrial, Institutional, Parks/Recreation, Transportation/Communication/Utilities, Agriculture, Undeveloped, Inland Waters, and Coastal Waters (Figure 2-1). Land uses comprising the largest proportion of Miami-Dade County are parks and recreational, ocean water bays and oceans, and undeveloped uses (Table 2-1).

Future growth is governed by the Miami-Dade County Comprehensive Development Master Plan (CDMP) which includes the previously adopted plans of the CDMP Land Use Element and established land use and zoning patterns as well as the County's policy regarding future zoning and land use patterns. The CDMP controls growth so that the expansion of the urban area occurs according to the following guidelines:

- At a rate commensurate with projected population and economic growth.
- In a contiguous pattern centered around a network of high-intensity urban centers well connected by multimodal intra-urban transportation facilities.
- In locations which optimize efficiency in public service delivery and conservation of valuable natural resources.

Figure 2-1: Existing Land Use Map



Source: Miami-Dade County Department of Planning and Zoning, 2009

Table 2-1: Miami-Dade County Land Uses

	Land Use	Area (Acres)	Percentage
1	Parks/Recreational	789,632	51.0%
2	Coastal Water	278,006	18.0%
3	Undeveloped	135,272	8.7%
4	Residential	109,475	7.1%
5	Transportation/ Communication/Utilities	87,295	5.6%
6	Agriculture	61,573	4.0%
7	Inland Waters	40,966	2.6%
8	Industrial	17,531	1.1%
9	Commercial and Office	14,790	1.0%
10	Institutional	14,182	0.9%
	Total Area (Acres)	**1,548,722**	**100%**

Source: Miami-Dade County Department of Planning and Zoning, 2009

The objectives and policies in the Land Use Element of the CDMP emphasizes concentration and intensification of the development around activity and urban centers located in the areas having high county-wide multimodal accessibility and along the major transit corridors that link them.

The CDMP establishes that land uses in this area shall be planned and developed in the manner that is compatible with and supports use of transit systems and alternative transportation modes that accommodate a concentration and variety of uses and activities which will attract large numbers of both residents and visitors.

2.1.2 Major Trip Generators

An analysis measuring the adequacy of transit services was conducted to identify major attractors and trip generators. Table 2-2 describes the transit services provided for each identified special generators in terms of number of routes and accessibility of these facilities. The major trip generators within the County are presented in Figure 2-2. Areas within the urban core such as Downtown Miami (including the Omni and Brickell areas) and South Miami Beach were omitted due to the extraordinary high level of transit service in place at these locations. Miami-Dade County boasts a high number of public and private colleges and universities within the region which are also served by transit (Figure 2-3).

Event-oriented facilities were also omitted due to the ad-hoc nature of these occurrences. MDT is not permitted to provide special event shuttle service per Federal Transit Administration (FTA) rule. However, football events at Land Shark Stadium are served with additional park and ride services covering the entire Miami-Dade area. Broward County Transit also provides park and ride services to these events

Table 2-2: MDT Major Trip Generators, December 2008

MAJOR GENERATORS	ROUTES					COMMENTS
Special Attractors						
Coconut Grove	6	22	27	48	249	Service on major arterials
Miami International Airport	J	7	37	42	57	Bus terminal on site; shuttle to Tri-Rail Station
	132	133	238			
Metrozoo	252					On-site service to entrance
Miami Seaquarium	B					Service on adjacent roadways
Port of Miami	243					On-site service via local roadways
South Beach	C	H	K	M	S	Service on major arterials
	SoBe Local					
Educational Centers						
Barry University	2	10	75			Service on local roadways
FIU - University Park	8	11	24	71		Bus terminal area with shelters on-site
FIU - Biscayne Bay	28	83	93			Service on-site and on local roadways
Florida Memorial	32					Service on local roadways
MDC - Homestead	34	35	38	344		Service on local roadways
MDC - Interamerican	8	27	207	208		Service on local roadways
MDC - Kendall	35	56	71	104	204	Service on local roadways and on-site service with shelters
MDC - Medical Center	M	12	21	22	32	Service on local roadways
MDC - North	21	27	32	75	97	On-site terminal with shelters
MDC - West	36					Service on local roadways
St. Thomas University	32					Service on local roadways
University of Miami	48	56	500	Rail		Service on local roadways
Regional Retail Centers						
Aventura Mall	E	S	3	9	93	On-site terminal service
	95	99	183			
Bal Harbour Shops	G	H	K	S		Adjacent on-street service with shelters
	120					
Dadeland Mall	1	52	73	87	88	Service on adjacent roadways Pedestrian walkway to rail station
	104	204	240	272	288	
	Rail	500				
Diplomat Mall (Broward County)	K	3				Service on adjacent roadways
Dolphin Mall	7	36	71	137	238	On-site terminal with shelters
(The) Falls	1	31	34	38	52	Service on SW 136th Street and Busway Station at SW 136th Street
	65	136	252	287		
Mall of the Americas	7	11	87			On-site service with shelters

Table 2-2: MDT Major Trip Generators, December 2008 (continued)

MAJOR GENERATORS	ROUTES					COMMENTS
Miami International Mall	7	36	71	137	238	Service on adjacent roadways
Prime Outlets	35	70	344			On-site and adjacent roadway service
Skylake Mall	H	9	91	95	183	Adjacent on-street service Route 95 provides service four times a day
Southland Mall	1	31	35	38	52	Service on adjacent roadways
	70	137				
Westland Mall	29	33	54			Service on adjacent roadways
163 Street Mall	E	H	2	3	9	Off-site terminus with shelters Route 95 provides service four times a day
	10	16	22	75	83	
	91	95	246			
Regional Hospitals						
Aventura	3	9				Service on adjacent and local roadways
Baptist	88	104				Service on adjacent roadways
Doctors'	56					Service to entrance on local roadway
Hialeah	L	28	42			Service on adjacent roadway
Homestead	35					Service on local roadway
Jackson Memorial / U.M. /Cedars of Lebanon / Veterans Affairs	M	12	21	22		Service on adjacent roadways
	32	95	246	500	Rail	
Jackson North	E	22	246			Service on adjacent roadways
Jackson South	52	57	252			Service on adjacent roadway
Kendall AMI	40	240				Service on adjacent roadway
Mercy	12	48				On-site service with shelters
Miami Children's	56					On-site service with shelters
Miami Heart Institute	R					Service on local roadway
Mount Sinai	C	M	R			On-site service; planned terminus
North Shore	33					Service on adjacent roadway
Palmetto General	29					On-site service with shelters
Palm Springs General	33	54				On-site service with shelters
South Miami	37	52	57	72	73	Service on adjacent roadways
	500	Rail				

Source: MDT, 2008. Note: Rail stands for Metrorail.

Figure 2-2: Miami-Dade County Major Trip Generators

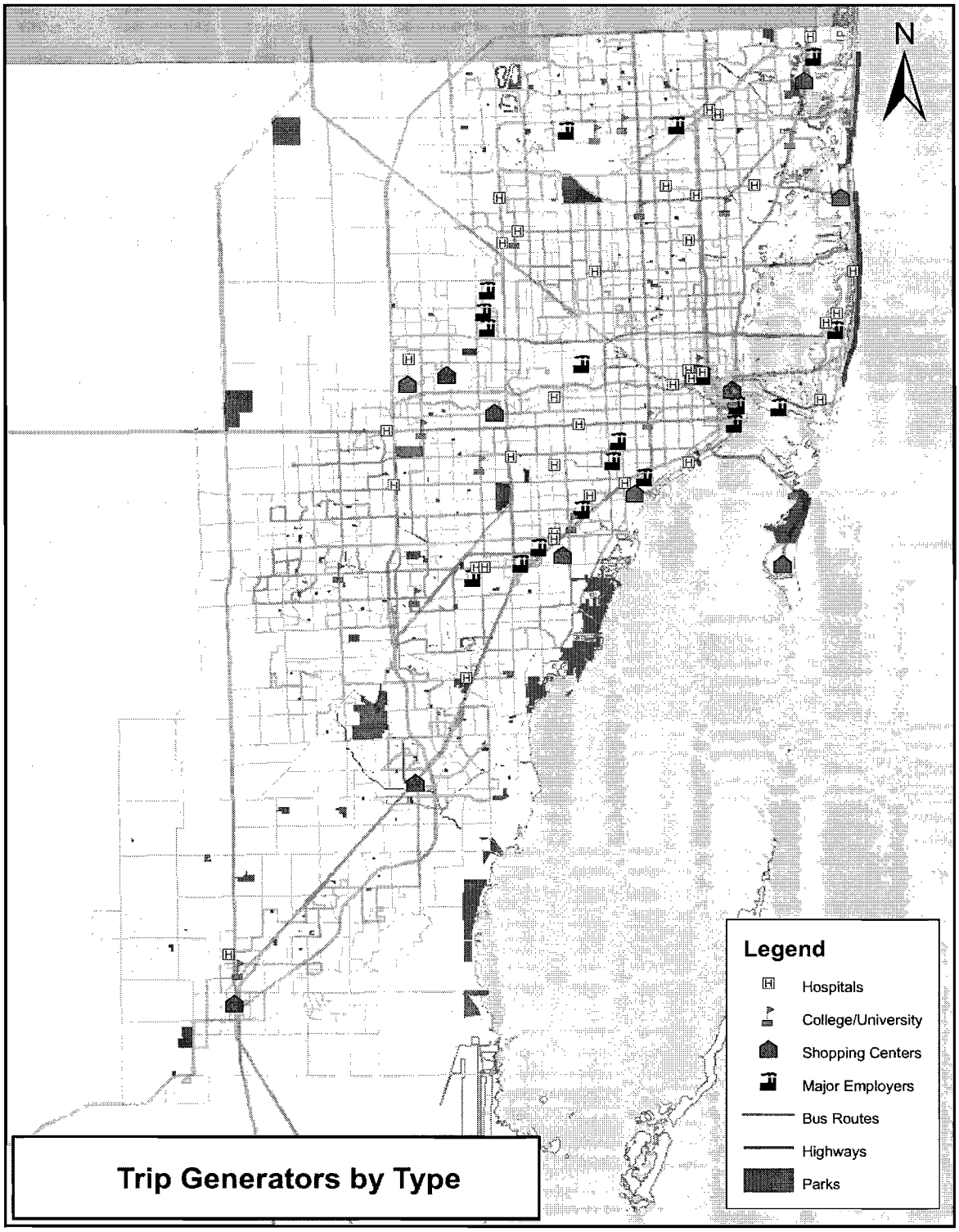
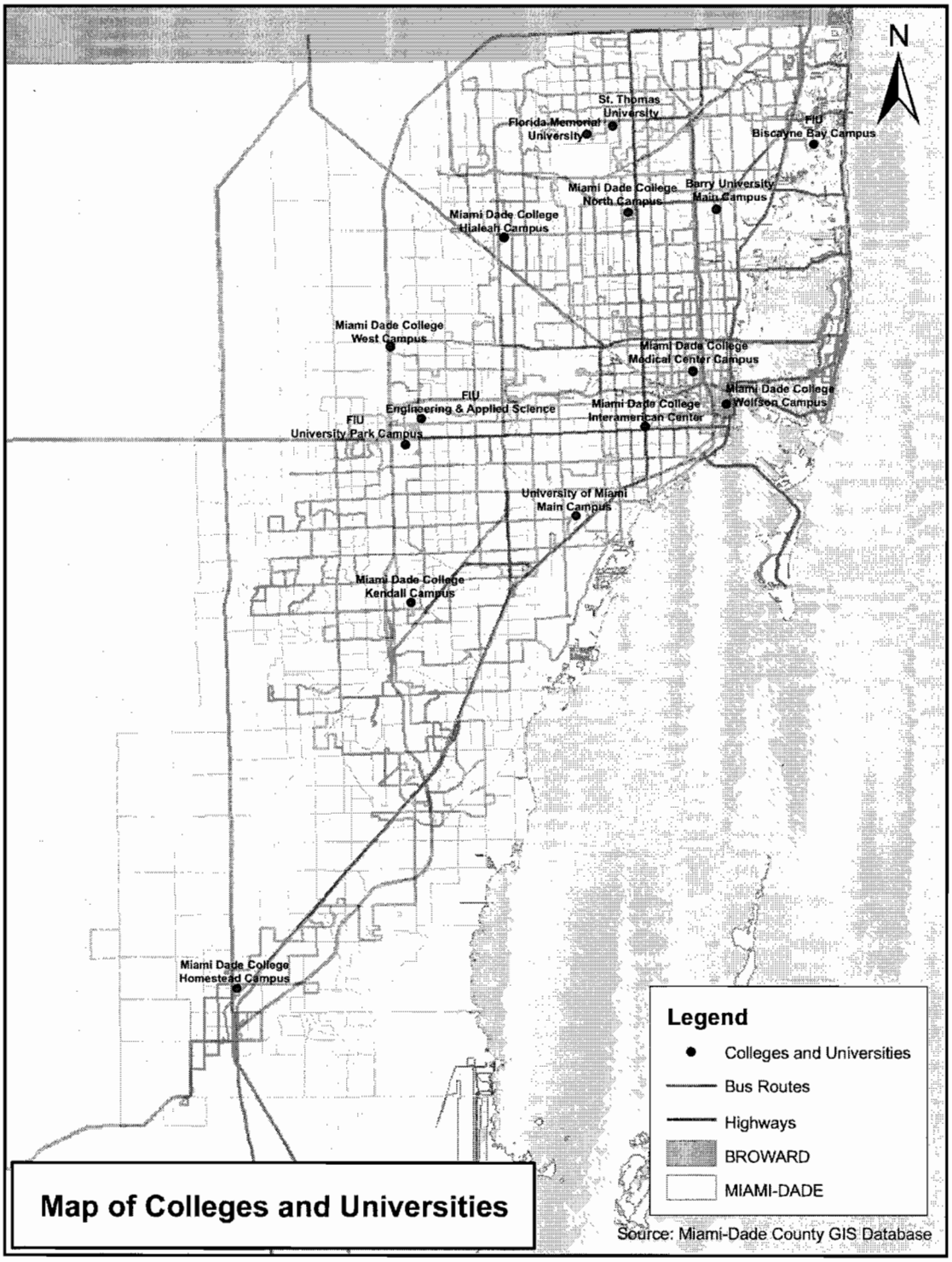


Figure 2-3: Miami-Dade County Colleges and Universities



Source: Miami-Dade County GIS Department

2.1.3 Transportation System

Miami-Dade County Highway System

Miami-Dade County has 11 principal arterials as defined from the Florida Department of Transportation (FDOT) Functional Classification designations. Interstate 95 (I-95) is the main north-south highway throughout the county. This highway begins in South-Miami Dade and continues north up the entire east coast of Florida. The Palmetto Expressway (SR 826), Interstate 75 (I-75), and Florida's Turnpike are also major expressways that run throughout Miami-Dade County. The Miami-Dade Expressway Authority manages five (5) expressways in the county [Dolphin Expressway (SR 836), Gratigny Expressway (SR 924), Airport Expressway (SR 112), Don Shula Expressway (SR 874), and Snapper Creek Expressway (SR 878)].

Figure 2-4 and Table 2-3 present the principal interstate, freeway, and expressway arterials found in Miami-Dade County.

Figure 2-4: Miami-Dade County Interstates, Freeways, and Expressways

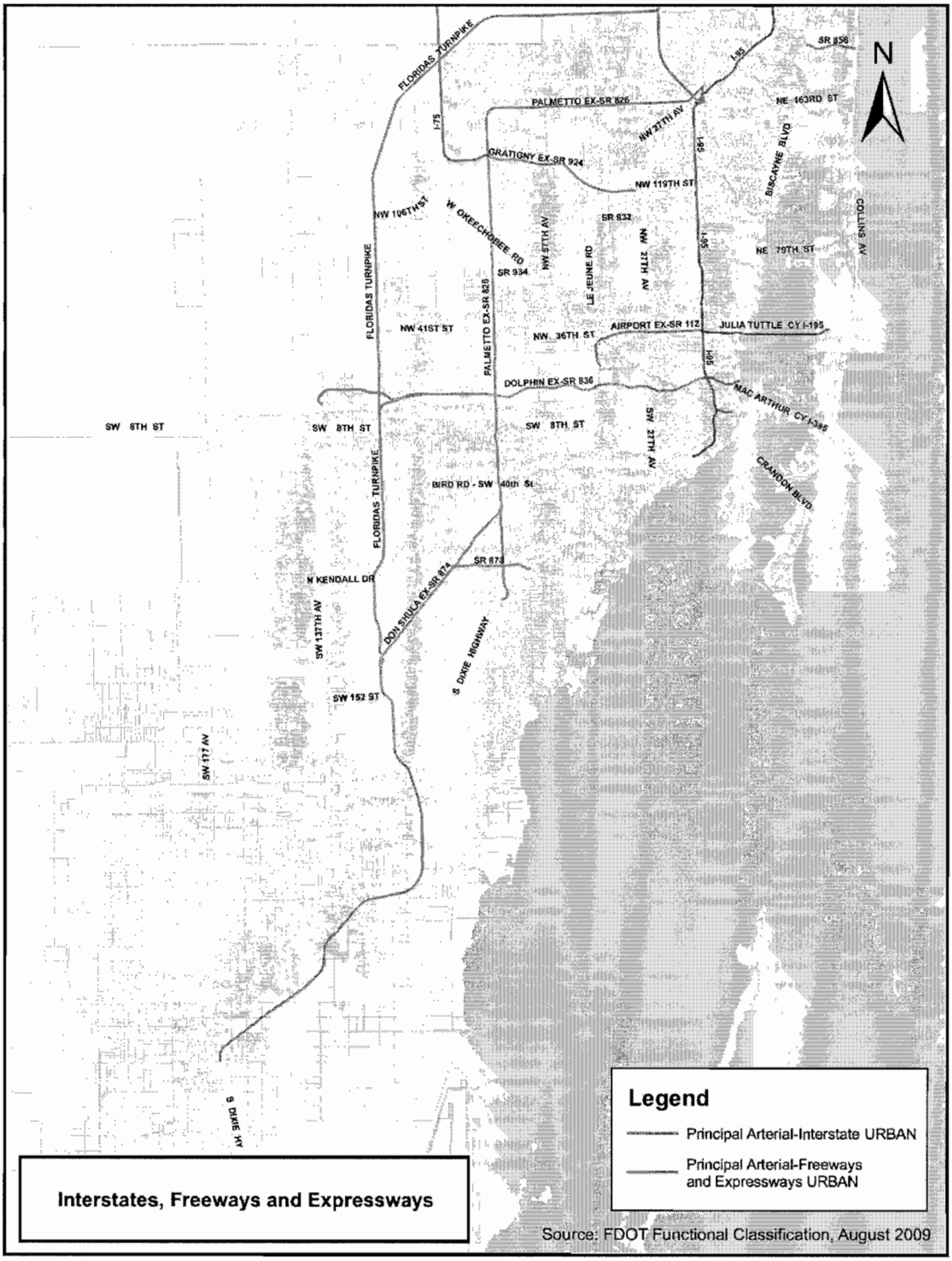


Table 2-3: Miami-Dade County Principal Interstate, Freeway, and Expressway Arterials

Principal Arterials	Direction	No of Lanes
Florida's Turnpike (SR 821)	North-South	4/6/8/10
Don Shula Expressway (SR 874)	North-South	4/6/8
Interstate (I-75) (SR 93)	North-South	8
Palmetto Expressway (SR 826)	North-South	6/8/10
Interstate (I-95)	North-South	4/6/8/10
Snapper Creek Expressway (SR 878)	East-West	4
Dolphin Expressway (SR 836)	East-West	6/8
MacArthur Causeway (I-395)	East-West	4/6
Airport Expressway (SR 112)/ Julia Tuttle Causeway (I-195)	East-West	6/8
Gratigny Expressway (SR 924)	East-West	6/8
William H. Lehman Causeway (NE 192nd St) (SR 856)	East-West	6

Source: FDOT Functional Classification, August 2009

Miami-Dade County Street Grid System

Miami-Dade County is comprised of a contiguous street grid system that stretches from downtown Miami throughout other regions of the county. The street grid system was adopted by the City of Miami following World War I. The original system was composed of named streets, with names often changing every few blocks and multiple streets in the city sharing the same name. The revised street grid was later extended throughout the county as population grew west, south, and north of Miami city limits.

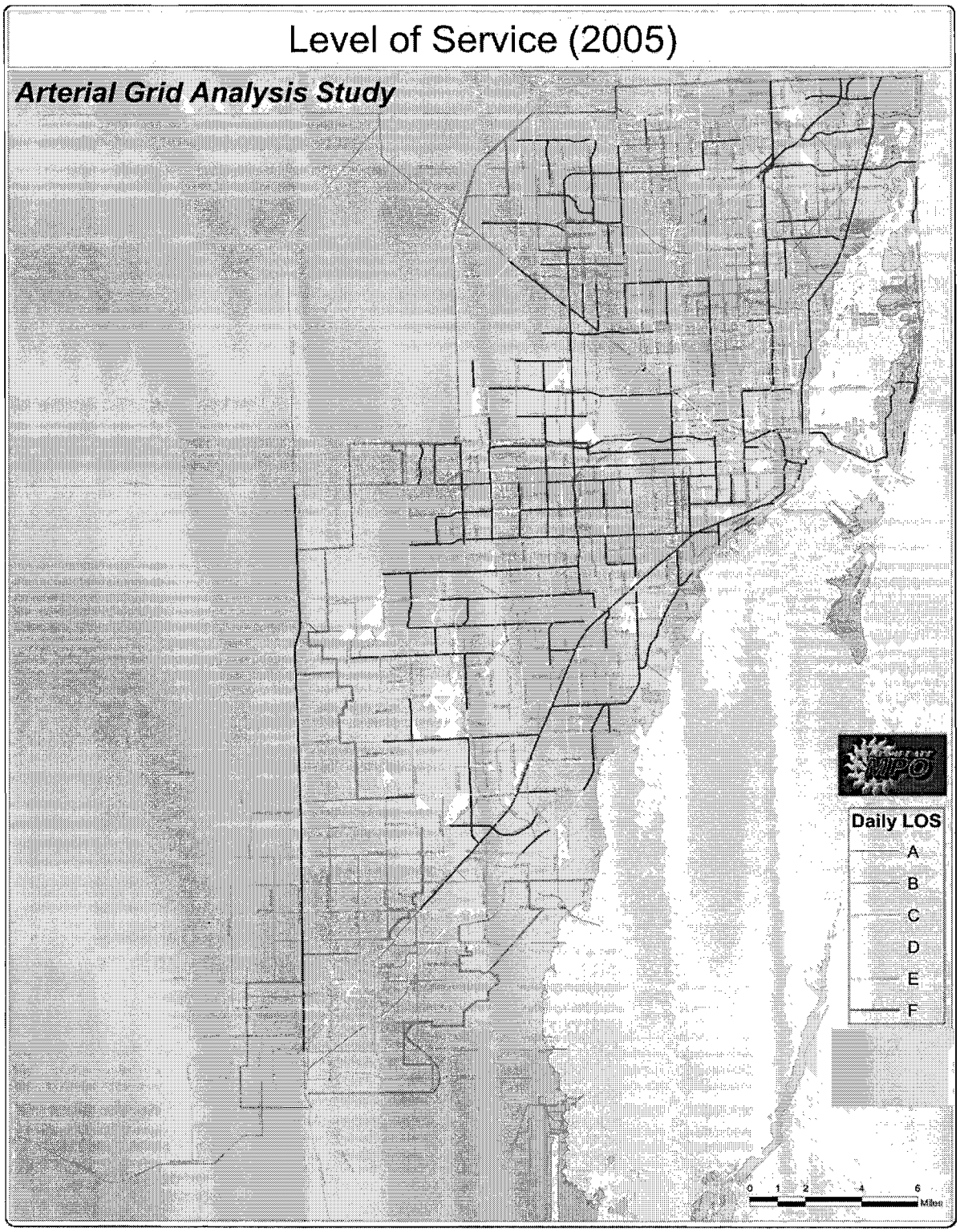
The street grid is laid out with Miami Avenue as the originating base avenue going east-west and Flagler Street as the north-south originating base street. The street grid is primarily numerical so that, for example, all street addresses north of Flagler and west of Miami Avenue have NW in their address (e.g. NW 27th Avenue). In Miami-Dade County, the NW and SW quadrants are much larger than the SE and NE quadrants. Many major roads are also named in addition to the numerical numbering system.

2.1.4 Roadway Capacity

Miami-Dade County's urbanized area experiences high levels of congestion on its roadways due to population growth and land use development patterns. Level of service maps are developed based on the volume to capacity (v/c) ratio which is a common measure of effectiveness utilized in the analysis of transportation systems. The volume is the daily traffic expected on a particular roadway. The roadway capacity is the maximum number of vehicles that can travel through a given point during a specified period under prevailing roadway, traffic and control conditions.

The v/c ratio analysis is based on best available count data describe existing conditions. The Arterial Grid Analysis Study prepared the LOS for Existing Conditions in 2007 (Figure 2-5) using methodologies established by FDOT's 2002 Quality/Level of Service Handbook for daily roadway volumes and capacities.

Figure 2-5: Level of Service (2005)



Source: MPO Arterial Grid Analysis Study, 2005

Figure 2-5 highlights the estimated v/c ratios for the roadways operating at level of service[2] (LOS) up to LOS F when the projected demand exceeds to capacity of the roadway for 2005. A transportation facility operating at LOS F implies failing conditions that are unacceptable to most drivers.

2.1.5 Miami-Dade Freight Network

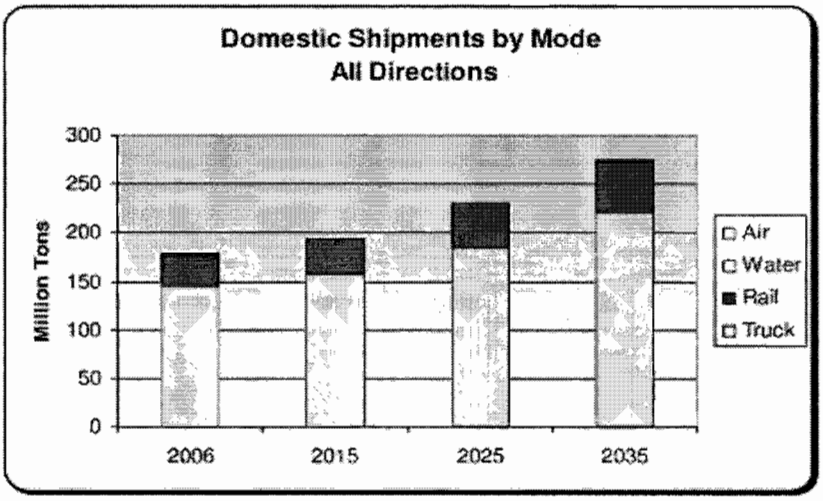
The movement of freight and goods throughout Miami-Dade County is an important facet of the local and regional economy. The major centers or hubs for freight and consumer goods include the Miami International Airport, Port of Miami, Florida East Coast (FEC) Intermodal facility, the Miami River, and the Doral warehouse district in central Miami-Dade County. Currently about as many goods are exported from Miami-Dade County as are imported into the County resulting in a 50/50 import/export ratio with Broward County representing the largest trading partner with Miami-Dade County. [3]

The transportation of freight within Miami-Dade County primarily moves by truck on existing roadways and highways through a network of modal connections, routes and facilities. Trucks move more than 80 percent (80%) of all domestic freight tonnage (approximately 150 million tons) while rail moves nearly all of the remaining freight tonnage. Air and water move a very small share of domestic tonnage however serve as major points of access for international imports and exports. Roadway freight traffic is anticipated to increase on roadways throughout the County in direct correlation to total traffic growth as stated in 2009 Miami-Dade Freight Plan. This will place additional demand on an already congested roadway network that has little or no remaining capacity to meet existing demand during peak weekday travel periods. Projections indicate that the tonnage of domestic freight will continue to increase over the next 30 years.

[2] LOS A and B reflect excellent condition (no delay); LOS C and D are considered satisfactory (some delay); LOS E indicated the presence of significant congestion (major delay); and LOS F reflects substantial congestion.

[3] International freight comes in to airport and seaport where some freight are transshipped but may cue for statewide and regional consumption.

Figure 2-6: Freight Shipments



Source: Miami-Dade Freight Plan, 2009

2.2 Demographic and Economic Analysis

This section reviews the study area in the context of the TDP major update process which includes a physical description of the study area, population profile and trends, demographic characteristics, and journey-to-work characteristics. A series of maps are included to illustrate select population, demographic, and journey-to-work characteristics. The primary data sources include the 2000 Census and 2005-2007 American Community Survey Data both which represent the most comprehensive current available information. Traffic Analysis Zone (TAZ) data was used as an additional source for the creation of the demographic maps within this section.

2.2.1 Data Sources

United States Census

The U.S. Census is a federal program conducted every ten years and is focused on gathering social and economic characteristics of the population. In addition, the Census collects physical and financial characteristics of households. U.S. Census data is used within this section as a basis for a longitudinal comparison from the year 2000.

American Community Survey (ACS)

The ACS provides survey data that is produced each year to measure key social, economic, and housing characteristics about the U.S. population which is similar to the decennial Census. The ACS is sent to a small percentage of the population on a rotating basis. data set was utilized to provide a more detailed snapshot into the demographic and economic characteristics within Miami-Dade County as a whole.

In 2008, ACS provided a three-year estimate (based on data collected in three consecutive years). The 2005-2007 ACS estimates are based on data collected between January 2005 and December 2007. This document sources the ACS 2005-2007 three year estimates for analytic purposes to provide a more comprehensive

descriptive average of demographic and economic conditions during this time period. To help understand the assumptions of the three-year estimates the following characteristics for this type of estimates is as follows:

- Published for selected geographic areas with populations of 20,000 or greater.
- Represent the average characteristics over the three-year period of time.
- Have larger sample size than the one-year estimates.
- Less current than the one-year estimates.

Although the ACS produces population, housing unit, and demographic estimates, it is the Census Bureau's Population Estimates Program (PEP) that produces and disseminates the official estimates of the population and housing units for the nation, states, counties, cities and towns. Specific population, demographic and housing unit characteristic PEP data for 2006 was not available below the County level and was therefore not used in this analysis. As a result, ACS three-year estimates were used for this analysis since it is recognized as a second tier reliable source of economic and demographic data.

2.2.2 Miami-Dade County Population Characteristic

According to ACS estimates for 2007, Miami-Dade County was the most populous county in Florida and the eighth (8th) most populous county in the nation. Population growth since 1990 has steadily impacted Miami-Dade County, as well as, the greater South Florida region (Table 2-4). From a regional perspective, Miami-Dade County has experienced the second largest percent change in population growth (28%) from Census estimates spanning from 1990 to 2000. Census population estimates indicate that growth in Miami-Dade County increased five percent (5%) from 2000 to 2007. In addition, tourism also greatly contributes to Miami-Dade's population. In 2007, the number of overnight visitors to Greater Miami and the Beaches rose to a record 12 million. This amount makes Miami-Dade County a premier hotel market in the nation (The Jay Malina International Trade Consortium of Miami-Dade County, Annual Report, November 2008).

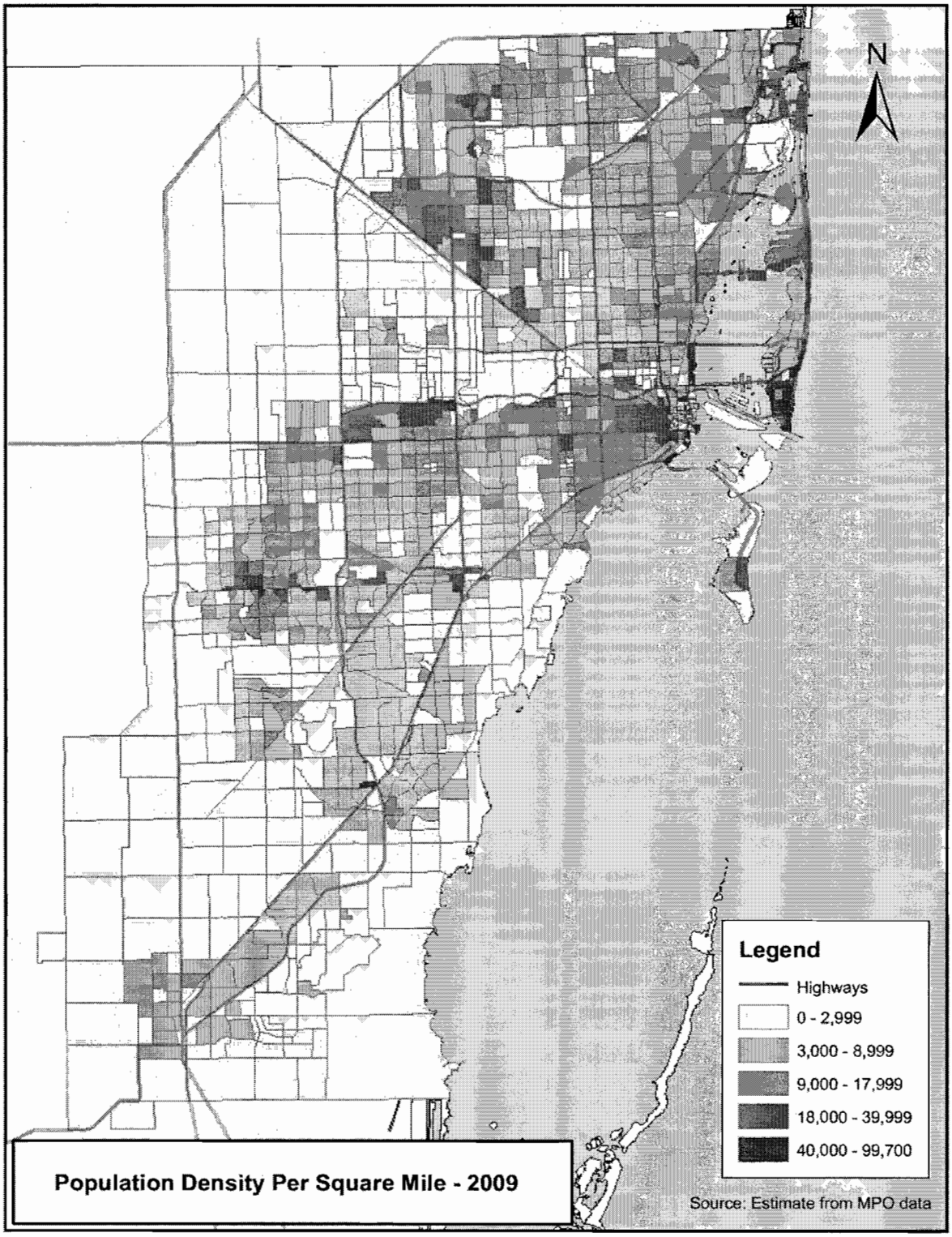
Table 2-4: South Florida Population Growth, 1990-2007

County	1990	2000	Percent Growth (1990-2000)	2007 Population Estimate	Percent Growth (2000-2007)
Miami-Dade	1,625,800	2,253,400	28%	2,370,300	5%
Broward	1,018,200	1,623,000	37%	1,761,680	8%
Palm Beach	860,520	1,131,200	24%	1,260,000	10%

Source: US Census 2000, 2005-2007 American Community Survey.

As the largest county in Florida, the current population density of Miami-Dade County is about 3,740 persons per square mile in 2009. (Figure 2-7) Density throughout the report is calculated based upon current demographic data provided from the Metropolitan Planning Organization (MPO).

Figure 2-7: Miami-Dade County Population Density, 2009



2.2.3 Age Distribution Characteristics

In 2000, Miami-Dade County had a relatively young population with the median age of 36 years old. The age distribution of age revealed that persons age 18 years and older made up three-quarters (75%) of the population. Elderly residents age 65 years and over made up 13 percent (13%), and children (under 5 years) seven percent (7%).

Table 2-5: Age Distribution Characteristics, 2000-2007

Population	Under 5 Years	18 and Over	65 Years and Over	Median Age
2000 Population				
2,253,400	7%	75%	13%	36
2005-2007 Population Estimates				
2,373,300	7%	77%	14%	38

Source: US Census, 2005-2007 American Community Survey

Trends remained consistent during the 2005-2007 time period where the proportion of persons age 18 years and over, as well as, the elderly population increased one percent (1%) from 2000 estimates. The percentage of young children remained at seven percent (7%), and the median age increased to about 38 years of age. Figure 2-8 illustrates youth population density and Figure 2-9 the elderly population density in Miami-Dade County.

Figure 2-8: Miami-Dade County Population Density under 16 Years of Age

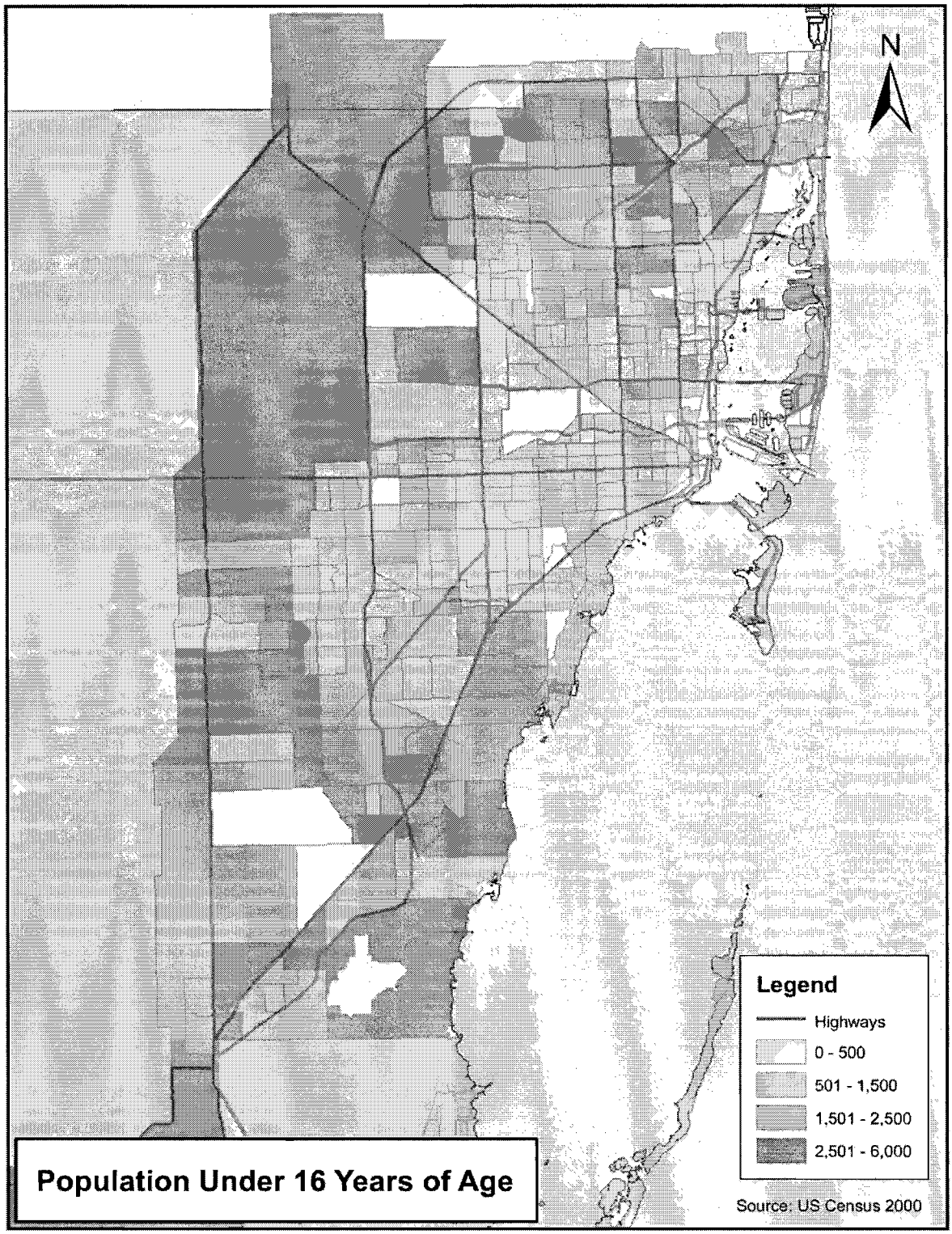
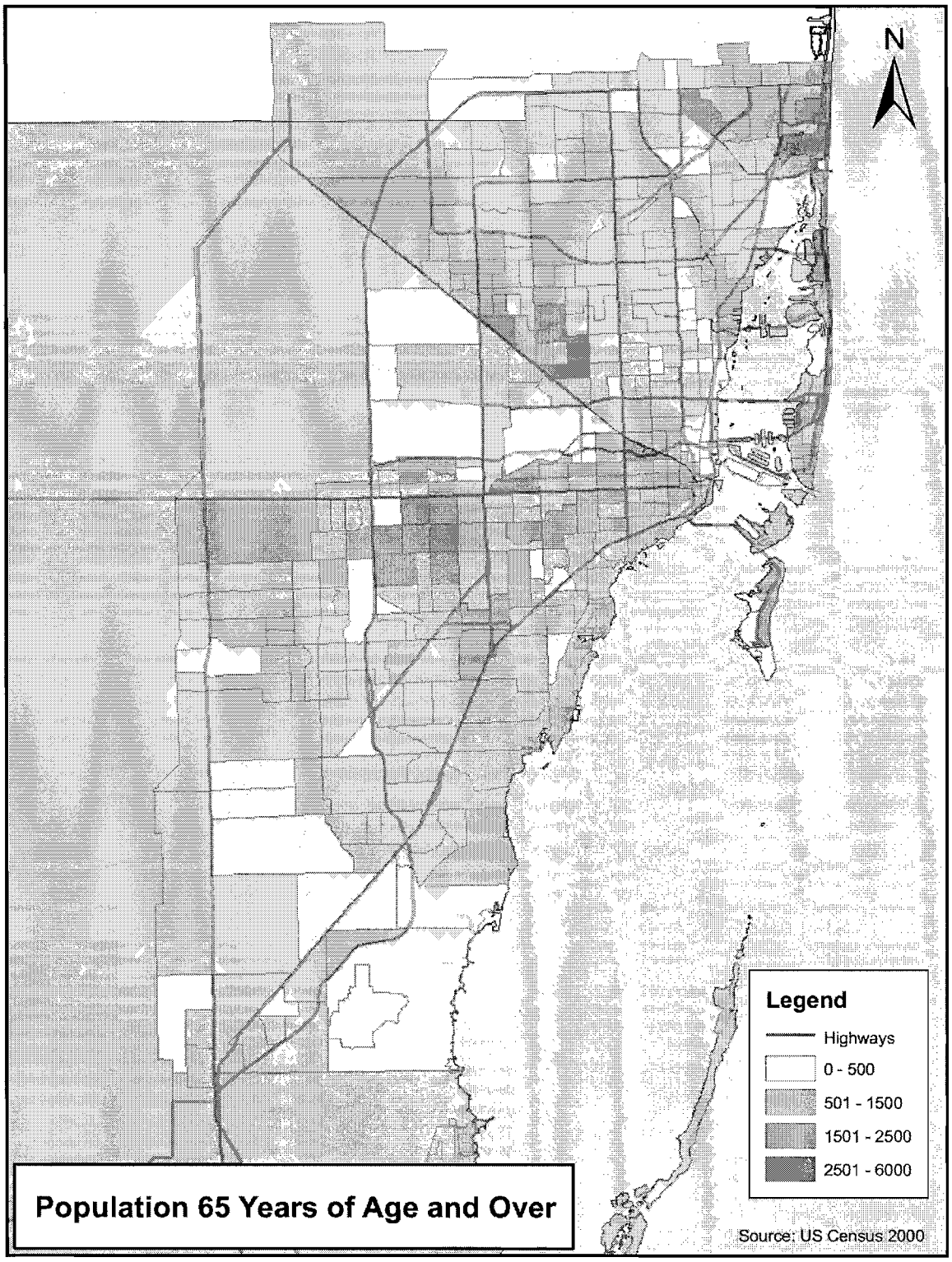


Figure 2-9: Miami-Dade County Population Density age 65 Years and Over



2.2.4 Household Characteristics

The Decennial 2000 Census reported Miami-Dade County had 777,400 households with an average household size of three (3) persons. Households with children (39%) and households with elderly (28%) comprised the majority of households within the county. One person households also represent a large portion (23%) of the total number of county households. (Table 2-6)

Table 2-6: Miami-Dade County Household Characteristics, 2000-2007

Households (HH)	Average HH size	1-Person HH	HH with children	HH with elderly
2000 Population				
777,400	3.00	23%	39%	28%
2005-2007 Average Population Estimates				
831,000	3.00	26%	35%	28%

Source: US Census, 2005-2007 American Community Survey. Notes: HH=household. HH with children are considered HH with one or more persons age 18 years and younger. HH with elderly are considered HH with one or more persons age 65 years and over.

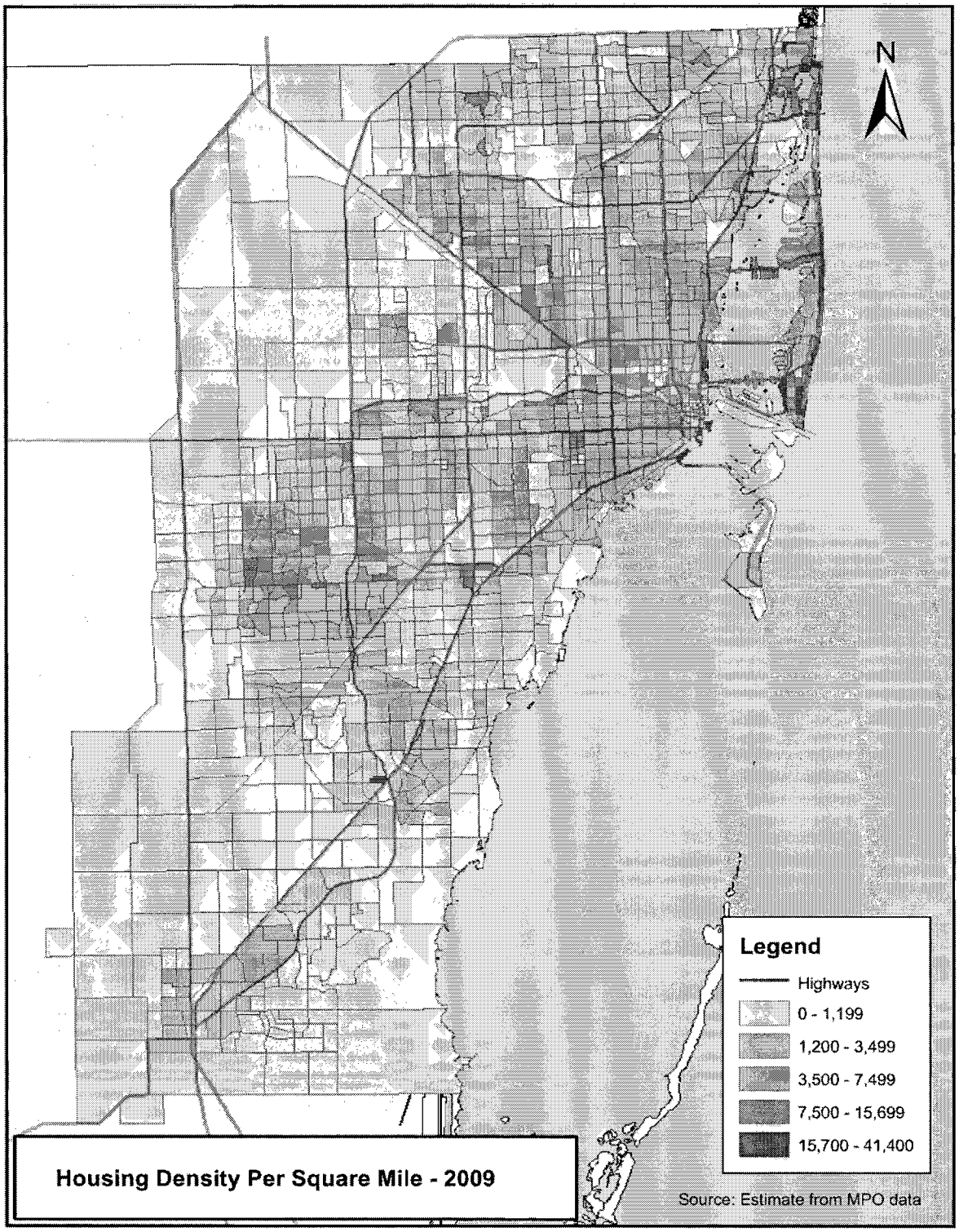
Household characteristics changed slightly during the period of 2005-2007 according to ACS three-year estimates. It was during this period that estimated number of Miami-Dade County households increased to 831,000 households with an average household size of three (3) persons.

The types of households in Miami-Dade County were comprised of various family types. The majority of households (35%) continued to be those with children age 18 and younger, but experienced a slight decrease from 2000 estimates. Following closely were households with elderly; remaining at 28 percent (28%) of all county households. Three year estimates also revealed that the number of one-person households increased three percent (3%) from 2000, indicating a higher proportion of persons living alone in the county.

Miami-Dade County Housing Density

Miami-Dade County is primarily considered a community of single-family homes. Within recent years there has been an exponential increase in the construction and renovation of condominiums and townhomes, as well as, urban redevelopment which has together lead to greater vertical development. This is also due to the lack of available land within the urban growth boundary and the redevelopment of urban centers. Much like similar metropolitan cities within the nation Miami-Dade County offers high-density living in the downtown and many urbanized areas. Housing densities based upon MPO estimated data for 2009 is currently 1,307 households per square mile as presented in Figure 2-10.

Figure 2-10: Housing Density (2009)



2.2.5 Racial and Ethnic Characteristics

Miami-Dade County proudly boasts itself as one of the most diverse regions in the state of Florida in terms of race and ethnicity. In 2000, for people reporting one race alone, 70 percent (70%) were white and 30 percent (30%) non-white. From 2005-2007, the percentage of whites increased to 72 percent (72%) and non-white 28 percent (28%). The Hispanic community in Miami-Dade County comprised more than half of the entire population in both 2000 (57%) and during 2005-2007 (61%). The Hispanic community includes persons of Hispanic origin of any race and remains the largest ethnic group represented in Miami-Dade County. (Table 2-7)

Table 2-7: Miami-Dade County Racial Characteristics, 2000-2007

Population	Percent White	Percent Non-white	Percent Hispanic
2000 Population			
2,253,400	70	30	57
2005-2007 Average Population Estimates			
2,373,300	72	28	61

Source: US Census, 2005-2007 American Community Survey

2.2.6 Travel Time to Work

Travel times commuting back and forth to work are steadily increasing throughout the South Florida region. A majority of residents living in western regions of the county reported travel times between 30 to 45 minutes. This reveals that residents are spending longer amounts of time commuting in traffic to reach places of employment each work day. Figure 2-11 and Figure 2-12 illustrates commute time to work increases significantly for residents living in the outer western regions.

Table 2-8: Miami-Dade County Distribution of Workers by Industry, 2005-2007

Industry	2005-2007
Agriculture	0.5%
Construction	9.2%
Manufacturing	5.7%
Wholesale Trade	5.2%
Retail Trade	11.4%
Transportation and warehousing	7.6%
Information	2.3%
Finance, Insurance, Real Estate, Rental and Leasing.	8.5%
Professional, scientific, management, administrative and waste management services	11.8%
Educational services, and health care and social assistance.	18.9%
Arts, entertainment, and recreation, and administrative and waste management services.	9.1%
Other services, except public administration	6.0%
Public administration	3.8%

Source: 2005-2007 American Community Survey. Note: Estimates include civilians employed in population age 16 years and over only.

Figure 2-11: Miami-Dade County Commute Times Greater than 30 Minutes in 2000

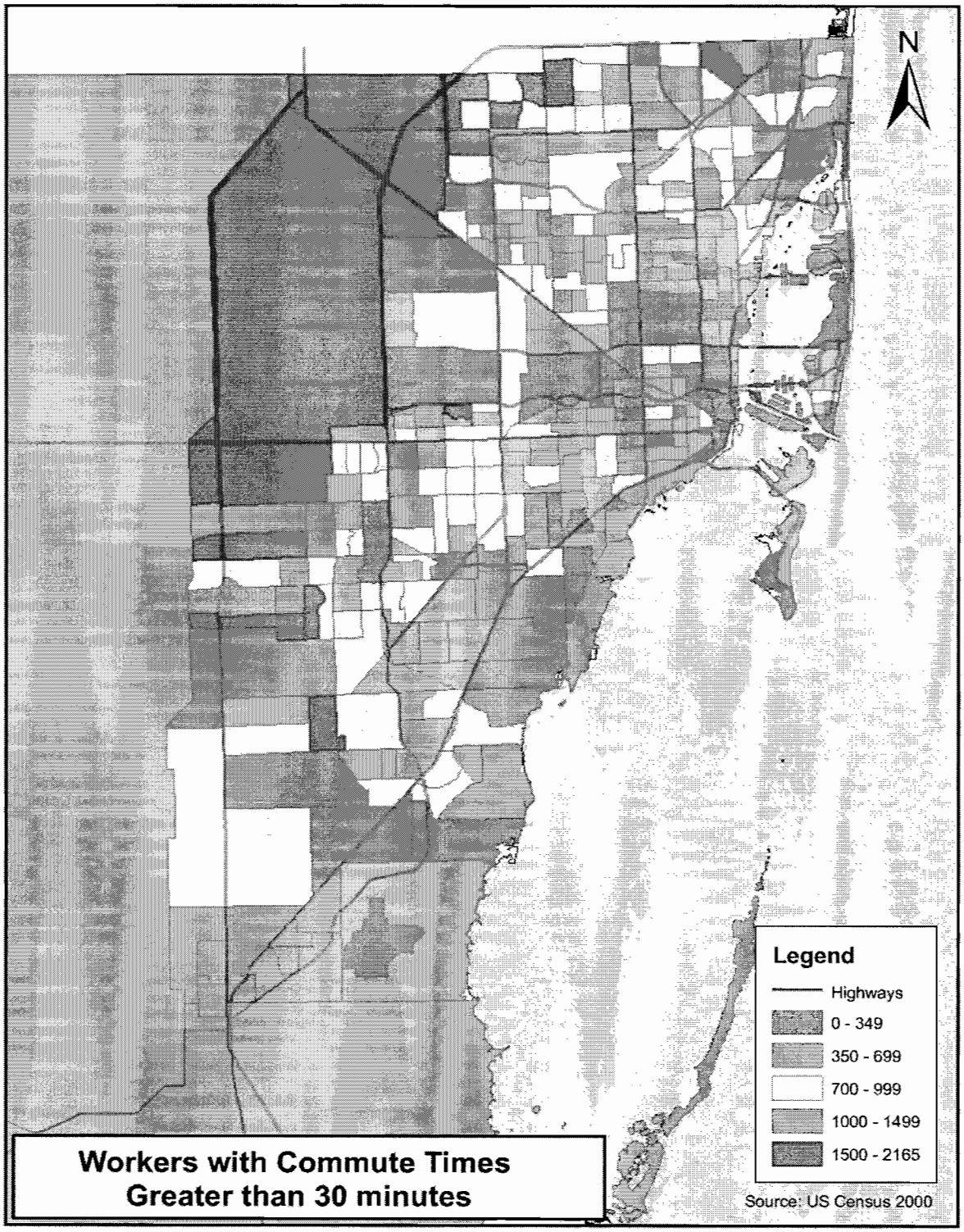


Figure 2-12: Miami-Dade County Commute Times Greater than 45 Minutes in 2000

2.2.7 Transportation Disadvantaged Population Characteristics

Transportation Disadvantaged (TD) populations refer to a special population that is most likely to benefit from improved and expanded transit services provided by MDT. Chapter 427 of the Florida Statutes defines transportation disadvantaged (TD) persons as:

> *"Those persons who because of physical or mental disability, income status, or age are unable to transport themselves or to purchase transportation and are, therefore, dependent upon others to obtain access to health care, employment, education, shopping, social activities, or children who are handicapped or "high-risk" or "at-risk" as defined in s.411.202."*

Persons within this population often rely on public transit as the major motorized form of transportation utilized. The US Census provides four categories that describe TD populations. These include the following groups:

- Families below Poverty Level
- Zero Vehicle Population[4]
- Mobility Limited[5]
- Elderly persons age 65 and older

Table 2-9 presents the Miami-Dade County Transportation Disadvantaged Characteristics for the time period of 2000 to 2007.

Table 2-9: Miami-Dade County Transportation Disadvantaged Characteristics, 2000-2007

Population	Families Below Poverty	Disabled	Zero Vehicle Population	Elderly Age 65 and older
2000 Population				
2,253,400	15%	7%	4%	13%
2005-2007 Population Estimates				
2,373,300	13%	5%	5%	14%

Source: US Census, American Community Survey 2005-2007. Note: Disabled individuals include persons 16 years and or older who have difficulty going outside by themselves.

Employment

Miami-Dade County has a diverse employment industry which spans many different fields and industries. The major public and private employers within Miami-Dade County are presented in Table 2-10 and represent a broad cross-section of industries including retail, county government, and healthcare industries. According to ACS estimates the five (5) major industries within Miami Dade County include educational

[4] Households reporting zero automobiles at home for personal use.
[5] Introduced in Census 2000 referring to limited individuals with a "Go Outside home disability for civilians not institutionalized over 16 years."

services (18.9%), professional, scientific, and management (11.8%), retail trade (11.4%), Construction (9.2%), and arts, entertainment recreation (9.1%) (Table 2-8).

Despite this diverse employment culture, the Miami-Dade County population includes factions of residents which are economically disadvantaged, children at-risk, disabled community, seniors, and unemployed, the homeless, and adults at-risk. There are over 130,000 economically disadvantaged seniors and approximately 5,000 Social Security [SSI & SSDI] enrolled in the Golden Passport program; approximately 300,000 Medicaid recipients, and approximately 25,000 enrolled in the Special Transportation Services program for the disabled.

The total economically disadvantaged population is growing and projections indicate that the disadvantaged population will exceed 900,000 in Miami-Dade County. The continuing increase in gas prices, maintenance, parking, and other available resources have impacted the working poor. Many will not use their vehicles to travel to work sites, job opportunities, training, day care, and other daily activities.

Table 2-10: Miami-Dade County Major Employers

Public Employers		Private Employers	
Organization	**Employment**	**Organization**	**Employment**
Miami-Dade Public Schools	50,000	Publix Super Markets	11,000
Miami-Dade County	32,000	Baptist Health of South Florida	10,826
Federal Government	20,400	University of Miami	9,874
Florida State Government	17,000	American Airlines	9,000
Jackson Health System	10,500	Precision Response Corporation	6,000
Miami-Dade College	6,500	Bellsouth Corporation-Florida	5,500
City of Miami	4,034	Winn-Dixie Stores	4,833
Florida International University	3,132	Florida Power and Light	3,900
V A Medical Center	2,300	Carnival Cruise Lines	3,500
City of Miami Beach	1,979	Macy's Florida	3,368

Source: Miami Business Profile, Beacon Council, 2007

Income Characteristics

In 2000, Miami-Dade County median income of households averaged about $36,000. Family poverty levels and households participation in government programs were 15 percent (15%) and six percent (6%) respectively. The numbers of persons working in the labor force in 2000 were estimated to be more than half of the total population (58%).

During 2005-2007 income characteristics in Miami-Dade County experienced moderate growth. (Table 2-11) The median household income rose from year 2000 levels and was about $42,000. Also within this period the number of families living below poverty (13%) and receiving public assistance (2%) decreased. Most noteworthy is that a greater proportion of the population is gainfully employed in the labor force and was estimated to be about 61 percent (61%) of the population.

Table 2-11: Miami-Dade County Income Characteristics, 2000-2007

Households HH	Median HH Income	Families Below Poverty	Per Capita Income	HH receiving Public Assistance	In Labor Force
2000 Population					
777,400	$ 36,000	15%	$ 18,500	6%	58%
2005-2007 Population Estimates					
830,800	$ 41,900	13%	$ 22,500	2%	61%

Source: US Census, 2005-2007 American Community Survey

Note: 2000 Estimates for Median HH Income and Per Capita income represent 1999 inflation-adjusted dollars. 2005-2007 Estimates for Median HH income and per capita income is represented in 2007 inflation-adjusted dollars. Labor force represents the population 16 years and over. Public assistance includes food stamp benefits and cash public assistance income.

Zero Vehicle Populations

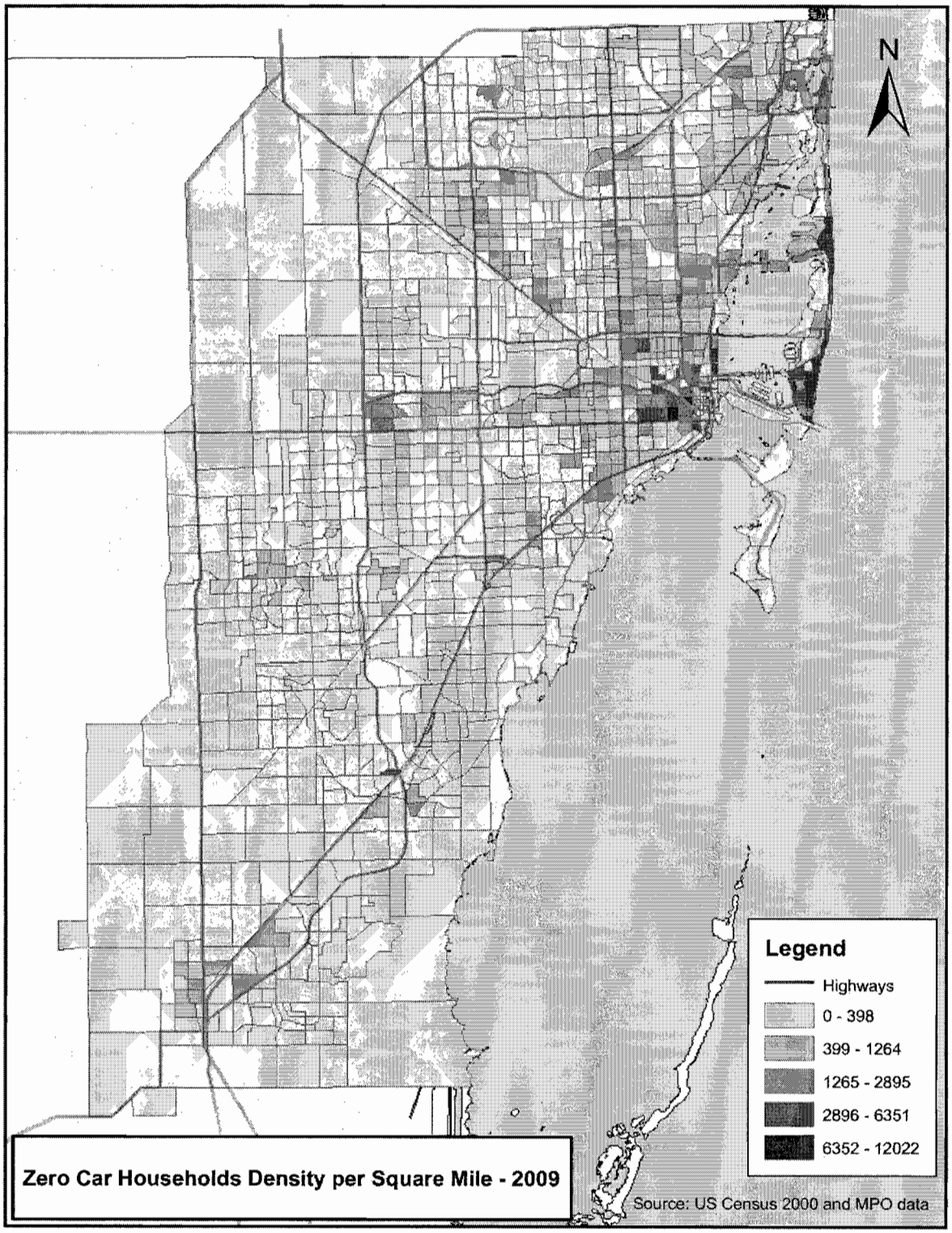
The Census provides the number of vehicles available to each household in its yearly estimates. From this data we can determine the percentage of the population with no vehicles available for personal use that is most likely to use transit services within the county. Households in this category may be the result of personal choice to not own a vehicle, physical ability to operate a vehicle, or the lack of financial means by which to own a vehicle. In 2000, households with zero vehicles available made up five percent (5%) of the population. During the period of 2005-2007, four percent (4%) of Miami-Dade County's population were zero vehicle households. (Table 2-12) Figure 2-13 illustrates 2009 zero car household densities.

Table 2-12: Number of Vehicles Available, 2005-2007

	Number of Vehicles Available			
Population	**0**	**1**	**2-3**	**4 +**
2000 Population				
2,253,400	5%	13%	15%	1%
2005-2007 Population Estimates				
2,373,300	4%	13%	16%	1%

Source: US Census, 2005-2007 American Community Survey

Figure 2-13: Zero Car Household Density, 2009



Mobility Limited

An important component of understanding TD populations is the identification of the number of mobility limited persons residing within Miami-Dade County. For the mobility limited, the transit dependence stems from the inability to go outside of the home alone. This category does not include persons that are institutionalized and would otherwise not leave the home without assistance (for example, persons in a nursing home).

In 2000, a total of 11 percent (11%) of Miami-Dade County's population age 16 and over were considered mobility limited. According to average estimates compiled from the Census for the time period between 2005 and 2007, a total of five percent (5%) of county residents were mobility limited. The number of mobility limited elderly persons age 65 and over in the county during this same period was estimated at three percent (3%). (Table 2-13)

Table 2-13: Mobility Limited Populations, 2000-2007

Population	16 to 64 years	65 and over
2000 Population Estimates		
2,253,400	7%	4%
2005-2007 Population Estimates		
2,373,300	2%	3%

Source: US Census, 2005-2007 American Community Survey

2.3 Regional Transit Service Connections

This section provides a brief overview of the public transportation service providers that provide connections to the Miami-Dade Transit System.

2.3.1 South Florida Regional Transportation Authority

The South Florida Regional Transportation Authority (SFRTA) provides north-south commuter rail service (Tri-Rail), along a 72-mile corridor that spans Palm Beach County, Broward County, and Miami-Dade County with service to 18 stations. Tri-Rail primarily runs through the eastern urbanized areas and passes by the major downtowns of the various cities of each county starting from the Mangonia Park station in Palm Beach County continuing south to Miami International Airport (MIA) in Miami-Dade County. Table 2-14 presents Tri-Rail Stations and corresponding MDT route connections.

Table 2-14: Tri-Rail Stations and MDT Route Connections

Tri-Rail Station	MDT Route	Major Destinations	Tri-Rail Station	MDT Route	Major Destinations
Golden Glades	E	Miami Lakes Corporate Center, Golden Glades Park and Ride, Opa Locka City Hall, Aventura Mall and Mall at 163rd Street	Opa Locka	E	Miami Lakes Corporate Center, Golden Glades Park and Ride, Opa Locka City Hall Aventura Mall and Mall at 163rd Street
	22	The Mall at 163rd Street, University of Miami/Jackson Memorial Hospital/Clinics		32	Florida Memorial University, Miami-Dade College-North Campus St. Thomas University, Northside Metrorail Station, Santa Clara Metrorail Station, Omni Mover Terminal
	42	Golden Glades Park and Ride, Opa Locka City Hall, Douglas Road Metrorail Station, Coconut Grove Metrorail Station, MIA			
	77	Culmer Metrorail Station, Government Center Metrorail Station, Golden Glades Park and Ride	Tri-Rail/ Metrorail Transfer	L	Lincoln Road, Miami Beach Convention Center, Amtrak Terminal, Hialeah Metrorail Station
	95 Express	Golden Glades Station, Downtown Civic Center, Earlington Heights Metrorail Station		42	Golden Glades Park and Ride, Opa Locka City Hall, Douglas Road Metrorail Station, Coral Gables Metrorail Station
	246 Night Owl	Government Center Metrorail Station, Civic Center Metrorail Station, Jackson Hospital North, The Mall at 163rd Street	Hialeah Market	132 Doral/Tri-Rail Shuttle	Koger Executive Center, Doral Country Club, Hialeah Station
	277 7th Ave MAX	Downtown Miami, Government Center Metrorail Station, Culmer Metrorail Station, NW 7 Ave., Lindsey Hopkins, Edison Center, North Miami, Biscayne Gardens, Golden Glades Park & Ride	Miami International Airport	37	Hialeah Metrorail Station, Douglas Road Metrorail Station, Miami International Airport, South Miami Metrorail Station MIA, Hertz Car Rental, Tri-Rail Station
			Miami International Airport	133 Airport/Tri-Rail Shuttle	Windham Airport Hotel, MIA, Hertz Car Rental, Tri-Rail Station
				238 East-West Connection	Dolphin Mall, Miami International Mall, MIA, Earlington Heights Metrorail Station

Source: Miami-Dade Transit, June 2009

Weekday service spans from 4:00 AM to 11:05 PM, with operations of 20 minute headways in each direction during both the morning and evening peaks, including 30-minute headway transitions between the 20-minute peak headway service and the hourly off-peak service. Tri-Rail operates a zonal fare system and is comprised of six (6) equidistant zones. Fare is determined by the sum of zones traveled and base fares were recently raised June 2009. The regular base fare for one way travel is $2.50, discounted one-way is $1.25, regular roundtrip is $4.40 and discounted roundtrip is $2.50. The cost for the Tri-Rail monthly pass is $100 ($50.00 discounted).

Tri-Rail passengers transferring from Tri-Rail at a Tri-Rail transfer point to Metrobus may purchase transfers (0.50 cents) with valid Tri-Rail ticket. Free transfer is provided to MDT subsidized shuttles (Airport/Tri-Rail Shuttle and Doral/Tri-Rail Shuttle) for Tri-Rail passengers. Passengers transferring from Tri-Rail to MDT Express buses must pay full fare for these routes. Passengers transferring from MDT to Tri-Rail may obtain a free transfer card from bus operator to be presented for a $1.75 entitlement towards Tri-Rail fare.

Tri-Rail has five (5) station locations in Miami-Dade County to connect with MDT services including both Metrobus and Metrorail. The five (5) Tri-Rail stations include Golden Glades (Metrobus routes 22, 42, 77, 95 Express, E, 246, 277), Opa-Locka (Metrobus routes 32, 42, E), Tri-Rail/Metrorail Transfer (routes 42, L, Metrorail), Hialeah Market (Metrobus route 132), and Miami Airport station (Metrobus routes 37, 133, 238).

2.3.2 Broward County Transit (BCT)

The Broward County Office of Transportation operates Broward County Transit (BCT), fixed route bus service, which connects with MDT service. BCT operates 43 routes during weekdays, 41 routes on Saturday and 37 routes during Sundays, with varying service schedules spanning from before 4:00 AM to after midnight on weekdays. Regular one-way fare is currently $1.25 but is scheduled to increase to $1.50 in October 2009. A reduced one-way fare is $0.60, and an all day pass cost $3.00. Passengers transferring from BCT to MDT are provided a free transfer and required to pay the appropriate upgrade fare for MDT upon entering the system. In 2007, Broward County Office of Transportation initiated a new limited stop transit service called the Breeze. Breeze service currently operates two routes (US 441/SR 7 and US 1) that provide service from northern Broward County into Miami-Dade County. New articulated buses transport riders on the US 441/SR 7 route.

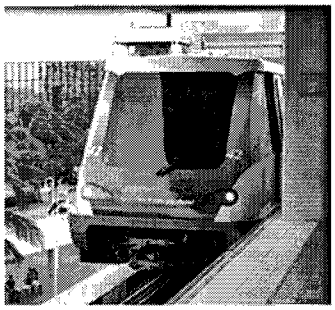
BCT and MDT are partnering together to provide increased regional bus service between Broward and Miami-Dade Counties beginning March/April 2010. Currently, MDT buses travel into Hallandale Beach (southeast Broward), and BCT buses travel into Miami-Dade County in areas such as Aventura, North Miami, Miami Gardens, and the Golden Glades Interchange. Table 2-15 lists those locations and BCT bus routes that provide connecting service to Metrobus routes:

Table 2-15: BCT Routes Serving Miami-Dade County

Bus Route	Service Connection Location
1	Aventura Mall, US 1
2	NW 207 Street, University Drive
18	Golden Glades Park and Ride, State Road 7
28	Aventura Mall, State Road 7
State Road 7 441 Breeze	State Road 7, Ives Dairy Road, Miami Gardens Drive, County Line Road, Golden Glades Park and Ride
University Breeze	Miami Gardens Drive, Golden Glades Park and Ride
US 1 Breeze	Aventura Mall, US 1

Source: Broward County Transit, 2009

Additional bus service from both agencies will be added to operate within the newly constructed express lanes on I-95 to connect northern and central Broward communities with downtown Miami.



Section 3

Existing Services

MIAMI-DADE COUNTY

3.0 EXISTING SERVICES

The following provides a description and overview of the existing transit services as operated within Miami-Dade County. This TDP Major Update, covers a ten-year period (years 2010 – 2019), as required by Florida Department of Transportation (FDOT) Regulations. The data reflected in this Transit Development Plan (TDP) Major Update is for calendar year 2008.

3.1 Miami-Dade Transit System Description

3.1.1 Miami-Dade Transit System Description

Miami-Dade Transit (MDT) has been a department within Miami-Dade County government since 1961. Prior to that date, transit services within Miami-Dade County were provided by multiple private transportation providers operating principally within municipal boundaries. Today, MDT has more than 3,301 employees with a Department Director reporting to the Assistant County Manager and Mayor of Miami-Dade County. MDT is one of the largest departments in Miami-Dade County government.

MDT is also the 12th largest transit property in the nation and the largest transit system in the State of Florida.

The Mission Statement for the Agency reads as follows:

> *"To meet the needs of the public for the highest quality transit service: safe, reliable, efficient and courteous."*

MDT operates four (4) transit modes: bus (Metrobus), heavy rail (Metrorail), automated guideway (Metromover), and demand-response service (Special Transportation Services). System maps provided on the following pages illustrate the Metrobus, Metrorail and Metromover system service areas, respectively. Together these modes comprise an integrated multi-modal transit system for Miami-Dade County. Figure 3-1 includes the system characteristics for each of the four (4) transit modes operated by MDT.

Metrobus

Metrobus is a fixed route bus service that operates seven (7) days a week, twenty-four hours per day. A total of ninety-four (94) routes comprise MDT's regular bus service structure as served by a total fleet of 893 buses. Table 3-1 provides a detailed service schedule for current MDT operated Metrobus routes, as of December 2008.

Figure 3-1: MDT Metrobus Route Map

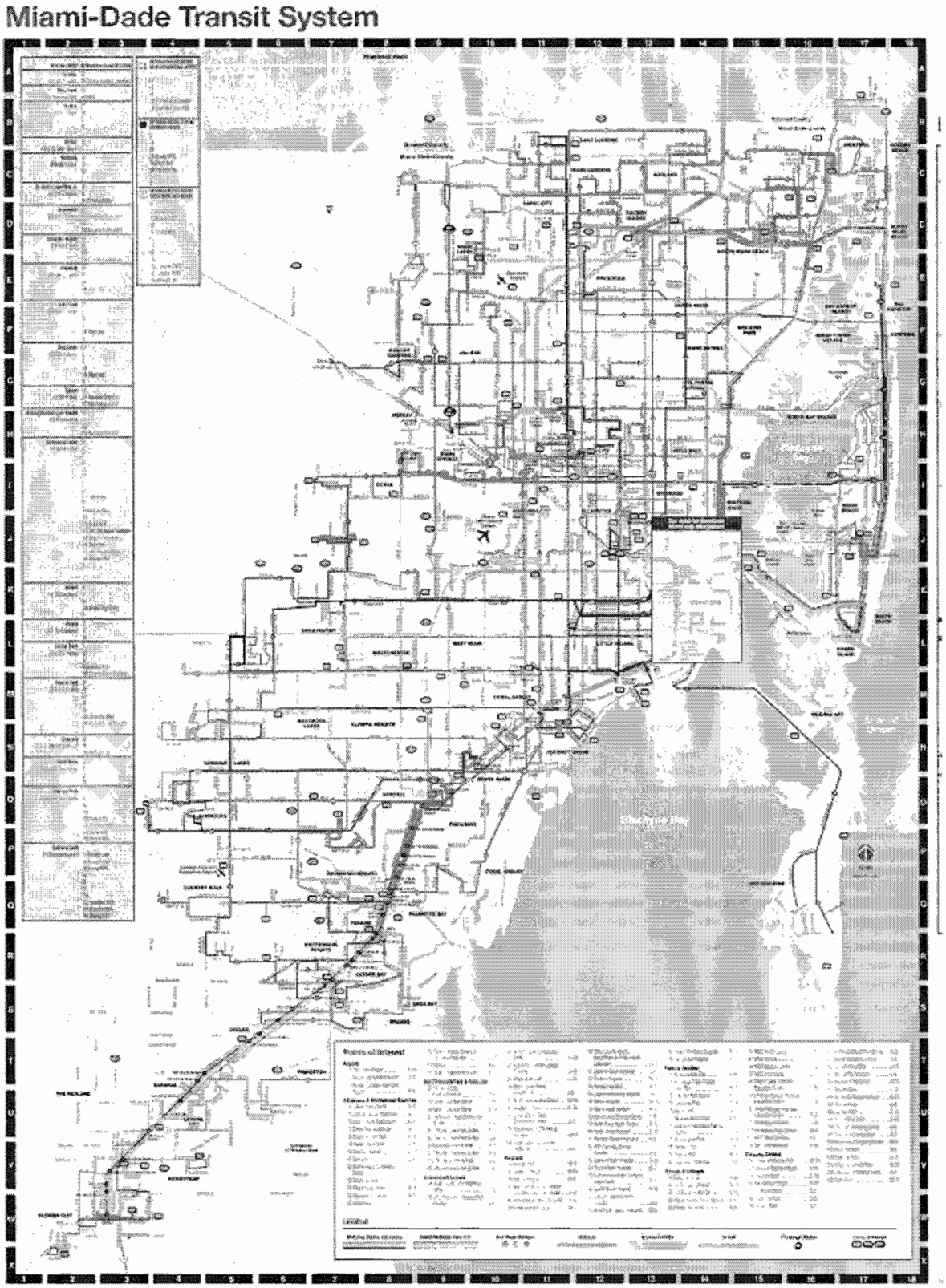


Table 3-1: MDT Metrobus Route Headways (December 2008)

ROUTE / BRANCHES	PEAK	MIDDAY	EVENING (after 8 pm)	OVERNIGHT	SATURDAY	SUNDAY
1	30	40	40	n/a	40	40
2						
NE 84 Street/NE 2 Avenue	20	20	30	n/a	20	30
163rd Street Mall	60	60	60	n/a	n/a	n/a
3						
Aventura Mall	20	20	30	60	20	24
Hallandale Beach	30	40	30	n/a	40	48
6	60	60	n/a	n/a	60	60
7						
East of NW 42 Avenue	15	20	30	n/a	20	20
Miami International Airport	30	40	n/a	n/a	40	40
Hook Square	30	40	n/a	n/a	n/a	n/a
Dolphin Mall	30	40	60	n/a	40	40
8						
East of SW 82 Avenue	10	15	15	n/a	15	20
Westchester	20	n/a	n/a	n/a	15	20
FIU via SW 8 Street	30	30	n/a	n/a	n/a	n/a
FIU via Coral Way	30	30	30	n/a	n/a	n/a
9						
163rd Street Mall	12	30	20	n/a	30	30
Aventura Mall	30	30	30	n/a	30	30
10	30	30	30	n/a	30	30
11						
East of 79 Avenue	8	12	15	60	12	15
Mall of the Americas	15	24	15	60	24	30
FIU-University Park Campus	15	24	15	60	24	30
12	30	30	40	n/a	30	30
16	20	20	30	n/a	30	30
17						
South of NW 95 Street/NW 17 Avenue	15	30	60	n/a	30	30
Norwood	30	30	60	n/a	30	30
NW 103 Street	30	n/a	n/a	n/a	n/a	n/a
21						
Northside	30	30	50	n/a	30	30
Bunche Park	60	60	n/a	n/a	n/a	n/a
22						
North of NW 36 Street	15	30	60	n/a	30	30
Santa Clara Station	30	n/a	n/a	n/a	60	60
Coconut Grove	30	60	60	n/a	60	60
24						
Westchester	20	20	30	n/a	30	30
SW 137 Avenue/26 Street	40	40	30	n/a	30	30
27	15	30	60	60	20	30
28	30	40	60	n/a	60	60
29	30	45	n/a	n/a	n/a	n/a
31 (Busway Local)	15	30	40	n/a	30	30
32	24	30	30	n/a	40	60
33	30	30	60	n/a	30	30
34 (Busway Flyer)	7½	n/a	n/a	n/a	n/a	n/a

Source: Miami-Dade Transit, December 2008

Table 3-1: MDT Metrobus Route Headways (December 2008) (Continued)

ROUTE	PEAK	MIDDAY	EVENING (after 8 pm)	OVERNIGHT	SATURDAY	SUNDAY
35	30	30	60	n/a	30	30
36						
East of NW 57 Avenue	20	30	30	n/a	30	30
Doral Center	40	60	48	n/a	60	60
Hook Square	60	60	48	n/a	60	60
37	30	30	30	n/a	30	30
38 (Busway MAX)	15	15	15	60	15	20
40						
East of SW 127 Avenue	20	30	60	n/a	30	30
SW 8 Street/SW 129 Avenue	45	60	60	n/a	60	60
SW 147 Avenue/Bird Road	45	60	n/a	n/a	n/a	n/a
41	20	40	n/a	n/a	n/a	n/a
42	30	60	60	n/a	40	60
46 (Liberty City Connection)	30	n/a	n/a	n/a	n/a	n/a
48	40	60	40	n/a	n/a	n/a
51 (Flagler MAX)	15	30	30	n/a	n/a	n/a
52	30	40	60	n/a	60	60
54	20	30	30	n/a	30	30
56						
East of SW 56 Street/ SW 107 Avenue	30	30	60	n/a	n/a	n/a
MDC- Kendall Campus	60	60	60	n/a	n/a	n/a
Miller Road/SW 157 Avenue	60	60	n/a	n/a	n/a	n/a
57	40	60	n/a	n/a	n/a	n/a
62						
MLK Station	10	15	30	n/a	20	20
Hialeah	30	30	30	n/a	20	20
Miami Beach	20	n/a	n/a	n/a	n/a	n/a
Omni	20	15	30	n/a	20	20
65	30	n/a	n/a	n/a	n/a	n/a
70						
Cutler Ridge	30	30	60	n/a	60	60
Saga Bay	n/a	30	n/a	n/a	n/a	n/a
71	30	40	24	n/a	60	60
72						
East of SW 137 Avnue	30	30	30	n/a	30	30
Miller Square	60	60	60	n/a	60	60
Kendall Drive/SW 157 Avenue	60	60	60	n/a	60	60
73	30	30	60	n/a	40	60
75						
77						
South of NW 183 Street	8	15	30	n/a	15	30
NW 199 Street	15	30	30	n/a	30	60

Source: Miami-Dade Transit, December 2008

Table 3-1: MDT Metrobus Route Headways (December 2008) (Continued)

ROUTE	PEAK	MIDDAY	EVENING (after 8 pm)	OVERNIGHT	SATURDAY	SUNDAY
83						
163rd Street Mall	15	30	60	n/a	30	30
MDC-North Campus	30	30	60	n/a	30	n/a
87	30	40	30	n/a	40	40
88						
East of SW 132 Avenue	15	30	15	n/a	20	30
Kendale Lakes	30	60	30	n/a	40	60
SW 157 Avenue/Kendall Drive	30	60	30	n/a	40	60
91	30	60	30	n/a	60	60
93 (Biscayne MAX)	15	30	n/a	n/a	n/a	n/a
95	5	n/a	n/a	n/a	n/a	n/a
97 (27 Avenue MAX)	20	30	n/a	n/a	n/a	n/a
99	30	60	60	n/a	60	60
101 (Route A)	20	45	20	n/a	45	45
102 (Route B)						
East of Harbor Drive	10	30	30	n/a	30	30
Cape Florida State Park	12	30	30	n/a	30	30
Mashta Drive	60	60	n/a	n/a	60	60
103 (Route C)	20	20	30	n/a	20	30
104	30	30	60	n/a	30	30
105 (Route E)	30	60	30	n/a	45	45
107 (Route G)	30	30	45	n/a	30	30
108 (Route H)	20	20	24	n/a	20	30
110 (Route J)	15	30	60	n/a	30	30
111 (Route K)						
Haulover Marina	20	20	40	n/a	30	30
Diplomat Mall	60	20	40	n/a	60	60
112 (Route L)						
Northside Station	10	12	20	60	15	20
Hialeah Station	20	24	20	60	30	40
Amtrak Station	20	24	80	n/a	30	40
113 (Route M)	30	45	50	n/a	60	60
118 (Route R)	45	45	n/a	n/a	n/a	n/a
119 (Route S)	12	12	12	60	15	20
120 (Beach MAX)	24	30	30	n/a	30	30
123 (South Beach Local)	10	10	15	n/a	10	15
132 (Tri-Rail Doral Shuttle)	60	n/a	n/a	n/a	n/a	n/a
133 (Tri-Rail Airport Shuttle)	12	12	30	n/a	12	12
136	30	n/a	45	n/a	n/a	n/a
137 (West Dade Connection)	30	30	50	n/a	40	40
183 (183 Street MAX)	30	40	30	n/a	45	45
202 (Little Haiti Connection)	30	40	40	n/a	40	40
204 (Killian KAT)	7½	n/a	30	n/a	n/a	n/a
207/208 (Little Havana Circulator)	15	20	20	n/a	20	20

Source: Miami-Dade Transit, December 2008

Table 3-1: MDT Metrobus Route Headways (December 2008) (Continued)

ROUTE	PEAK	MIDDAY	EVENING (after 8 pm)	OVERNIGHT	SATURDAY	SUNDAY
211 (Overtown Circulator)	30	30	n/a	n/a	30	n/a
212 (Sweetwater Circulator)	30	30	30	n/a	30	30
224 (Coral Way MAX)	30	n/a	n/a	n/a	n/a	n/a
238 (East-West Connection)	30	60	n/a	n/a	n/a	n/a
240 (Bird Road MAX)	24	n/a	n/a	n/a	n/a	n/a
243 (Seaport Connection)	20	40	n/a	n/a	n/a	n/a
246 (Night Owl)	n/a	n/a	n/a	60	60	60
248 (Brickell Key Shuttle)	15	n/a	n/a	n/a	n/a	n/a
249 (Coconut Grove Circulator)	15	15	20	n/a	15	15
252 (Coral Reef MAX)						
Country Walk	20	30	45	n/a	60	60
SW 162 Avenue	40	n/a	n/a	n/a	60	60
Metrozoo	30	30	n/a	n/a	60	60
SW 119 Avenue	20	n/a	n/a	n/a	n/a	n/a
254 (Brownsville Circulator)	n/a	30	n/a	n/a	n/a	n/a
267 (267 MAX)	20	n/a	n/a	n/a	n/a	n/a
272 (Sunset KAT)	9	n/a	n/a	n/a	n/a	n/a
277 (7 Avenue MAX)	20	n/a	n/a	n/a	n/a	n/a
282 (Hialeah Gardens Connection)	40	60	n/a	n/a	n/a	n/a
287 (Saga Bay MAX)	30	n/a	n/a	n/a	n/a	n/a
288 (Kendall KAT)	15	n/a	n/a	n/a	n/a	n/a
344	30	60	n/a	n/a	n/a	n/a
500 (Midnight Owl)	n/a	n/a	n/a	60	60	60

Source: Miami-Dade Transit, December 2008
Note: n/a= no service available or not applicable. Gray shaded cells are branches to routes.

Metrorail

Metrorail, the heavy rail portion of Miami-Dade County's transit system, provides service to 22 stations on a 22.6-mile electrified line. (Figure 3-2) The Metrorail system operates primarily on elevated structure and interfaces with two other passenger rail systems at the Tri-Rail (Commuter Rail), Brickell and Government Center Stations (Metromover). Metrorail began service in 1984 with the last major component of the system completed in May 2003 (Palmetto station). MDT maintains a total fleet of 136 Metrorail vehicles. Currently, the Metrorail system is being extended from the existing Earlington Heights Station to provide a direct connection to the Miami Intermodal Center (MIC) and service to the Miami International Airport (MIA).

Metrorail currently operates weekday service between 5:00 a.m. and 12:00 a.m. (total trip time is 48 minutes from terminus to terminus) with 7½-minute AM/PM peak headways, and 15 minutes during the midday and 30 minutes during evening hours. Weekend and holiday service operates with headways of 30 minutes.

Metrorail service hours are extended when special late evening events take place at the American Airlines Arena, Knight Center, Bayfront Park and the Adrienne Arsht (Carnival) Center for the Performing Arts in Downtown Miami.

Metromover

MDT also operates an Automated People-Mover system (APM) or Metromover. (Figure 3-3) The Metromover system includes a 1.9 mile elevated loop servicing the core of the downtown Miami area (Inner Loop), which opened in 1986, and two extensions: one north to the Adrienne Arsht Center for the Performing Arts Center area; the other traveling south, serving the Brickell area (Outer Loop). The extensions, opened May 1994, adding 12 stations to the original nine (9), an additional 2.5 miles of service area and 17 additional APM vehicles. MDT maintains a fleet of 29 Metromover vehicles

Metromover operates free of charge and stops at 21 wheelchair-accessible stations from the School Board area to Brickell, serving major destination throughout Downtown Miami.

Metromover's inner and outer loops operate from 5:00 a.m. to 12:30 a.m., seven days a week. The Bicentennial Station on the Omni line has been closed since 1996. However, the Bicentennial Station is targeted to reopen no later than May 2012. The funding for this project comes from the American Reimbursement and Recovery Act (ARRA).

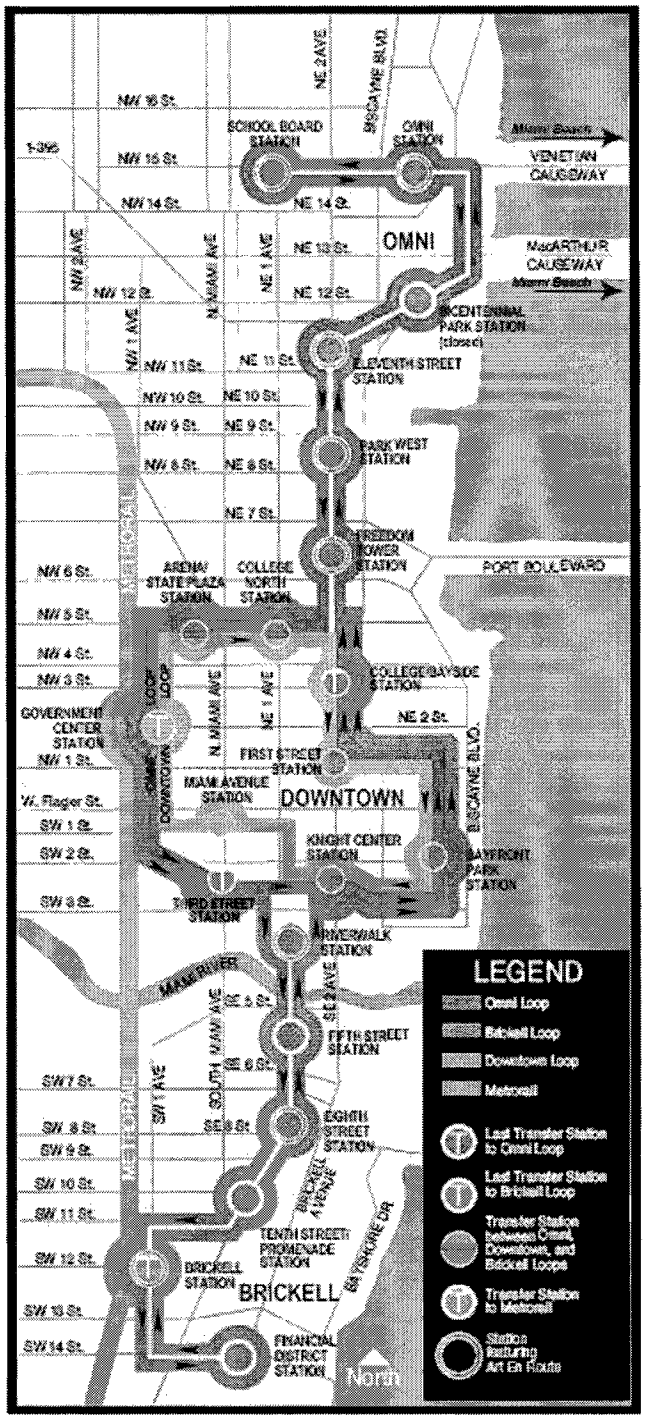
During the AM/PM peak period, service frequency is every 90 seconds, and every 3 minutes during the off-peak hours, as well as weekends and holidays.

Metromover service hours are extended when special late evening events take place at the American Airlines Arena, Knight Center, Bayfront Park and the Adrienne Arsht (Carnival) Center for the Performing Arts in Downtown Miami.

Figure 3-2: MDT Metrorail System Map 2009

Source: Miami-Dade Transit, 2009

Figure 3-3: MDT Metromover Route Map 2009



Source: Miami-Dade Transit, 2009

Special Transportation Services

In addition to the various fixed-route transit modes as described, MDT operates a demand-response service known as Special Transportation Service (STS). STS is a shared-ride, door-to-door transportation service for qualified individuals with disabilities who are unable to utilize the accessible fixed-route transit system. The service area includes most of urbanized Miami-Dade County and south to mile marker 50 in central Monroe County. Service is provided by sedans, vans and lift-equipped vehicles, seven days a week, 24 hours per day.

STS service is not available in certain locations such as the Everglades National Park, Miccosukee Indian Reservation, and Fisher Island where there is currently no public transportation available. The locations are all beyond the service area of Metrobus and therefore, per American Disabilities Act of 1990 (ADA), STS is not required to serve those locations.

Presently, there are 359 vehicles (sedans, standard vans, minivans, and wheelchair lift-equipped vans) available for ambulatory transportation. These vehicles are privately contracted through a brokerage agreement with Advanced Transportation Solutions (ATS). There are more than 21,600 eligible clients enrolled in the STS program including both ambulatory and non-ambulatory clients.

As of the termination of the State of Florida Agency for Health Care Administration (AHCA) contract with MDT in December 2007, MDT no longer administers the state subsidized Medicaid Non-Emergency Transportation Program for eligible recipients as determined by the Department of Children and Family Services. Operation of the Medicaid Transportation Services is administered through the state negotiated provider, Logisticare.

Table 3-2: MDT Service Characteristics by Transit Mode, 2008

System Characteristics	Metrobus	Metrorail	Metromover	STS
Operating Hours	24 hours[6]	5:00am - 12:48am	5:00am - 12:00am	24 hours
Number of Routes	96 [7]	1	3	Demand Response
Number of Stations/Stops	8,947	22	21	N/A
Peak Headways	7½ - 60 minutes	7½ minutes	1 ½ -3 minutes	Pick up +/-30 minutes of scheduled time
Midday Headways	12 - 60 minutes	15 minutes	2½ minutes	
Weekend Headways	10 - 60 minutes	30 minutes	2½ minutes	
Routes Miles	2,866 round trip miles	22.4 miles	4.4 miles	N/A
Peak Vehicle Requirements	744	84	18	276
Total Fleet Size (Section 15 Report)	893 (772 full-size/ 121 minibus)	136	29	359 (200 sedans, 54 vans, 105 lift equipped vans)
Annual Revenue Miles	32,402,595	6,743,666	934,906	13,292,816
Annual Boardings	85,789,745	18,538,741	8,839,156	1,634,468
Park-Ride Spaces	1,722	9,658	0	N/A
Annual Operating Expenses (budgeted)	$337,894,421	$82,381,902	$22,842,866	$44,829,765
Annual Operating Revenues (budgeted)	$71,722,693	$13,246,540	$0	$4,303,798
Annual Revenues (Other) [8] (budgeted)	$5,456,827	$0	$0	N/A
Base Fare	$2.00	$2.00	Free	$3.00

Source: National Transit Database 2008 data.

3.2 Miami-Dade Transit Passenger Fare Structure

The MDT fare structure is a flat priced system where a passenger pays a set rate for a single trip regardless of distance traveled for that trip. MDT provides passenger reduced fares for people with disabilities, Medicare recipients, and Miami-Dade students in grades 1-12. To keep up with rising operating costs, MDT increased fares

[6] Six Metrobus routes (L, S, 3, 11, 27, 38/Busway MAX) operate 24 hours per day. Two other routes, 246/Night Owl and 500/Midnight Owl, provide hourly bus service approximately between the hours of 10:30pm and 6:30am.

[7] 94 Metrobus operated routes plus 2 contracted routes.

[8] All transit revenues derived from advertising and concessions are reported here (including Bus, rail and Mover a total of $4,257,539). This figure also includes Park & Ride revenues in the amount of $1,199,288.

on May 1, 2005, the first such increase in 15 years. Regular fares were also raised by $0.50 on October 1, 2008. MDT will be installing a new transit Fare Collection System that will not accept tokens as payment. Therefore, as of June 1, 2009, MDT is ceasing the sale of tokens for fare payment. Persons still in possession of tokens may continue using tokens for fare payment until the new smartcard technology branded as EASY Card Fare Collection System is implemented. The value of existing unused tokens may at that time be transferred to the EASY Card. It is expected that the EASY Card Fare Collection System will be implemented in Fall 2009. The fare for Special Transportation Service (STS) users has increased to $3.00. Metromover service continues to be free for everyone. Table 3-3 depicts the existing fare pricing structure.

Table 3-3: MDT Fare Policy Summary, December 2008

Fare Type	Regular Fare [9]	Reduced Fare [10]
Metrobus	$2 (or one token*)	$1
Express Bus	$2.35 (or one token + 25¢*)	$1.15
Shuttle Bus [11]	25¢	10¢
Metrorail	$2	$1
Metrorail reduced-fare permit	Not applicable	65¢ per month
Metrorail daily parking fee	$4	Not applicable
Metrorail monthly parking permit	$10 [12]	Not applicable
Metromover	Free	Free
Special Transportation Service (STS)	$3	Not applicable
Bus-to-Bus Transfer	50¢	25¢
Bus-to-Express Bus Transfer	50¢ transfer + 0.35	25¢ transfer +15¢
Bus-to-Rail Transfer	50¢	25¢
Rail-to-Bus Transfer	50¢	25¢
Monthly Metropass	$100	Not applicable
Discount Monthly Metropass	$50	Not applicable
Monthly Metropass Group Discount 5-99 passes	$90	Not applicable
Monthly Metropass Group Discount 100 or more	$85	Not applicable
College Metropass	$50	Not applicable
7-Day Visitor Passport	$26	$13
Golden Passport or Patriot Passport	Free	Free
One Roll of 10 Tokens*	$19.50	Not applicable

[9] Regular fare increased by $0.50 effective October 1, 2008
[10] Reduced fare for Medicare recipients, most people with disabilities, and local students (grades 1-12) anytime with a valid permit/ID. Students in grades 1-6 do not require identification.
[11] Six Shuttles: 123/South Beach Local, 211/Overtown Circulator, 212/Sweetwater Circulator, 248/Brickell Key Shuttle, 249/Coconut Grove Circulator, 254/Brownsville Circulator.
[12] Only available with the purchase of a Metropass, Discount Pass and for Golden/Patriot Passport users. Cost increased from $6.25 on October 1, 2008.

Note: Please note that one token is equal to $2. Reduced fare is available for Medicare recipients, most people with disabilities, and local students in grades 7-12 when using a valid permit/ID. Students in grades 1-6 do not require identification. *Tokens will no longer be accepted as fare payment after the implementation of the EASY Card Fare System.

County residents age 65 or older and Social Security beneficiaries, who are under 65, are permitted to ride the MDT system for free using the Golden passport. Low income veterans who qualify for the Patriot Passport and preschoolers continue to ride free.

3.2.1 Farebox Recovery Ratio

The farebox recovery ratio of a passenger transportation system is the proportion of the amount of revenue generated through fares by its paying customers as a fraction of the cost of its total operating expenses. Most systems are not fully self-supporting, so advertizing revenue, government subsidies, and other sources of funding are usually required to cover total costs. Table 3-4 illustrates MDT's Five-Year History of the farebox recovery ratio as reported to National Transit Data reporting.

Table 3-4: Five Year Farebox Recovery History

FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
20.3%	20.9%	22.6%	21.5%	19.2%

Improving Farebox Recovery Ratio

Increase Fare Revenue Strategies

- Stricter enforcement of fare evasion by training personnel (including security officers), using video cameras, and displaying signage;
- Implementation of the Automated Fare Collection system; will allow integration with other local transportation agencies; will improve the agencies financial management; revenue generation; ridership reporting; control of fare collection; and operation efficiency.
- More frequent convenient service for commuters including busway service, express service, and the "Congestion By-pass Shoulder Lanes" to encourage and increase ridership;
- Metrorail new vehicle procurement project to provide more comfortable service.
- The Board of County Commissioners approved a new fare structure to include the implementation of a fifty-cent fare increase in fiscal year 2009 and a reoccurring twenty-five cent increase every other year based on the CPI.

Decrease Operating Cost

- Implementation of standards for service efficiencies;
- Improvements to preventative maintenance means fewer buses out of service, less overtime, more uninterrupted service
- Closing operations out of the Medley Bus Yard

Other Factors to Note

Impediments

- Since the passage of the PTP in November 2002, the senior citizen ridership (65 years and over) has increased two-fold due to the implementation of the Golden Passport which allows these riders to ride free. This has had a substantial impact on farebox recovery although it has increased ridership.
- Additionally, the removal of the Mover fare has negatively impacted fare revenue since this now a free fare service when previously fare revenue was collected from passengers.

Service

- MDT is in discussion with FDOT, Broward County Transit and SFRTA to see what improvements can be made to the Golden Glades Transportation facility.
- MDT has been utilizing the Trapeze Software to assist with assigning productive routes and runs and eliminating unproductive ones.
- Busway extension to Florida City will assist with increasing ridership
- MDT plans to build pedestrian overpasses at its University and South Miami Metrorail stations which will provide easier and safer access to Metrorail facilities.
- FDOT, FTA, MDT and Broward County Transit are in the process of implementing an I-95 managed lanes project by fiscal year 2010 between Miami-Dade County and Broward County.

Customer Service

- Delivering effective customer service is our number one priority. All transit employees strive for excellence when interacting with all customers on a day to day basis.
- MDT has an ambassador program where volunteers ride our Metrorail system to provide assistance to patrons in need.
- Miami-Dade Transit has been marketing a variety of programs to keep customers informed of our services.
- Station attendants will be assigned at each rail station to assist passengers with the transitioning process once the new Automated Fare Collection System is implemented.

The New Bus Automated Fare Collection System (AFCS)

The new Bus Automated Fare Collection System (AFCS) brings new technology that provides validation of coins and bills inserted into the farebox. The AFCS Validating Farebox rejects foreign or counterfeit coins or bills thus reducing fraudulent payment. The introduction of the Contactless Smart Card (EASY Ticket/Card) will decrease fare evasion since the equipment will be capable of recognizing and legitimizing the fare

product. It is projected that the system will overall decrease fare evasion and increase fraud prevention across the board, raising the department's revenue.

3.2.2 Transit Facilities

Maintenance and Storage Facilities

Miami-Dade Transit currently operates three (3) maintenance bus garages to serve a fleet of 893 buses. In November 2008, the Medley bus garage was permanently closed due to restructuring of services. The remaining MDT garages are located in various areas throughout the County to provide maintenance and storage services efficiently. The bus garage locations are as follows:

- Central Facility: 3311 NW 31st Street, Miami, Florida 33142;
- Coral Way Facility: 2775 SW 74th Avenue, Miami, Florida 33155;
- Northeast Facility: 360 NE 185th Street, Miami, Florida 33179; and the
- Medley Facility: 8141 NW 80th Street, Medley, Florida 33166 (Closed November 16, 2008).

The Metrorail fleet of 136 rail cars is supported at the William E. Lehman Center for service maintenance and storage located at 6601 NW 72nd Avenue, Miami, Florida 33166. The Metromover fleet of 29 cars is supported by the maintenance facility located at 100 SW 1st Avenue, Miami, Florida 33128; in downtown Miami.

Park and Ride Facilities

Miami-Dade Transit currently has more than 11,000 available parking spaces, including Park and Ride lots, Metrorail station parking lots and parking garages. On average about 71 percent (71%) of parking spaces are utilized on any given weekday. However, actual parking usage is highest on the southern portion of the Metrorail line, and to the north at the Metrobus Golden Glades parking lot where a 96 percent (96%) utilization is experienced. The Earlington Heights Garage also has 1,016 parking spaces available and except for the 95 spaces used for Metrorail patrons, all other spaces are being used and maintained by Miami-Dade County General Services Agency (GSA) at this station. A listing of the existing, those under the development and the planned Park and Ride Facilities are described in more detail below.

Existing Park and Ride Sites

The following provides information on the Park and Ride sites that are currently operating within the MDT service area.

Busway / SW 152nd Street

This Park and Ride facility is located on the southwest corner of the South Miami-Dade Busway and SW 152nd Street (Coral Reef Drive) on property owned by the Miami-Dade Parks Department. The Park and Ride lot is part of the parking lot for the Palmetto Golf Course. Transit has leased 126 parking spaces in this lot under a 30-year lease. This lot is usually at full capacity during weekdays. Connecting bus

service includes routes 1, 31 (Busway Local), 34 (Busway Flyer), 38 (Busway MAX), 52, 57, 252 (Coral Reef MAX), and 287 (Saga Bay MAX).

Busway / SW 168th Street

The property is located on the northwest corner of the South Miami-Dade Busway and SW 168th Street. The site is currently being leased to Miami-Dade Transit from a private landowner. A 149 space Park and Ride lot opened on December 16, 2002 and this site has experienced high capacity usage. Connecting bus service include routes 1, 31 (Busway Local), 34 (Busway Flyer), 38 (Busway MAX), 52, and 287 (Saga Bay MAX).

Busway / SW 200th Street

This property is located on the northwest corner of the South Miami-Dade Busway and SW 200th Street (Caribbean Boulevard). Beginning in September 2007, the transfer of guardianship of this 3.4 acre site commenced from Miami-Dade Transit to the Office of Community and Economic Development (OCED). OCED is planning on developing this site with affordable housing along with supportive retail and structured parking. A total of 130 parking spaces in the planned parking structure will be dedicated for transit use. Connecting bus service include routes 1, 31 (Busway Local), 34 (Busway Flyer), 38 (Busway MAX), and 52. This site is anticipated, in mid-2009, to be closed for park-ride usage upon the opening for park and ride service of the nearby located facility at the Busway and SW 112 Avenue (approximately SW 204 Street).

Busway / SW 244th Street

The property is located at the southwest corner of the Busway and SW 244th Street. A 95-space Park and Ride lot has been operational since 2005. Connecting bus service include routes 34 (Busway Flyer) and 38 (Busway MAX).

Busway / SW 296th Street

In July 2002, MDT purchased a 2.2 acre site at the northeast corner of SW 296th Street and the proposed Busway. The site is the home of a former auto dealership, and contains a paved parking area and service building. MDT prepared an amendment to the County Zoning Code which included this site and others in the "Rapid Transit Zone" which would allow the Park and Ride use on the property. Connecting bus service include routes 34 (Busway Flyer) and 38 (Busway MAX).

MDT purchased two (2) additional parcels with a total of approximately five (5) acres north and south of SW 296th Street. These two (2) combined properties presented a unique opportunity to create a well-planned transit oriented development that will provide amenities for transit customers and focus density around the station. Initially, the facility will serve as a Park and Ride and as a staging area for Busway-related construction. Longer term, it will also be ideal location for intermodal transit facility / joint development project. The Park and Ride lot includes 139 parking spaces.

Coral Reef Drive/Florida's Turnpike

The property is located at the northeast corner of SW 152nd Street (Coral Reef Drive) and SW 117th Avenue. In 1975, Miami-Dade County, through Miami-Dade Transit, was permitted to use the 2 ½-acre Park and Ride lot containing 95 parking spaces from the owner, the State of Florida Department of Transportation (FDOT), Turnpike District. The County has use of the parking lot in perpetuity if land is used by the County for transportation purposes. Connecting bus service include route 252 (Coral Reef MAX).

Hammocks Town Center (SW 104th Street/SW 152th Avenue)

This lot is privately owned and leased to MDT for a nominal fee. This facility provides 50 parking spaces. Connecting bus service includes routes 104 and 204 (Killian KAT).

Golden Glades (Where I-95, US 441, and the Palmetto (SR 826) meet)

The Golden Glades Park and Ride is owned by FDOT and has approximately 1,011 parking spaces. It is the oldest and most heavily used Park and Ride facility in Miami-Dade County and provides a connection to Tri-Rail commuter rail service. Connecting bus service include routes 22, 42, 77, 95X, E, 246 (Night Owl), and 277 (NW 7th Avenue MAX). Transfer to Metrobus and Tri-Rail commuter rail service.

Park and Ride Sites under Development

MDT is in the process of acquisition and development of several Park and Ride sites, improving capacity and providing additional parking spaces. The following Park and Ride projects are currently under way:

Busway / SW 344th Street

This site is located in the southern terminus of the South Miami-Dade Busway. A terminal of the South Miami-Dade Busway, to consist of parking and bus bays, is planned for this location. A site consisting of multiple privately owned parcels has been identified. It is estimated that the site will hold approximately 261 parking spaces.

Since this site may include an economic/joint development project component, every effort will be made to acquire the properties on a voluntary basis and not through eminent domain.

Busway/SW 112th Avenue

A new site is being negotiated for a lease agreement with private property owner for 456 parking spaces. This lot is opening on July 2009.

Dadeland South Metrorail Parking Garage

Approximately 100 additional surface parking spaces are being added to the existing lot.

Douglas Road Metrorail Station

An existing, but recently unused surface lot, underneath the Metrorail guideway will be re-opened and will add approximately 50 additional parking spaces.

Miami Gardens Drive / NW 73rd Avenue

An interdepartmental Agreement dated March 23, 2006, was created between Miami-Dade County Parks and Recreation Department and MDT for parcel #1176, a 2.03-acre site of park owned land, under FPL power lines, to be used by MDT for a bus Park and Ride lot that will include 125 parking spaces.

Proposed Park and Ride Locations

The following Park and Ride locations are in various planning stages of implementation.

Dadeland North Metrorail Parking Garage

The Dadeland North Metrorail Parking Garage in its original configuration contained approximately 1,970 parking spaces. The garage reached 100% occupancy prior to the Fall of 2000. During this time, MDT received many complaints from riders who were unable to find parking at this station. In October of 2000, the garage was reconfigured to provide an additional 89 spaces. These additional spaces were immediately absorbed by the demand for parking at this station. On workdays, the garage fills up to capacity by 8:30 am. Since parking at the Dadeland South Station is also 100 percent (100%) full by this time, Metrorail riders arriving after 8:30 am are forced to either drive to the South Miami Station garage or to drive to their destination.

Throughout 2008, various options were explored for the Dadeland North site, including the potential of resuming negotiations with the FEC to purchase its property. Time constraints related to the age of the initial Joint Participation Agreement (JPA) with the Florida Department of Transportation (FDOT) have now made it increasingly difficult to reach an acceptable solution for this site. MDT has continued to explore other options, but at publication time for this document had not reached a final conclusion, although it will coordinate possible options, including reprogramming of the funds for future Park & Ride projects, with FDOT.

Kendall Drive / SW 127th Avenue

MDT is in the process of negotiating the acquisition of approximately 2.3 acres of land under the FPL power lines to be developed as a Park and Ride lot.

Kendall Drive / SW 97th Avenue

This property is owned by MDX and MDT will seek permission to use this site when the SR 874/SR 878 construction project is completed. Site is currently being used as a construction staging area.

7th Avenue Transit Village

This site is located on the southeast corner of NW 7th Avenue and NW 62nd Street. The primary objective of the NW 7th Avenue Transit Village is to provide the community with a central location for transit services and improving the mobility of the community. This transit hub will provide a connecting point for MDT buses, private jitneys and potentially express buses from I-95. It is estimated that this site will hold approximately 25 parking spaces.

Northeast Passenger Activity Center (NEPAC)

The proposed Northeast Miami-Dade Passenger Activity Center would be an enhanced bus hub that would connect local, regional and premium bus routes within the area. The transit center would replace and/or supplement the existing bus terminal located in the vicinity of the Mall at 163rd Street. It is estimated that this site will hold approximately 25 parking spaces.

Other Proposed Park and Ride Sites

During the upcoming year, MDT will focus on identifying and acquiring new joint development and Park and Ride opportunities along proposed transit corridors and the South Miami-Dade Busway. This effort will also address current needs, particularly Park and Rides in current areas of heavy transit utilization. The following areas are identified as potential Park and Ride locations:

Park and Ride Proposed Lots	Location
• County Line Park and Ride	NW 27th Avenue / NW 215th Street
• El Portal Park and Ride	Biscayne Boulevard / NE 79th Street
• Doral Park and Ride	NW 107th Avenue / NW 12th Street
• West Kendall Park and Ride	Kendall Drive / SW 162nd Avenue
• Kendall South Park and Ride	SW 152nd Street / SW 162nd Avenue
• Busway Lot	Busway/SW 216th Street
• Bird West Park and Ride	Bird Road / SW 147th Avenue
• Bird Central Park and Ride	Tropical Park
• West Miami-Dade/Tamiami area	Tamiami Park
• Kendall South/Metrozoo	Miami Metrozoo Park
• FPL Lot	SW 72nd Street/SW 136th Court
• FPL Lot	SW 104th Street / SW 127th Avenue

Specific sites for these proposed facilities have not yet been identified. Ideally, actual locations could be sited within a two-mile radius from the location identified above. However, in some cases, the actual sites could be more than two (2) miles from the above mentioned locations depending on the availability of land. MDT is continuing to

work to identify specific Park and Ride locations and acquire properties (purchase or lease) during the upcoming years.

Florida Department of Transportation Park and Ride Program

Miami-Dade Transit, FDOT and the Miami-Dade Metropolitan Planning Organization (MPO) collaborated to develop a comprehensive Park and Ride Lot Plan and include a methodology for prioritizing Park and Ride Program locations throughout the county. The criterion for selecting locations is presented in Table 3-5.

Table 3-5: Park and Ride Selection Criteria

Location Considerations	Site considerations	Economic Considerations
Site is within a high traffic corridor	Adverse impact on surrounding area	Land cost
Premium transit service potential	Site expansion potential	Ease of land acquisition
Outside major bottleneck	Parking capacity on adjacent streets	Development cost
Visibility of site	Security	
Access to the facility		
Other Park and Ride competition		
Commuter driving distance to lot		
Bike route access		

Source: Park and Ride Lot Plan, 2007

Based on these factors, 22 locations (three in Monroe County) were tentatively chosen as candidates for Park and Ride sites (Table 3-6). It should be noted that these locations are general geographical boundaries and actual locations will not be restricted to these exact locations.

Table 3-6: Park and Ride Locations for Consideration

Location	Current Use
Biscayne Boulevard & NE 107th Street (NW quadrant)	K Mart lot
Biscayne Boulevard & NE 143rd Street (NE quadrant)	Target lot
Biscayne Boulevard & NE 163rd Street (NE quadrant)	Vacant building
Biscayne Boulevard & NE 38th Street (NW quadrant)	Vacant
Collins Avenue & 72nd Street (NW quadrant)	City lot
NW 67th Avenue & NW 188th Street (NE quadrant)	Parking lot
NW 87th Avenue & NW 186th Street (NE quadrant)	Strip Mall
NW 137th Avenue & NW 6th Street (NW quadrant)	MDC Public School
SR 826 & West Flagler Street (NW quadrant)	Mall of the Americas lot
SW 40th Street & SW 82nd Avenue (SE quadrant)	Tropical Park
SW 87th Avenue & SW 24th Street (SE quadrant)	K-Mart lot
SW 99th Court & West Flagler Street (SE quadrant)	Church lot
SW 107th Avenue & West Flagler Street (SW quadrant)	West Flagler Plaza
SW 114th Avenue & SW 24th Street (NW quadrant)	Tamiami Park
SW 114th Avenue & SW 40th Street (NW quadrant)	West Bird Plaza
SW 137th Avenue & SW 26th Street (NW quadrant)	Shopping Center
SW 137th Avenue & SW 42nd Street (NE quadrant)	Power line easement
SW 137th Avenue & SW 160th Street (SW quadrant)	Power line easement
US-1 & SW 216th Street (NW quadrant)	Vacant
US-1 & SW 264th Street (NW quadrant)	Vacant
US-1 & SW 280th Street (NW quadrant)	Vacant
(3 Monroe County Locations)	to be determined

Figure 3-4: Park and Ride Lots

South Miami Dade Busway

Since 1997, MDT has operated and maintained a 20-mile exclusive Busway paralleling US-1 from the Dadeland South Metrorail Station to SW 344th Street in Florida City. The Busway includes 29 stations with five (5) Park and Ride facilities. The first segment of the extension to Florida City opened to revenue service on April 25, 2005 and extended the Busway five miles from SW 112th Avenue to SW 264th Street in Naranja. The second and final segment of the extension, which opened on December 16, 2007, extends the Busway another 6.5 miles south from SW 264th Street to SW 344th Street in Florida City, Miami-Dade County's southernmost municipality.

Full-size buses, minibuses and over-the-road motor coaches operate on the Busway and in adjacent neighborhoods, entering the exclusive lanes at major intersections, providing both local and limited-stop service. Free parking is provided adjacent to the Palmetto Golf Course on SW 152nd Street (Coral Reef Drive), at SW 168th Street, at SW 200th Street, at SW 244th Street and SW 296th Street. Plans are in the works for a future Park and Ride lot at SW 344th Street, the furthest south station. An additional Park and Ride lot is provided at the Florida Turnpike exit on Coral Reef Drive (SW 152nd Street) and SW 117th Avenue.

3.2.3 Miami-Dade Transit's Special Programs

Section 427 Florida Statues and Rule 41-2 establishes and mandates the creation of the Commission for the Transportation Disadvantaged in the State of Florida. A Community Transportation Coordinator (CTC) in each county is appointed and responsible for the coordination and provision of cost-efficient transportation services, and the elimination of duplication through a coordinated system. In Miami-Dade County, the County government is the local coordinator, and MDT is charged with the responsibility of creating programs, applying for the grants, and coordinating the transportation for the disadvantaged.

To support this effort, a $1.50 is added to the cost of all vehicular license tags sold in the State, plus a $1.00 voluntary donation for vehicle tag renewals, in addition to revenue from parking tickets for illegally parking in handicapped designated spaces. These funds are placed in the Transportation Disadvantaged Trust Fund (TDTF) and administered by the Commission for the Transportation Disadvantaged (CTD). Miami-Dade County received $7.2 million dollars in FY 2008 from the TDTF. The Local Coordinating Board (LCB) allocates $2 million to be spent on Metropasses and tokens for the disadvantaged and $5.2 million to off-set the cost of paratransit trips for the disabled. There are currently 250 agencies in Miami-Dade County receiving Metropasses and tokens subsidized through the TDTF. The passes and tokens are provided free of charge to agencies, programs, and entities that serve:

- School children who are at risk to receive a basic education;
- Economically disadvantaged parents who are at risk and mandated to attend counseling so they can be reunited with their children and/or to become self sufficient;

- Elderly who want to remain active participants in the community, but cannot afford transportation to hot meal sites, physicians, volunteer groups, and social events;
- Disabled individuals who do not qualify for ADA paratransit;
- Individuals who are homeless and participate in programs via social service departments, programs, or agencies that serve the homeless;
- Individuals who are unemployed and participate in job training and job placement programs;
- Individuals at risk: those who participate in rehabilitative programs (alcohol & drug abuse, and domestic violence); and,
- Individuals who, because of income status, inability to drive due to age or disability, are unable to transport themselves or to purchase transportation services and have no other form of transportation available.

In fiscal year 2008, Miami-Dade County provided nearly 29 million of the almost 55 million cost-efficient coordinated transit trips in the State of Florida. Programs such as the Section 5310, Medicaid Metropass, Golden Passport, Patriot Passport, STS, Lifeline Services and Medicaid Transportation are also included in the Coordinated Transportation System.

Section 5310 Program

MDT actively participates in the Federal Transit Administration (FTA) Section 5310 program by participating in the grant review, evaluation and award process. MDT in its role as the CTC is responsible for the program coordination with local non-profit agencies serving elderly and disabled residents in Miami Dade County. The Miami-Dade MPO participates in this effort. There are currently approximately 55 Section 5310 agencies participating in the coordinated transportation system.

Golden Passport/Patriot Passport

On October 5, 1999, the Board of County Commissioners approved the Golden Passport program, providing free access to Metrobus and Metrorail for Miami-Dade County residents 65 years or older whose annual household income was $20,000 or less. The program officially started on December 15, 1999. With the adoption of the People's Transportation Plan on November 5, 2002, the Golden Passport became free for all Miami-Dade County residents over 65 years old, regardless of household income. The Golden Passport program was also expanded to include local Social Security beneficiaries under 65 years old. Golden Passport Social Security patrons under the age of 65 are required to renew their Golden Passport annually.

On June 8, 2004, the county commissioners passed and adopted a resolution to expand the Golden Passport program again, creating the Patriot Passport to allow Miami-Dade County honorably discharged veterans with an income of $22,000 or less to ride free on transit. Qualified veterans are required to renew their Patriot Passports annually.

To date, there are over 173,159 Golden Passport patrons. This figure includes 34,612 cards issued to patrons under 65 years old who qualified under the Social Security benefits criteria. An additional 5,718 cards have been issued to veterans who qualify under the Patriot Passport program.

Medicaid Metropass Program

The Medicaid Metropass Program is a joint venture of MDT and the State of Florida Agency for Health Care Administration (AHCA) and administered under a contract with the TD Commission. The program provides cost-saving transportation to Medicaid recipients who use paratransit service more than six times a month, but are capable of using conventional transportation. Participants receive a monthly Metropass with the co-payment of one dollar. Those exempted from the co-payment status are individuals under 21 years of age, those who are pregnant and those who are enrolled in a Family Planning or Family Assistance program. Participants must have three or more verifiable Medicaid medical appointments each month to continue in the program.

The program began in 1993 and has accounted for an estimated total savings to ACHA of $64.2 million. MDT has collected in excess of $20 million in revenues from the program.

Services Provided by Private Contractors

Under a contract with Advance Transportation Services/Solutions (ATS), Americans with Disabilities Act (ADA) mandated complementary paratransit service, locally known as the Special Transportation Service (STS). Red Top Transportation/Logisticare was awarded the State contract to provide for the provision of Medicaid Transportation Services. Both paratransit contracts provide demand-responsive service in ambulatory and non-ambulatory transportation modes using sedans, vans and lift-equipped vans (Medicaid also provides stretcher and ambulance transportation). A new contract is scheduled to be issued in 2010.

The private sector is also involved in the provision of several transit support services, such as:

- Security at Metrorail/Metromover stations, as well as other MDT facilities.
- Maintenance-type service, such as tires, janitorial, elevator/escalator parts, etc;
- Marketing and other similar contracts;
- Planning and technical support;
- Maintenance of bus benches/shelters at no cost to the County; and,
- Bus/rail advertising services.

Section 4

Peer Review

MIAMI-DADE COUNTY

4.0 PEER REVIEW

The peer and trend analysis are performed to evaluate the efficiency and effectiveness of the transit agency as compared to peer agencies and to its own past performance. Data for the peer and trend comparisons are derived from the National Transit Database (NTD), which is a standard database maintained by the Federal Transit Administration (FTA) and to which all US Federally-funded transit agencies must provide information each year.

4.1 Peer and Trend Analysis

In the peer comparison, various operating and service statistics for MDT's transit modes were compared to a list of Florida and national peer agencies based on NTD data for 2007 (the most current data available as of July 2009). The peer comparison considered four of the transit modes operated by MDT: bus, heavy rail, automated guideway and ADA/demand-response service. Bus rapid transit service, which is operated by MDT and several of the peer agencies, is not separated from other bus services in the NTD data at this time, and therefore cannot be analyzed as a separate mode.

The peer agencies were selected based on the similarity of the city in size and development pattern, the similarity of the transit system in the modes operated (such as bus and rail), the size of the transit system in terms of the number of vehicles operated, number of miles and hours of service operated, size of budget and other characteristics.

The agencies selected as Metrobus peers include the following:

- Broward County Transit (BCT) (Pompano Beach, Florida)
- Dallas Area Rapid Transit (DART) (Dallas, Texas)
- Jacksonville Transit Authority (JTA) (Jacksonville, Florida)
- King County Metro (Seattle, Washington)
- Denver Regional Transportation District (Denver, Colorado)
- Metropolitan Atlanta Rapid Transit Authority (MARTA) (Atlanta, Georgia)
- Metropolitan Transit Authority (MTA) (Baltimore, Maryland)
- Massachusetts Bay Transit Authority (MBTA) (Boston, Massachusetts)
- Washington Metropolitan Area Transit Authority (WMATA) (Washington, DC)

The agencies selected as Metrorail (heavy rail) peers include the following:

- Metropolitan Atlanta Rapid Transit Authority (MARTA) (Atlanta, Georgia)
- Metropolitan Transit Authority (MTA) (Baltimore, Maryland)
- Massachusetts Bay Transit Authority (MBTA) (Boston, Massachusetts)
- Washington Metropolitan Area Transit Authority (WMATA) (Washington, DC)

The agencies selected as Metromover (automated guideway) peers include the following:

- JTA (Jacksonville, Florida)
- Detroit Transportation Corporation (DTC) (Detroit, Michigan)
- Las Vegas Monorail Company (LVMC) (Las Vegas, Nevada)

For ADA/Demand Response service, the following peer agencies were considered:

- BCT (Pompano Beach, Florida)
- Lynx (Orlando, Florida)
- JTA (Jacksonville, Florida)
- Santa Clara Valley Transportation Authority (VTA) (San Jose, California)
- Orange County Transportation Authority (OCTA) (Orange County, California)
- Regional Transportation Commission (RTC) (Las Vegas Nevada)

A trend analysis was also performed for the MDT modes of transit service (Metrobus, Metrorail, Metromover, and Demand Response) that were examined in the peer comparison. The trend analysis utilized the most recent data from MDT dating from the last six (6) years from 2003 through 2008.

4.2 Findings Summary

This peer and trend review of MDT's service indicates that MDT's services generally fall within the normal range for its peers and that trends are generally positive or normal for the time period analysis. The analyses indicate several significant findings to include the following:

- Several of the efficiency statistics for fixed route Metrobus service indicate MDT may be offering more service than is warranted for the existing level of ridership. However, this is tempered by noting MDT has reduced the volume of Metrobus service between 2006 and 2008. The result is that passenger trips have held steady even with decreases in the volume of service offered as measured in vehicle revenue hours and miles of bus service.
- MDT's Metrorail service has low passenger productivity and a high cost per passenger trip and farebox recovery ratio in comparison with the peer agencies operating rail service.
- MDT's demand response service carries far more passengers than its peers and is well within the range of its peers in terms of efficiency and productivity. This service has grown dramatically over the period of this analysis without suffering significant reduction in its productivity or efficiency.
- Trip lengths for demand response service increased significantly over the time period. This is probably due to service expansion to previously unserved areas of Miami-Dade County.

4.3 Bus Peer Comparison and Trends

Table 4-1, below, compares MDT to a number of selected peer agencies in terms of a wide range of statistics related to their operation of fixed-route bus service. Table 4-2 shows the trend for the six most recent years of data available from the NTD for the operation and performance of MDT's fixed-route Metrobus service.

The trend analysis allows us to assess how the service is changing over recent years and can suggest potential areas of service that should be examined or changed to improve performance.

Table 4-1: Bus Peer Comparison

Agency	*MDT*	*BCT*	*JTA*	*MARTA*	*King County Metro*	*DART*	*WMATA*	*MBTA*	*MD MTA*	*RTD*	*Peer Mean*
City	Miami, FL	Pompano Beach, FL	Jacksonville, FL	Atlanta, GA	Seattle, WA	Dallas, TX	Washington, DC	Boston, MA	Baltimore, MD	Denver, CO	
NTD Number	4034	4029	4040	4022	0001	6056	3030	1003	3034	8006	
Unlinked Passenger Trips	83,458,376	41,608,063	10,171,201	69,464,584	87,187,816	53,266,534	133,695,295	98,968,436	80,186,666	73,966,662	64,922,953
Average Age (yrs.) of Bus Fleet	5.2	6.0	7.0	5.4	7.5	7.3	6.9	6.0	5.8	5.6	6.5
Passenger Miles Traveled	427,626,902	179,376,141	59,798,493	208,464,179	466,541,901	241,312,509	416,055,395	214,521,392	347,986,479	396,495,470	241,080,459
Average Passenger Trip Length	5.12	4.31	5.88	3.00	5.35	4.53	3.11	2.17	4.34	5.36	4.04
Vehicle Revenue Hours	2,923,018	1,254,275	633,474	1,941,988	2,665,597	1,990,866	3,500,518	2,475,496	1,826,011	2,794,724	1,840,879
Vehicle Revenue Miles	35,654,448	16,879,810	9,638,777	23,709,913	32,168,736	27,666,962	38,939,524	26,455,779	23,952,488	38,609,744	22,541,779
Passenger Trips Per Revenue Hours	28.55	33.17	16.06	35.77	32.71	26.76	38.19	39.98	43.91	26.47	33.49
Passenger Trips Per Revenue Miles	2.34	2.46	1.06	2.93	2.71	1.93	3.43	3.74	3.35	1.92	2.71
Operating Costs Per Passenger Trip	$3.83	$2.35	$6.00	$2.69	$4.02	$3.98	$3.64	$3.06	$3.08	$3.60	$3.54
Operating Costs Per Revenue Hour	$109.25	$77.84	$96.26	$96.28	$131.53	$106.44	$138.97	$122.27	$135.36	$95.21	$112.25
Weekend Service Availability	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0445-0020) Sun (0645-2221)	Yes Sat (0407-0148) Sun (0442-0148)	Yes Sat (0545-2035) Sun (0615-2025)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0332-0152) Sun (0421-0132)	Yes Sat (0341-0418) Sun (0351-0340)	Yes Sat (0251-0159) Sun (0251-0159)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	
Operating Expenses	$319,327,599	$97,636,578	$60,981,288	$186,974,438	$350,596,717	$211,906,909	$486,460,600	$302,678,564	$247,174,370	$266,072,700	$219,318,971
Maintenance Expenses	$86,883,261	$19,116,420	$11,653,623	$49,880,978	$77,626,420	$54,625,273	$156,199,024	$83,139,248	$59,151,496	$53,382,646	$57,444,647
Fare Revenues	$71,186,530	$19,544,418	$7,294,731	$51,154,855	$74,158,688	$27,613,779	$106,824,203	$71,008,548	$72,597,527	$58,675,609	$48,378,939
Farebox Recovery	22.29%	20.02%	11.96%	27.36%	21.15%	13.03%	21.96%	23.46%	29.37%	22.05%	20.67%

Data Source: NTD (2003-07)

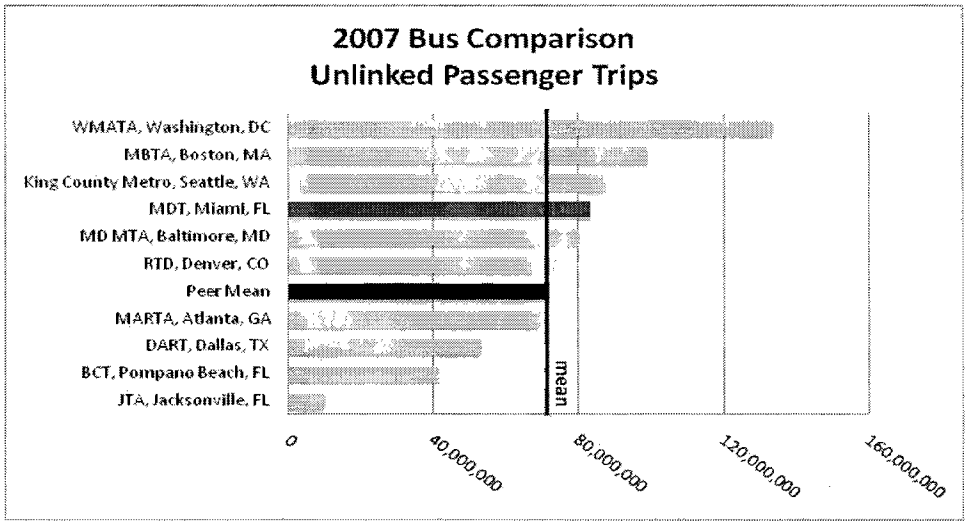
Table 4-2: MDT Metrobus 2003-2008 Trends

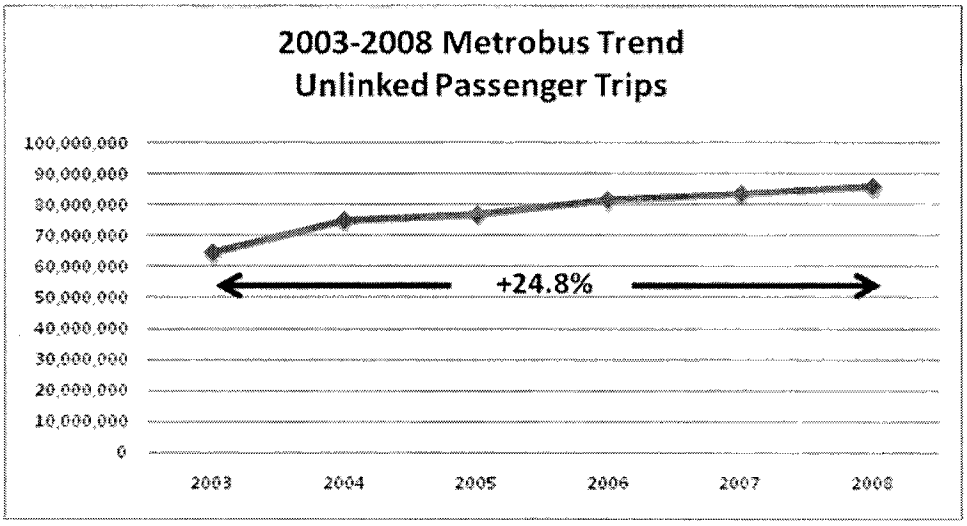
Performance Measures	2003	2004	2005	2006	2007	2008
Unlinked Passenger Trips	64,546,632	75,137,426	76,752,965	81,637,435	83,458,376	85,789,745
Average Age (yrs.) of Bus Fleet	5.3	4.6	4.8	4.5	5.2	5.0
Passenger Miles Traveled	279,410,583	296,888,711	324,237,445	348,022,328	427,626,902	426,400,600
Average Passenger Trip Length	4.33	3.95	4.22	4.26	5.12	4.97
Vehicle Revenue Hours	2,336,218	2,535,807	2,731,978	2,949,999	2,923,018	2,752,703
Vehicle Revenue Miles	27,506,309	31,100,472	34,222,523	36,825,387	35,654,448	33,407,289
Passenger Trips Per Revenue Hours	27.63	29.63	28.09	27.67	28.55	31.17
Passenger Trips Per Revenue Miles	2.35	2.42	2.24	2.22	2.34	2.57
Operating Costs Per Passenger Trip	$3.32	$3.05	$3.40	$3.79	$3.83	$3.94
Operating Costs Per Revenue Hour	$91.78	$90.48	$95.45	$104.87	$109.25	$122.75
Weekend Service Availability	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)
Operating Expenses	$214,417,916	$229,427,318	$260,756,940	$309,379,653	$319,327,599	$337,894,421
Maintenance Expenses	$53,940,300	$54,121,421	$63,582,082	$79,541,514	$86,883,261	$91,115,200
Fare Revenues	$53,855,926	$58,074,979	$73,220,122	$69,344,312	$71,186,530	$71,722,693
Farebox Recovery	25.12%	25.31%	28.08%	22.41%	22.29%	21.23%

Data Source: NTD (2003-07) and MDT (2008)

The graph in Figure 4-1 shows peer agencies and MDT trends in terms of unlinked passenger trips. As the graphic shows, MDT's Metrobus service carries a higher number of passenger trips compared to the peer mean. MDT's Metrobus service is most similar to Seattle, Atlanta and Baltimore in the number of unlinked passenger trips that its bus system serves. The Washington, DC and Boston bus systems serve significantly more riders than MDT, while the Jacksonville and Broward systems serve only a fraction of the number served by MDT. MDT unlinked passenger trips have increased 24.8 percent (24.8%) over the 2003-08 time period.

Figure 4-1: Bus Unlinked Passenger Trips

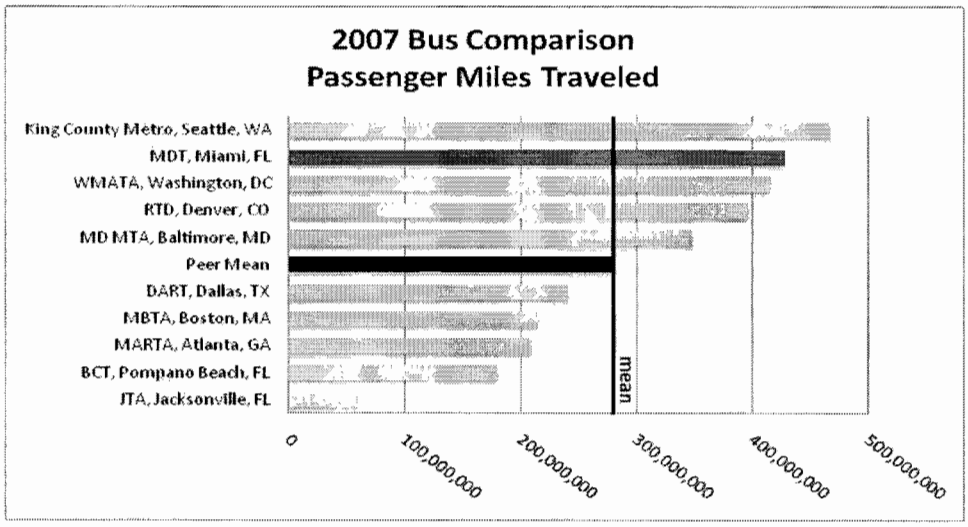


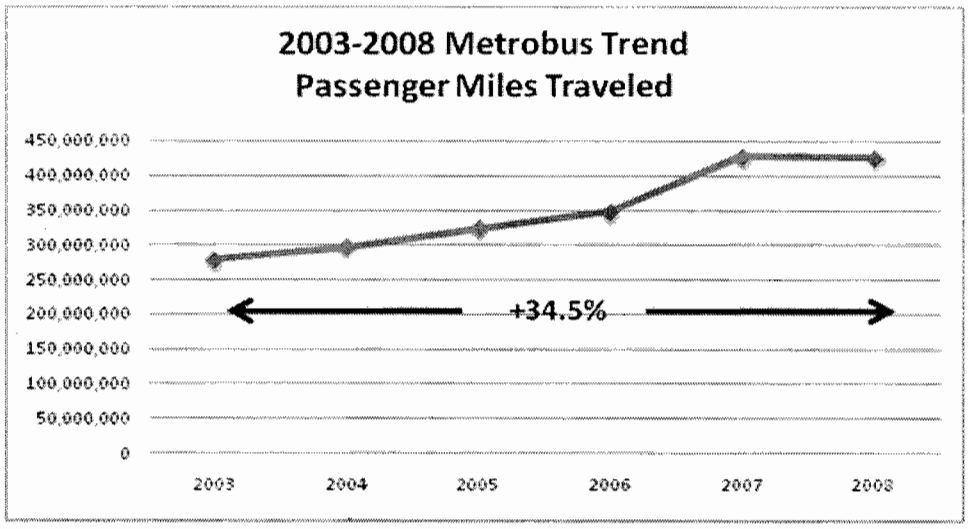


Data Source: NTD (2003-07) and MDT (2008)

Figure 4-2 shows passenger miles traveled. MDT's system is one of the most productive in terms of total passengers carried, carrying more passenger miles than all of the peer agencies except for Seattle. Given that the number of total passenger trips is lower for MDT than for several other systems, this indicates that MDT customers tend to make longer trips than their counterparts in most of the other peer cities. Passenger miles have increased for MDT approximately 34.5 percent (34.5%) between 2003 and 2008. This increase is mainly attributed to the implementation of the Miami-Dade County People's Transportation Plan (PTP). However, beginning in 2005, the amount of service miles are being reduced by MDT. Passenger miles have increased at a greater rate than unlinked passenger trips indicating that the average length of a bus passenger trip is rising.

Figure 4-2: Bus Passenger Miles Traveled



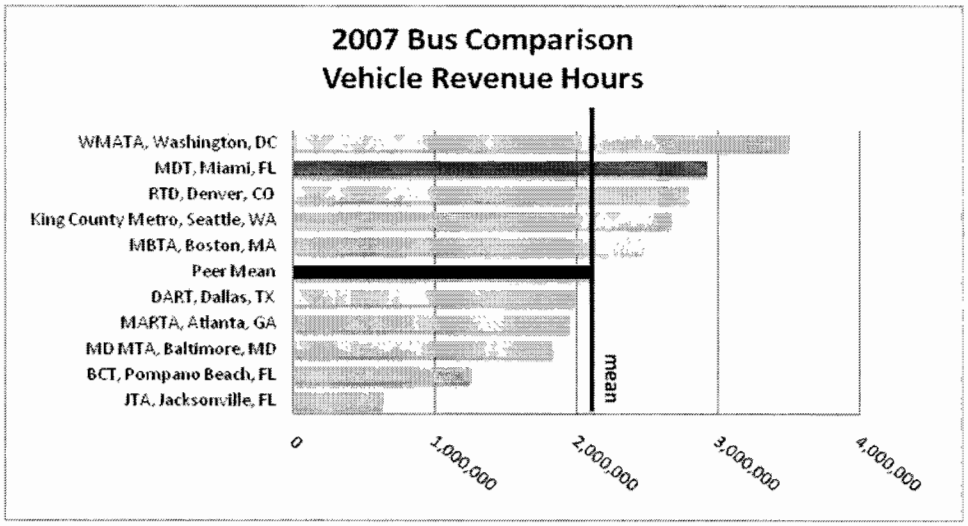


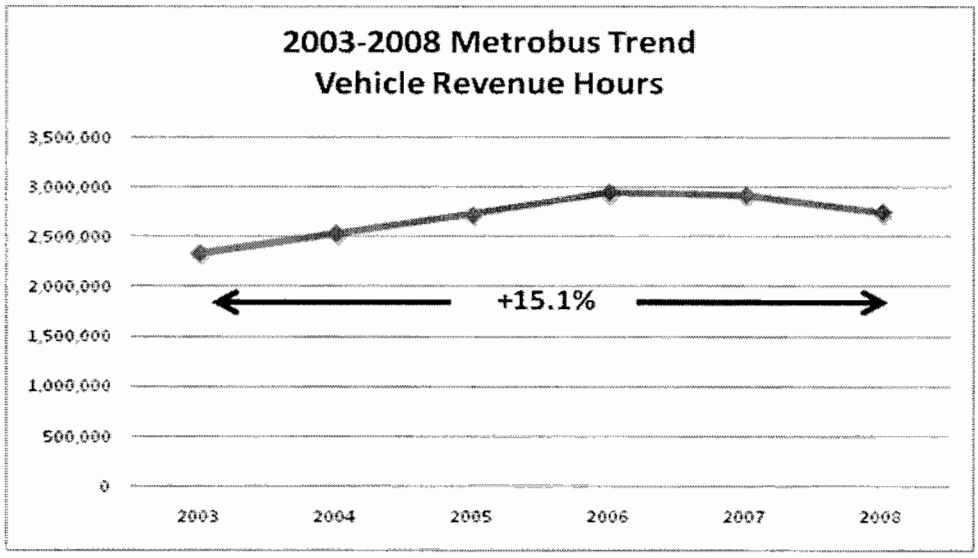
Data Source: NTD (2003-07) and MDT (2008)

Figure 4-3 and Figure 4-4 show the number of annual vehicle revenue hours and miles on bus for each of the peer transit systems. As the figure shows, MDT operates more Metrobus service, as expressed in terms of revenue vehicle hours and miles of service, than any of the peer agencies except WMATA.

The trend for MDT's revenue hours and miles indicate the volume of Metrobus service increased steadily between 2004 and 2006 before dropping slightly between 2006 and 2008. Overall, vehicle hours increased by 15.1 percent (15.1%) between 2003 and 2008, while vehicle miles increased slightly more, by 17.7 percent (17.7%) -- indicating that the average route length increased slightly over the time period.

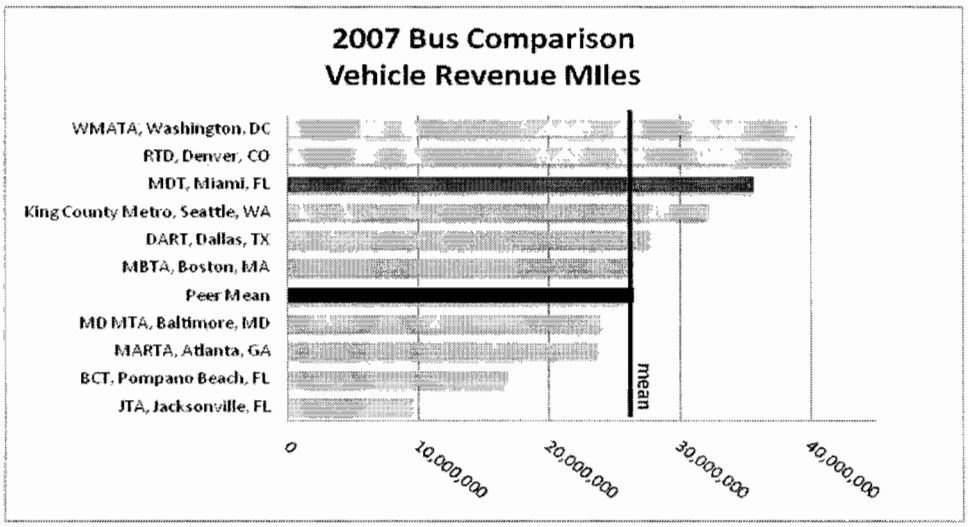
Figure 4-3: Bus Vehicle Revenue Hours

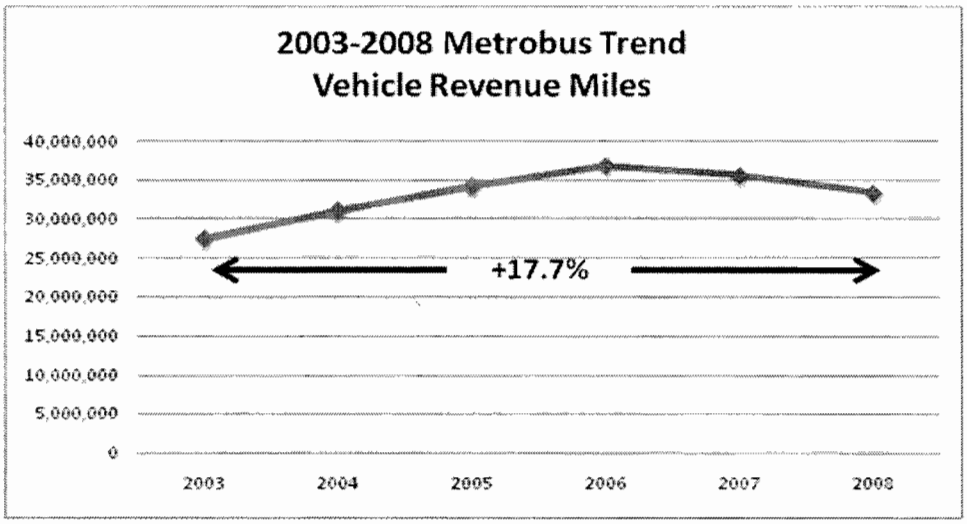




Data Source: NTD (2003-07) and MDT (2008)

Figure 4-4: Bus Vehicle Revenue Miles





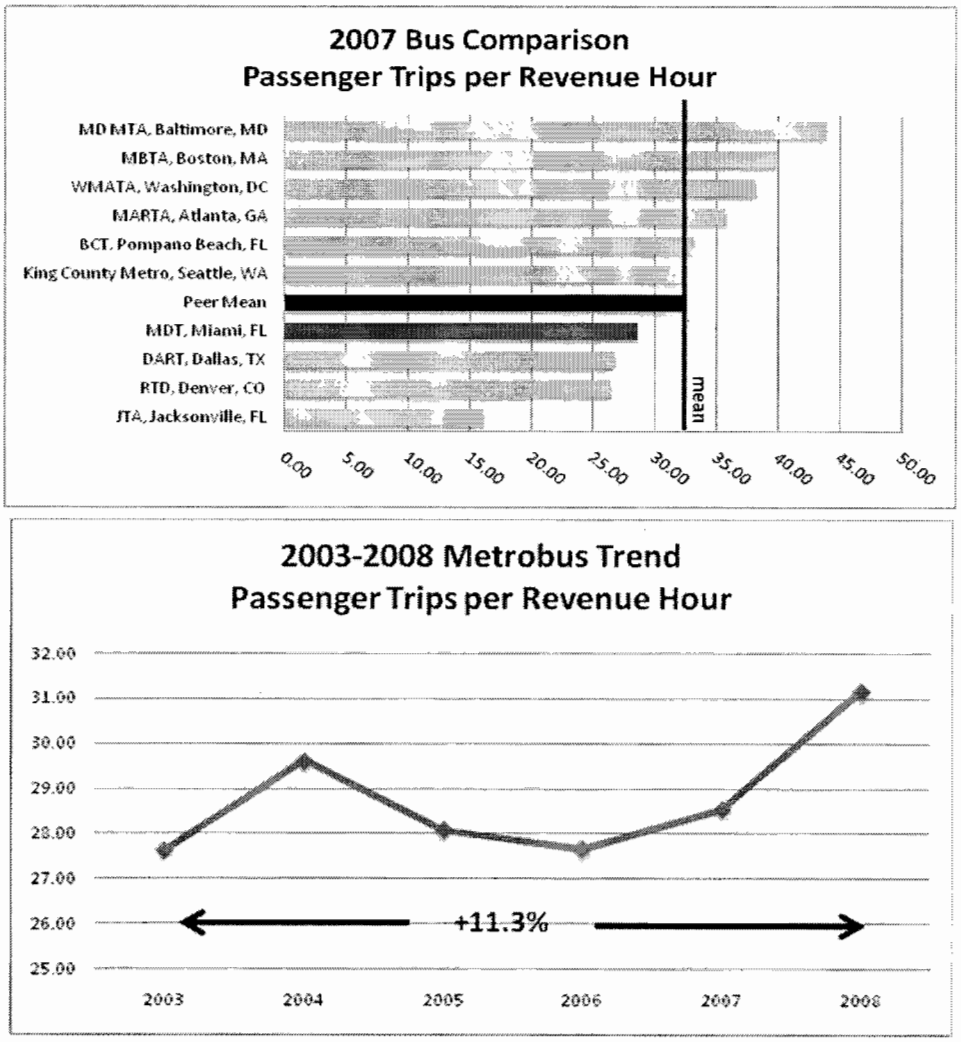
Data Source: NTD (2003-07) and MDT (2008)

Figure 4-5 and Figure 4-6 show the average number of passenger trips per revenue hour and mile. As these figures show, the high number of revenue hours and miles of service operated relative to the system ridership translate into lower than average performance for MDT compared to its peers on these important service efficiency measures. MDT is lower in terms of passenger trips per vehicle hour and mile than all of the peer agencies except Jacksonville and Dallas.

The trend for passenger trips per hour is an increase of 11.3 percent (11.3%). As the graph shows, productivity grew between 2003 and 2004, declined in 2005 and 2006, and then rose between 2006 and 2008.

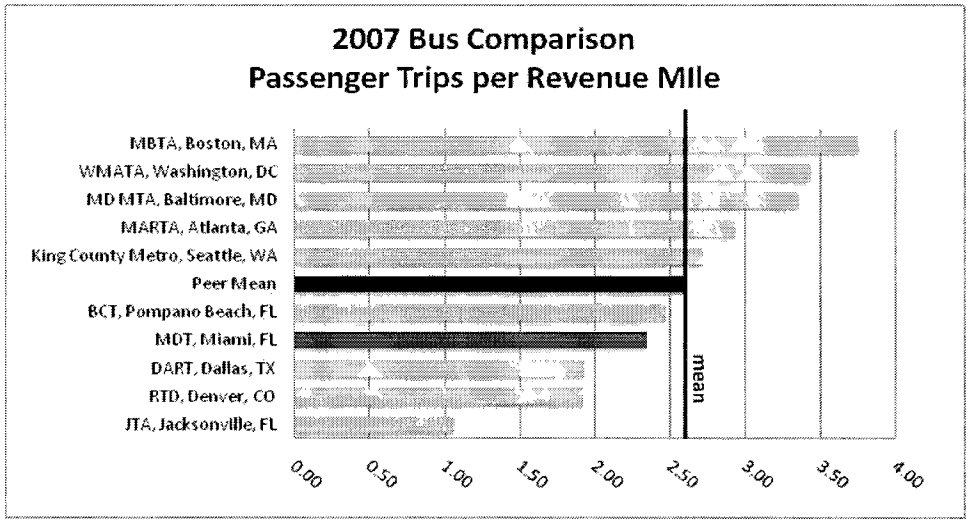
The trend for passenger trips per revenue mile rose between 8.5 percent (8.5%) between 2003 and 2008. The trend is similar to passenger trips per revenue hour, with a decrease in productivity in the middle of the decade and increases in productivity between 2006 and 2008 due to decreases in revenue hours and miles.

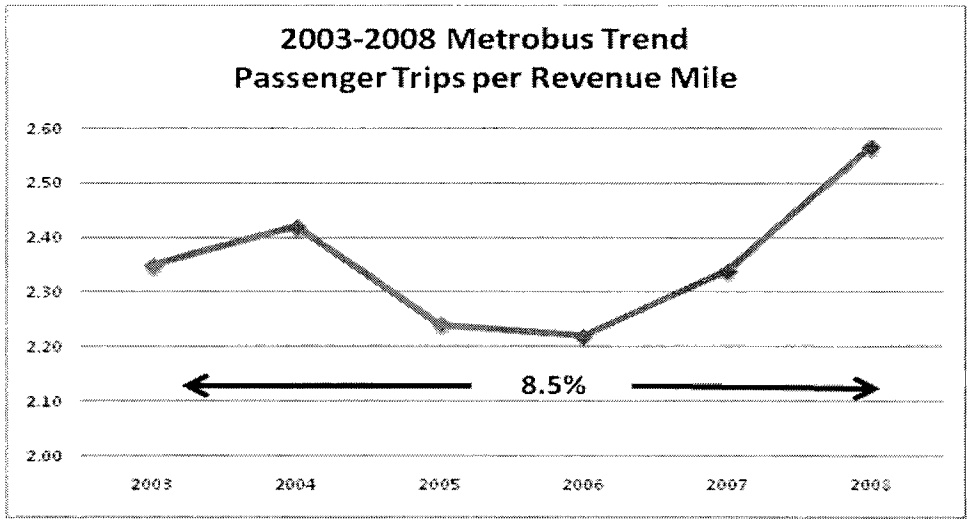
Figure 4-5: Bus Passenger Trips per Revenue Hour



Data Source: NTD (2003-07) and MDT (2008)

Figure 4-6: Bus Passenger Trips per Revenue Mile



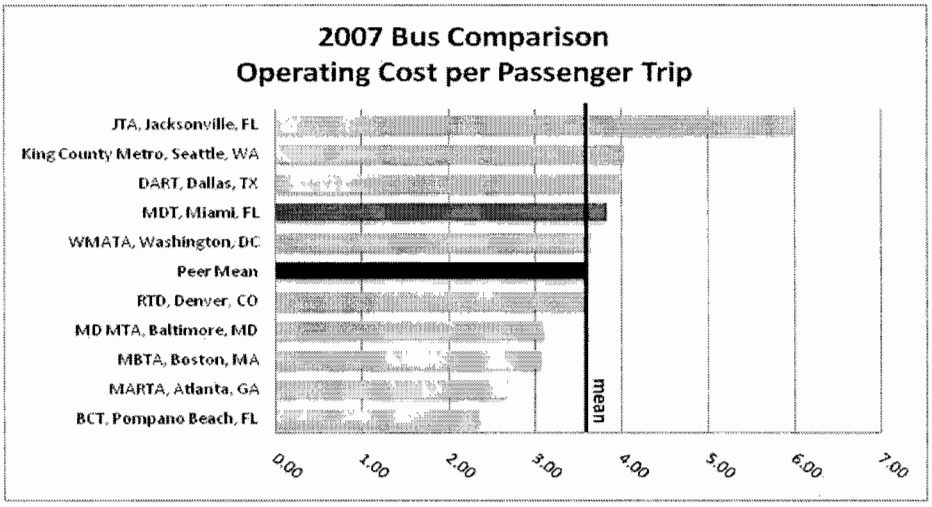


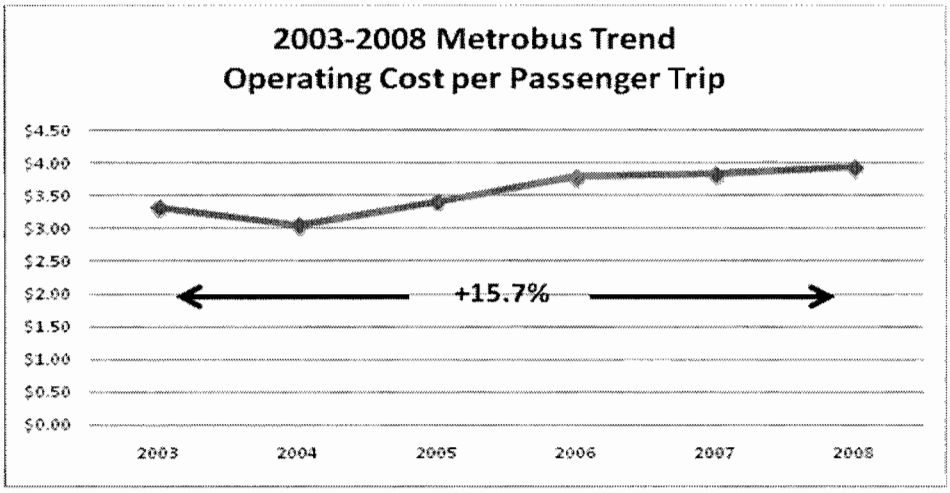
Data Source: NTD (2003-07) and MDT (2008)

Figure 4-7, which shows that MDT's operating cost per passenger trip, and Figure 4-8, which shows operating cost per revenue mile, place MDT slightly above the average of the peer group in terms of operating efficiency. MDT's Metrobus cost per passenger trip, $3.94, is significantly lower than that of Jacksonville, lower than the Seattle and Dallas systems, and only slightly higher than WMATA. MDT's cost per revenue hour is slightly below the average for the peer group and is lower than that of Seattle, Washington, DC, Boston and Baltimore and on par with Dallas.

The trend for cost per passenger trip dropped significantly (by 9%) as the ridership increased between 2003 and 2004. Cost per passenger trip then rose steadily between 2004 and 2007, before finally leveling off between 2007 and 2008. This is attributed to the increase of service that was required under the passage of the People's Transportation Plan, as opposed to an indication of falling route productivity. Overall, between 2003 and 2008 the operating cost per passenger trip increased 15.7 percent (15.7%).

Figure 4-7: Bus Operating Cost per Passenger Trip

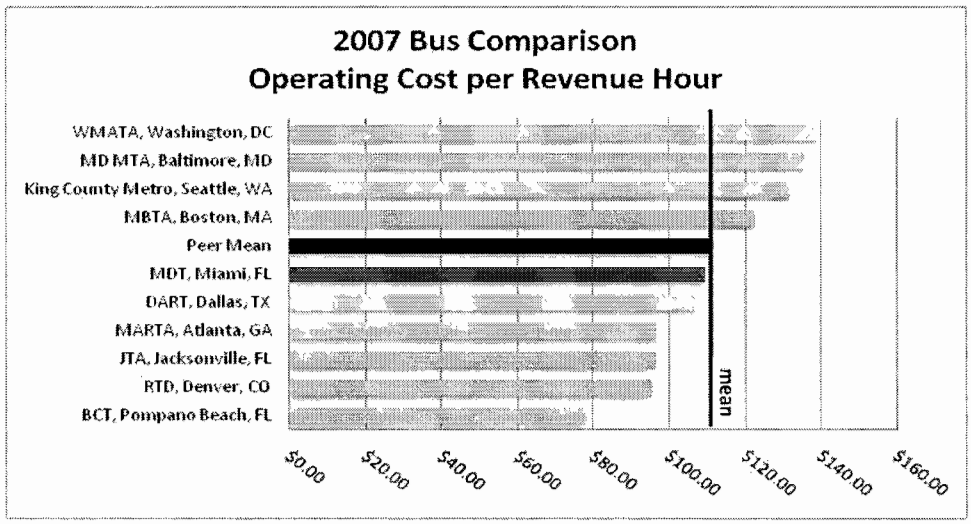


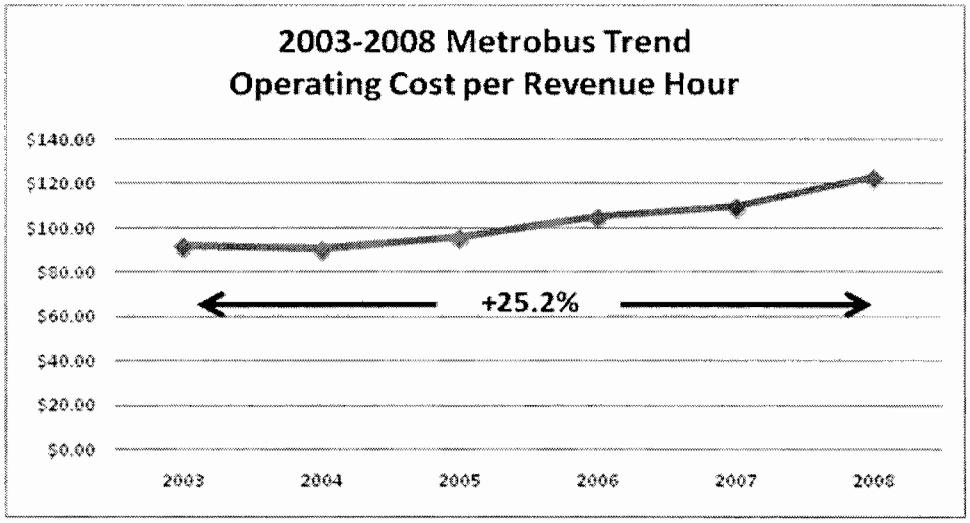


Data Source: NTD (2003-07) and MDT (2008)

The trend for operating cost per revenue hour dipped between 2003 and 2004, then increased steadily from 2004 to 2008. The overall 2003-08 increase is 25.2 percent (25.2%). (Figure 4-8)

Figure 4-8: Bus Operating Cost per Revenue Hour

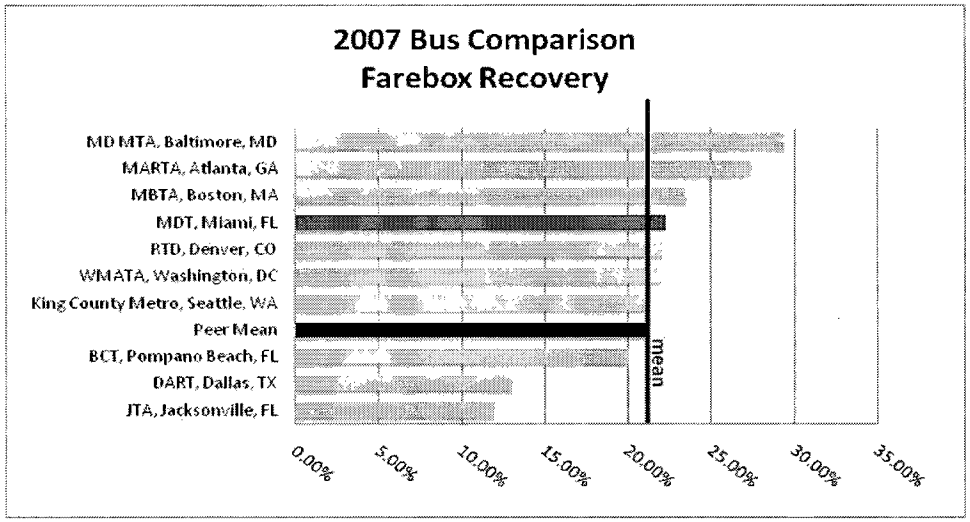


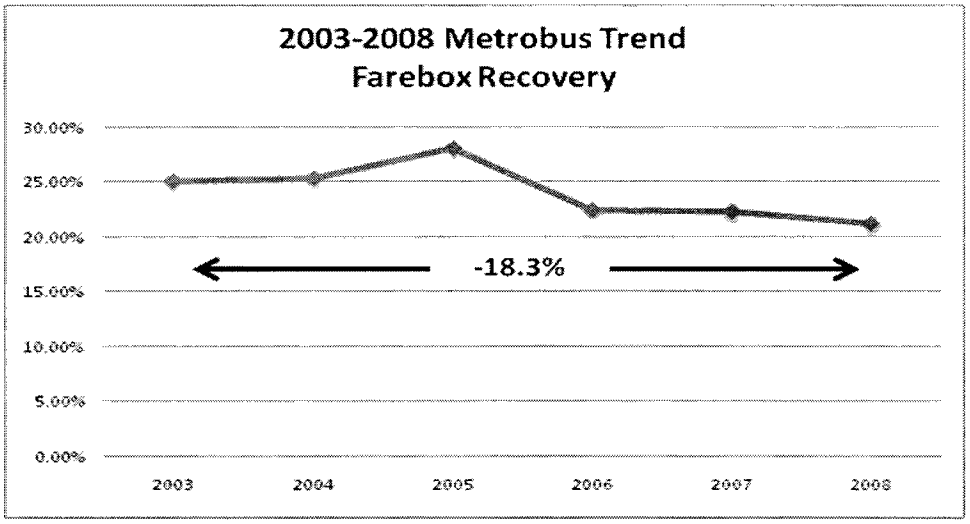


Data Source: NTD (2003-07) and MDT (2008)

Figure 4-9 shows the peer comparison for farebox recovery ratio (the ratio of collected fares to total operating cost) for bus. As the graph shows, MDT is slightly better than the average on this measure. MDT's farebox recovery, at 22.3 percent (22.3%) for 2007, is significantly better than Jacksonville and Dallas (each of which posted a farebox recovery ratio for bus below 20%) and on par with Denver and WMATA. Boston, Baltimore and MARTA had higher farebox recovery ratios; however, none of the agencies reached a farebox recovery ratio of 30 percent (30%).

Figure 4-9: Bus Farebox Recovery Ratio





Data Source: NTD (2003-07) and MDT (2008)

Farebox recovery ratio increased slightly between 2003 and 2005, tracking with the ridership increases that were experienced in that period. Then, farebox recovery ratio fell between 2005 and 2007. Overall trend shows farebox recovery ratio dropped 18.3 percent (18.3%) between 2003 and 2008. This is an indication of rising operating costs relative to ridership. The 2005 fare increase resulted in increased passenger fare revenues, but was also coupled with increased operating costs. Furthermore, this reduction of MDT's farebox recovery is attributed to the increase of riders that became eligible for free passenger fares (i.e., golden passport passengers). The result is a downward trend in farebox recovery for the six year trend period.

In 2007, MDT had begun to reduce bus with additional reductions occurring in 2008 and programmed for 2009 which has resulted in increases to MDT's productivity measures. As a result, MDT is now more in line with peer agencies. On other measures MDT's Metrobus service is performing adequately or slightly better than other members of the peer group.

4.4 Heavy Rail Peer Comparison and Trends

Table 4-3, below, compares statistics for MDT Metrorail (heavy rail) service with those peer agencies that also operate heavy rail service. Only four (4) of the ten (10) selected peer agencies selected for this analysis operated heavy rail transit service in 2007, and these are listed in Table 3-1.

MDT is, in fact, one of only a handful of transit agencies that operate heavy rail transit in the US. Most of the other cities that operate heavy rail transit in the US are represented in the peer group.

Table 4-4 shows the trend in operating and service statistics for the six most recent years MDT's Metrorail system.

Table 4-3: Heavy Rail Peer Comparison

Agency	*MDT*	*MARTA*	*WMATA*	*MBTA*	*MD MTA*	Peer Mean
City	Miami, FL	Atlanta, GA	Washington, DC	Boston, MA	Baltimore, MD	
NTD Number	4034	4022	3030	1003	3034	
Unlinked Passenger Trips	17,504,736	77,685,887	276,440,693	143,666,785	13,158,501	127,737,967
Average Age (yrs.) of Bus Fleet						
Passenger Miles Traveled	134,407,819	541,418,734	1,590,316,851	514,157,854	65,783,472	677,919,228
Average Passenger Trip Length	7.68	6.97	5.75	3.58	5.00	5.33
Vehicle Revenue Hours	359,326	833,235	2,636,654	1,464,328	190,559	1,281,194
Vehicle Revenue Miles	8,354,432	21,993,495	67,029,516	21,063,667	4,735,303	28,705,495
Passenger Trips Per Revenue Hou	48.72	93.23	104.85	98.11	69.05	91.31
Passenger Trips Per Revenue Mile	2.10	3.53	4.12	6.82	2.78	4.31
Operating Costs Per Passenger Tri	$4.61	$2.21	$2.52	$1.82	$3.84	$2.60
Operating Costs Per Revenue Hou	$224.39	$205.98	$264.10	$178.34	$265.27	$228.42
Weekend Service Availability	Yes Sat (0530-0045) Sun(0530-0045)	Yes Sat (0416-0216) Sun (0416-0157)	Yes Sat (0654-0340) Sun (0654-0040)	Yes Sat (0501-0133) Sun (0538-0138)	Yes Sat (0407-0056) Sun (0407-0056)	
Operating Expenses	$80,628,996	$171,626,175	$696,335,404	$261,148,955	$50,550,360	$294,915,224
Maintenance Expenses	$34,272,813	$68,708,871	$356,791,820	$115,537,310	$25,727,156	$141,691,289
Fare Revenues	$13,435,411	$50,462,915	$404,837,785	$125,471,260	$12,429,257	$148,300,304
Farebox Recovery	16.66%	29.40%	58.14%	48.05%	24.59%	40.04%

Data Source: NTD (2003-07)

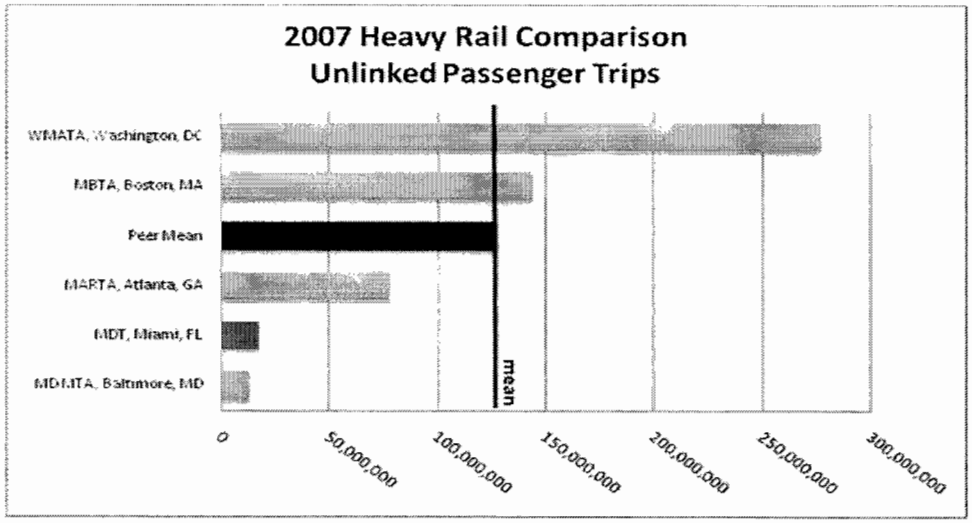
Table 4-4: MDT Metrorail 2003-2008 Trends

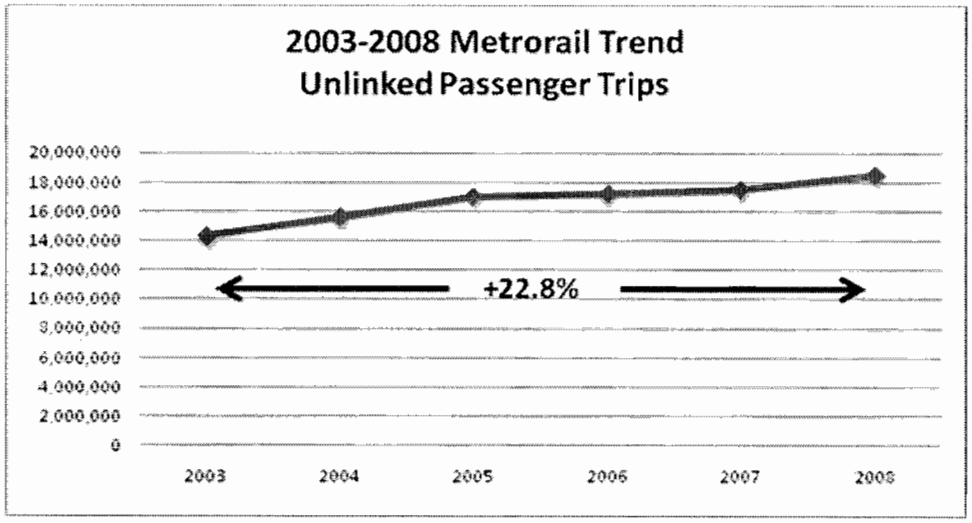
Performance Measures	2003	2004	2005	2006	2007	2008
Unlinked Passenger Trips	14,306,084	15,637,516	17,034,513	17,234,962	17,504,736	18,538,741
Average Age (yrs.) of Bus Fleet	21.0	22.0	23.0	24.0	25.0	26.0
Passenger Miles Traveled	109,218,683	121,822,960	134,854,478	131,446,453	134,407,819	142,152,120
Average Passenger Trip Length	7.63	7.79	7.92	7.63	7.68	7.67
Vehicle Revenue Hours	310,162	386,495	395,072	405,539	359,326	318,765
Vehicle Revenue Miles	7,701,190	9,112,334	9,345,661	9,690,079	8,354,432	7,158,361
Passenger Trips Per Revenue Hours	46.12	40.46	43.12	42.50	48.72	58.16
Passenger Trips Per Revenue Miles	1.86	1.72	1.82	1.78	2.10	2.59
Operating Costs Per Passenger Trip	$4.61	$3.93	$4.22	$4.35	$4.61	$4.44
Operating Costs Per Revenue Hour	$212.43	$158.96	$181.83	$185.00	$224.39	$258.44
Weekend Service Availability	Yes Sat (0000-2459) Sun(0000-2359)	Yes Sat (0530-0045) Sun(0530-0045)	Yes Sat (0530-0045) Sun(0530-0045)	Yes Sat (0530-0045) Sun(0530-0045)	Yes Sat (0530-0045) Sun(0530-0045)	Yes Sat (0530-0045) Sun(0530-0045)
Operating Expenses	$65,889,174	$61,437,722	$71,834,407	$75,026,360	$80,628,996	$82,381,902
Maintenance Expenses	$33,575,474	$29,248,272	$32,432,774	$33,093,977	$34,272,813	$36,316,586
Fare Revenues	$9,665,282	$10,026,596	$11,432,839	$19,665,320	$13,435,411	$13,246,540
Farebox Recovery	14.67%	16.32%	15.92%	26.21%	16.66%	16.08%

Data Source: NTD (2003-07) and MDT (2008)

Figure 4-10 and Figure 4-11 graphically show the number of unlinked passenger trips and passenger miles traveled for MDT and each of the peer agencies. As the graph shows, MDT's Metrorail system carried fewer unlinked passenger trips and passenger miles traveled in 2007 than any of the peer agencies except for the MTA system in Baltimore. Unlinked passenger trips increased 22.8 percent (22.8%) for MDT's Metrorail system, from just over 14 million to more than 18 million between 2003 and 2008. The increase includes a steady rate of growth between 2003 and 2008.

Figure 4-10: Rail Unlinked Passenger Trips

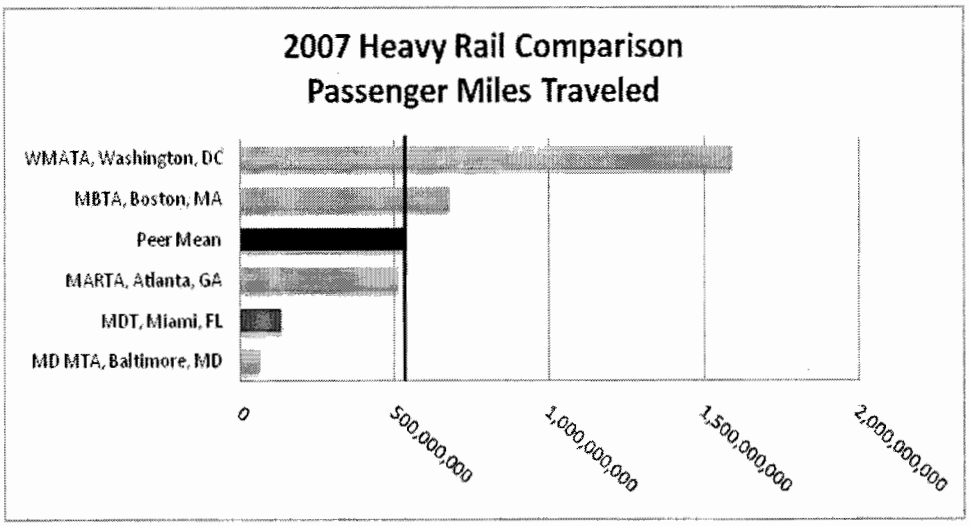


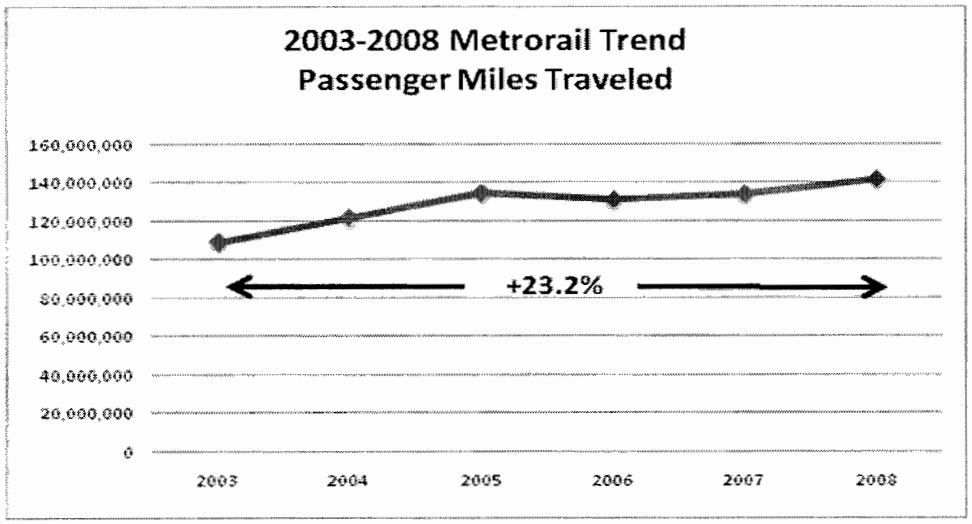


Data Source: NTD (2003-07) and MDT (2008)

The trend for number of passenger miles traveled increased 23.2 percent (23.2%) between 2003 and 2008. This increase mostly occurred between 2003 and 2005, with an increase between 2007 and 2008 as well.

Figure 4-11: Rail Passenger Miles Traveled



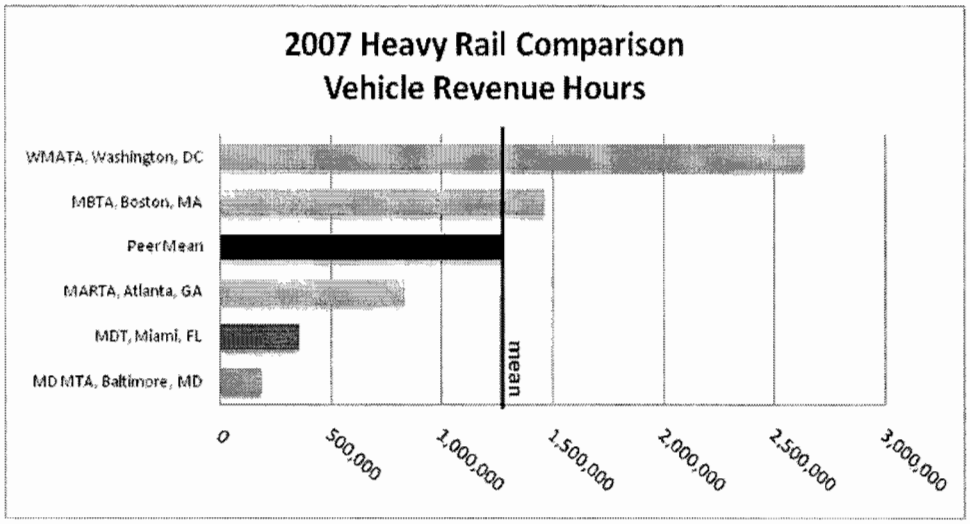


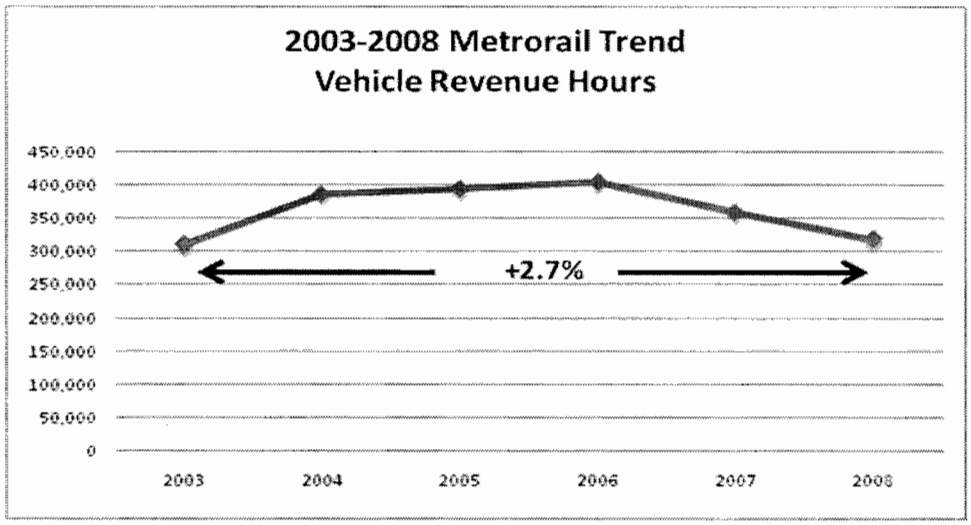
Data Source: NTD (2003-07) and MDT (2008)

Figure 4-12 and Figure 4-13 presents vehicle revenue hours and vehicle revenue miles. MDT operates less service on their Metrorail line than any of the other peer agencies except for Baltimore MTA. This level of service comparison with the other peer agencies also illustrates a corresponding level of passenger trips per revenue hour and per revenue mile.

In terms of MDT trends, revenue vehicle hours increased overall 2.7 percent (2.7%) between 2003 and 2008, but the six year trend includes an increase in service in the middle part of the decade, with a decrease in service between 2006 and 2008.

Figure 4-12: Rail Vehicle Revenue Hours

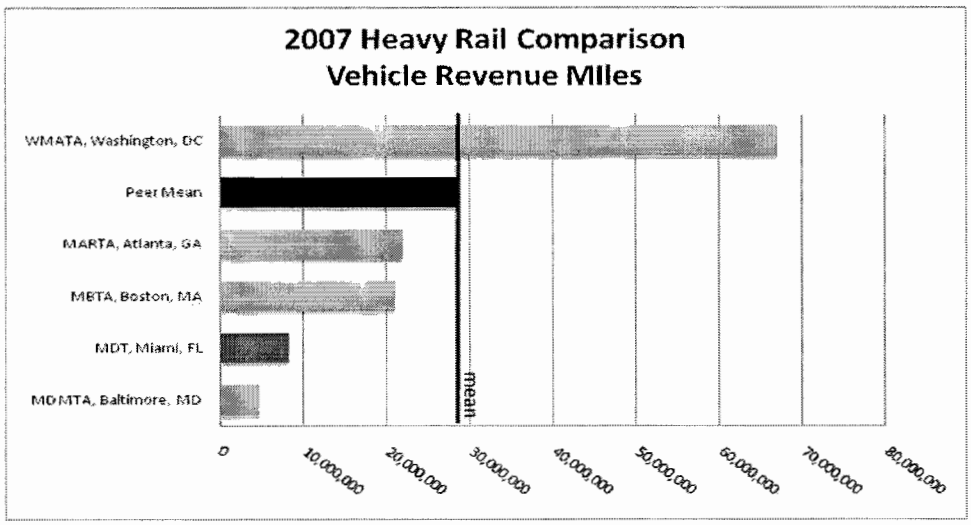


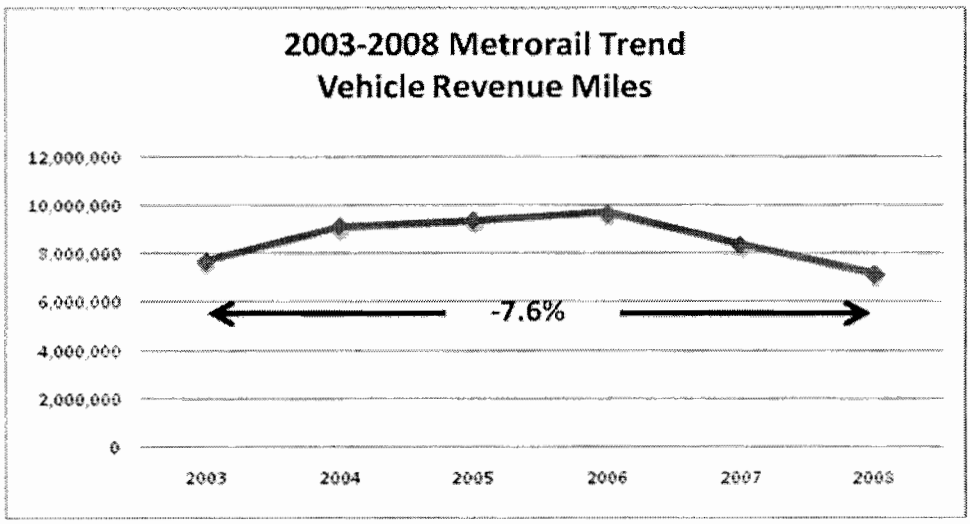


Data Source: NTD (2003-07) and MDT (2008)

A similar trend pattern is shown for vehicle revenue miles. Increases in service occurred between 2003 and 2006, with decreases in service between 2006 and 2008. The major difference is that vehicle miles are actually 7.6 percent (7.6%) less than they were in 2003, trending down to 7,158,361 in 2008.

Figure 4-13: Rail Vehicle Revenue Miles

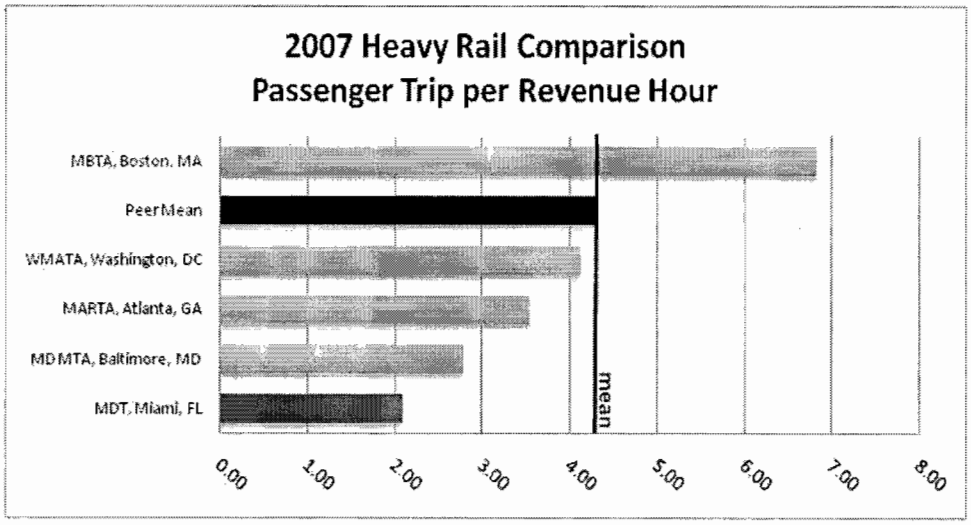


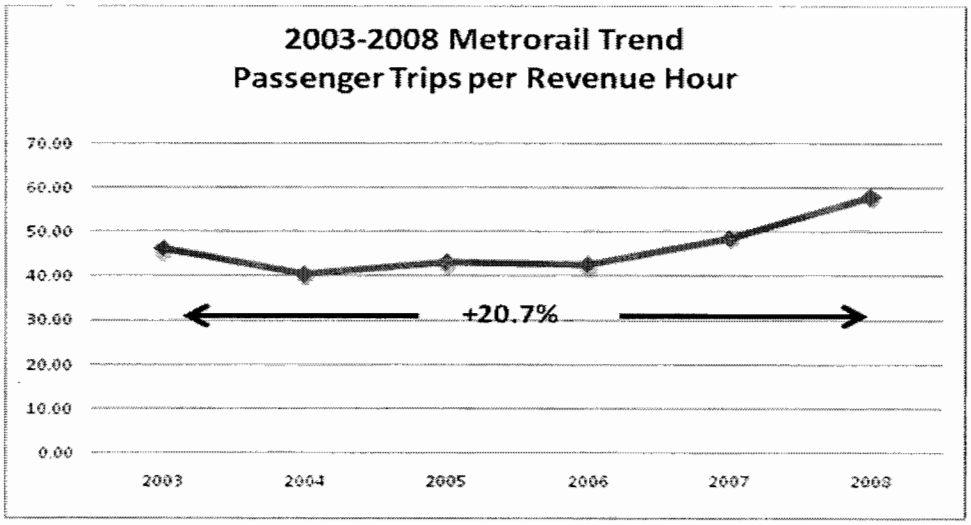


Data Source: NTD (2003-07) and MDT (2008)

In terms of passenger trips per revenue hour and miles, MDT is the lowest of the peer agencies, although productivity has improved over the six year period for MDT. As shown in Figure 4-14 passenger trips per revenue hour has increased 20.7 percent (20.7%) between 2003 and 2008 and illustrated in Figure 4-15 passenger trips per revenue mile has increased 28.3 percent (28.3%). Each of these measures has a similar trend which reflects MDT's passenger trip increases and decreases over the last six years.

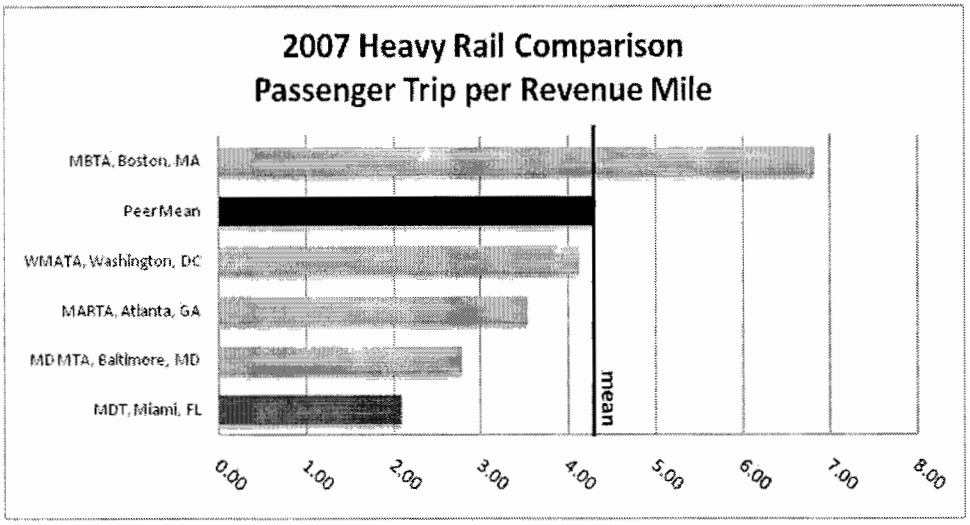
Figure 4-14: Rail Passenger Trips per Revenue Hour

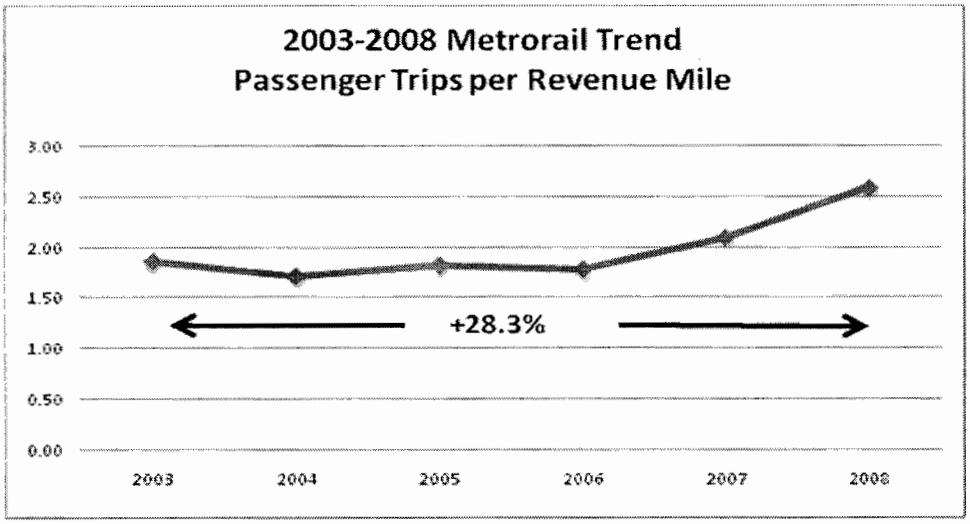




Data Source: NTD (2003-07) and MDT (2008)

Figure 4-15: Rail Passenger Trips per Revenue Mile



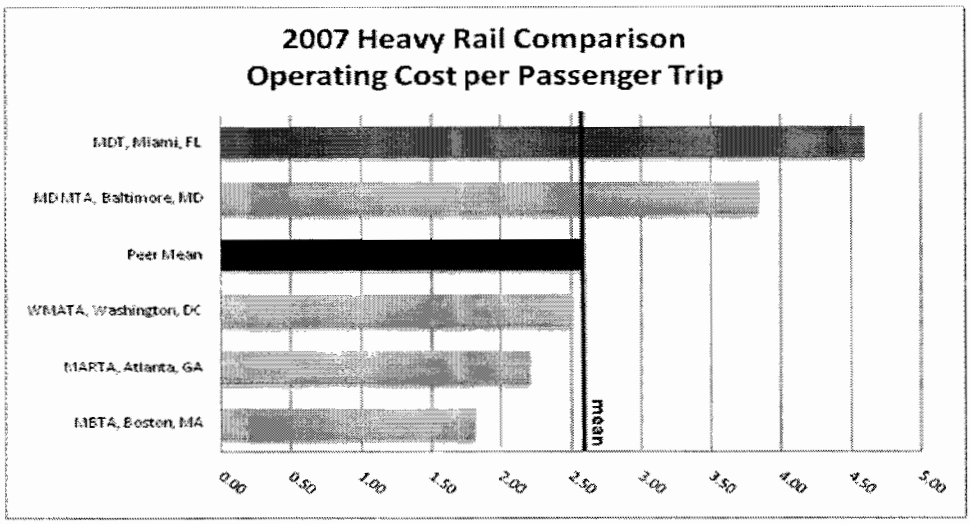


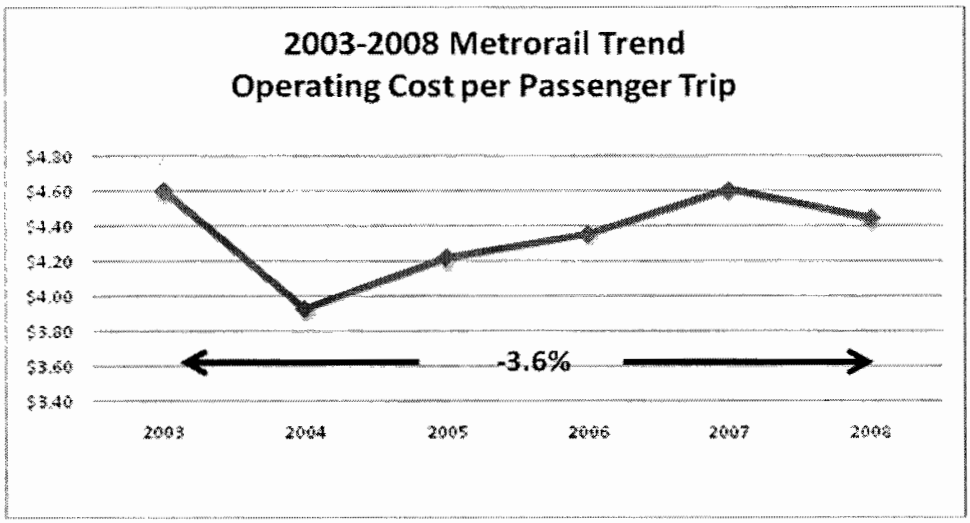
Data Source: NTD (2003-07) and MDT (2008)

The graph in Figure 4-16 shows operating cost per passenger trip. As illustrated, MDT's cost per passenger trips as the highest among the peers. This is due to the relatively lower ridership on MDT's system compared to the volume of service it operates.

The trend in cost per passenger trip between 2003 and 2008 decreased 3.6 percent (3.6%). However, the six year period included a sharp drop in cost between 2003 and 2004, a steady increase between 2005 and 2007, and then a drop between 2007 and 2008.

Figure 4-16: Rail Operating Cost per Passenger Trip



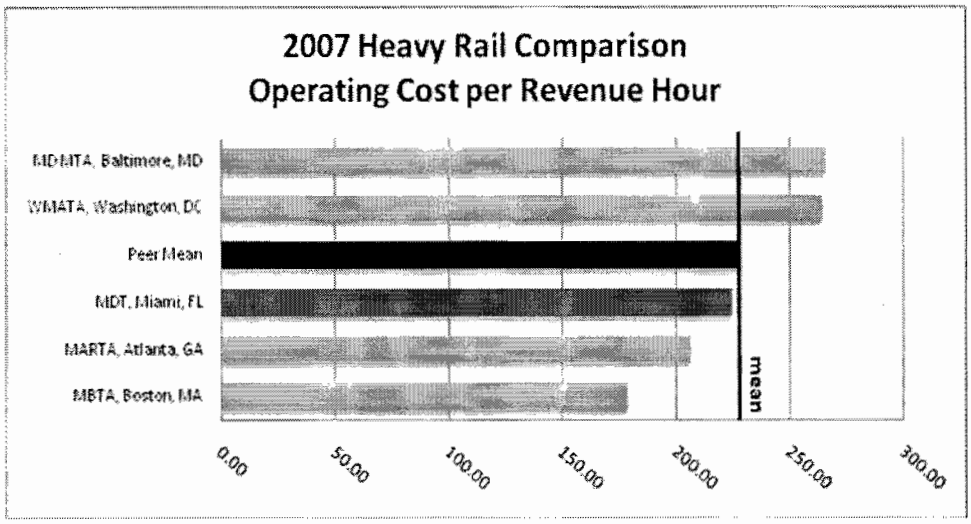


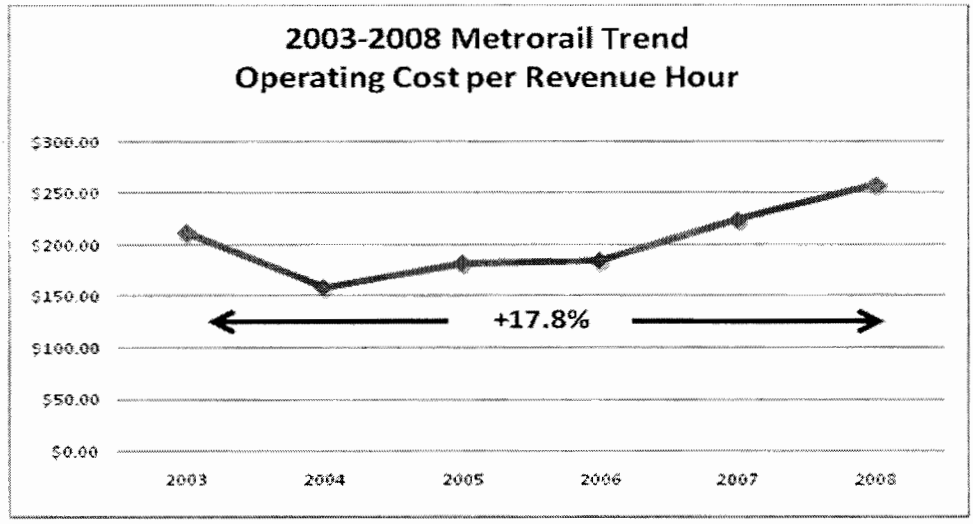
Data Source: NTD (2003-07) and MDT (2008)

The graph in Figure 4-17 shows operating cost per passenger hour. MDT's operating cost per revenue hour is average among the peer group, with MDT higher in this cost than MARTA and MBTA, but lower than WMATA and MTA.

Operating cost per revenue hour of service, a measure of efficiency, trended down between 2003 and 2004 before showing improvement between 2004 and 2008. The overall trend is 17.8 percent (17.8%) increase between 2003 and 2008.

Figure 4-17: Rail Operating Cost per Revenue Hour

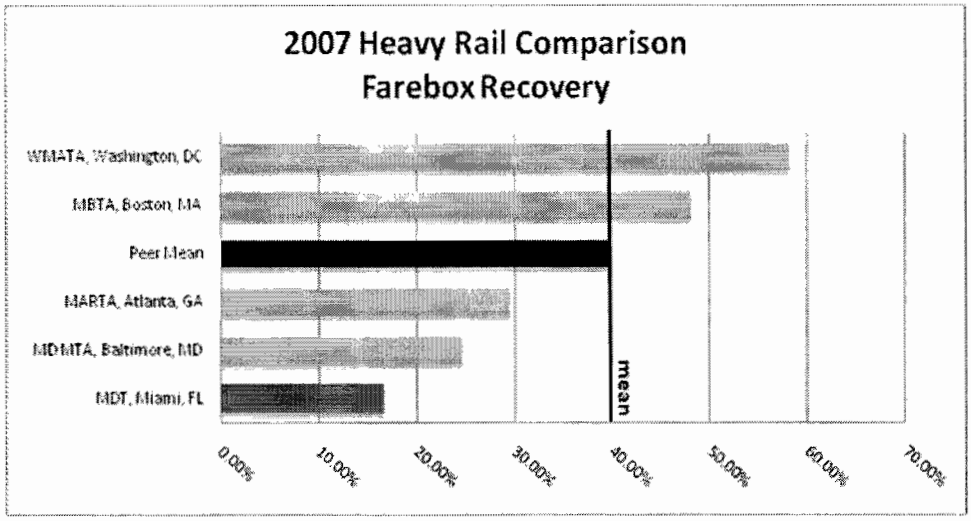


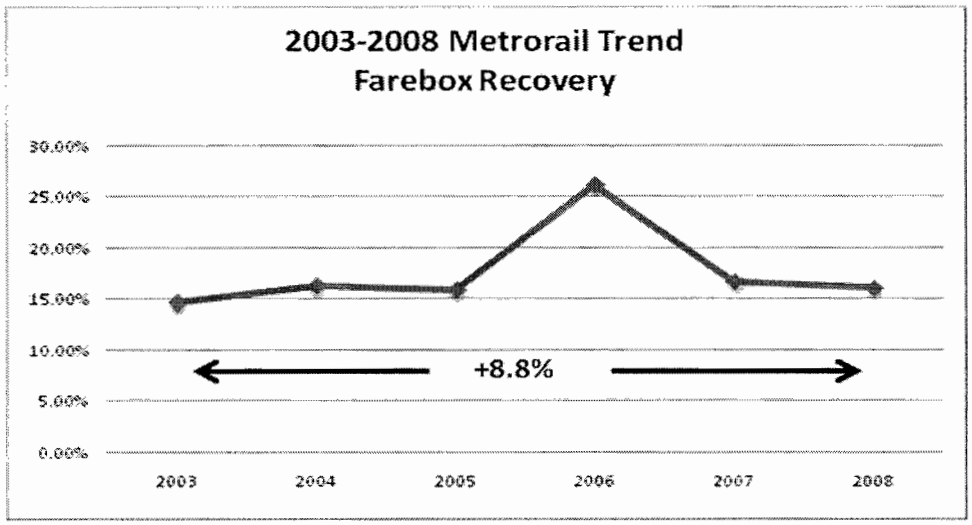


Data Source: NTD (2003-07) and MDT (2008)

Figure 4-18 shows farebox recovery for MDT and peer agencies. MDT had the lowest farebox recovery rate of the peer group. This again is related to relatively lower ridership compared to the volume of service operated. The trend for farebox recovery ratio improved 8.8 percent (8.8%) between 2003 and 2008. However, this trend shows little increase between 2003 and 2005, a sharp increase in 2006, and then a reduction in farebox recovery ratio between 2006 and 2008. The 2006 farebox recovery increase could be in part attributed to additional revenue hours of service for that year in comparison to the entire period.

Figure 4-18: Rail Farebox Recovery Ratio





Data Source: NTD (2003-07) and MDT (2008)

The peer group of agencies that operate rail systems is highly varied, including both cities that are both significantly larger and smaller than Miami, some with much larger heavy rail systems. The data indicates that the volume of service operated may be too high relative to the number of passengers that are being transported, resulting in higher costs relative to the number of passengers carried when comparing with the peers of this analysis. This could be addressed by reducing the frequency of service or reducing costs in other ways to bring the costs and benefits of the system into greater balance.

4.5 Automated Guideway Peer Comparison

Table 4-5 compares peer agency statistics for automated guideway service. There are few agencies in the United States that operate automated guideway systems. As a result there are only three (3) peers for the comparison, Jacksonville, FL, Detroit, MI, and Las Vegas, NV.

Each of these systems differ from one another and from MDT's Metromover in terms of operation, fare collection, and the areas and cities they serve. Metromover is the oldest of the people mover systems, serves the largest and strongest downtown area of the peer cities, and is the only system that connects directly to a heavy rail system that provides a connection to a regional commuter rail system. The differences between the systems and the cities they serve make comparisons relatively difficult. Conclusions based on those comparisons should be regarded as being far less definitive than the conclusions drawn from comparisons with the peer groups in the areas of bus, Metrorail or ADA paratransit service.

Table 4-6 shows the 2003-2008 trends in operating and service statistics for the six (6) most recent years of MDT's Metromover service.

Table 4-5: Automated Guideway Peer Comparison

Agency	*MDT*	*JTA*	*DTC*	*LVMC*	Peer Mean
City	Miami, FL	Jacksonville, FL	Detroit, MI	Las Vegas, NV	
NTD Number	4034	4040	5141	9204	
Unlinked Passenger Trips	8,622,729	619,414	2,307,804	9,329,974	5,219,980
Average Age (yrs.) of Bus Fleet					
Passenger Miles Traveled	8,840,136	255,898	3,543,035	2,217,870	3,714,235
Average Passenger Trip Length	1.03	0.41	1.54	0.24	1
Vehicle Revenue Hours	91,657	19,013	56,932	26,771	48,593
Vehicle Revenue Miles	934,906	254,228	552,640	488,298	557,518
Passenger Trips Per Revenue Hours	94.08	32.58	40.54	348.51	129
Passenger Trips Per Revenue Miles	9.22	2.44	4.18	19.11	9
Operating Costs Per Passenger Trip	$2.44	$7.44	$5.56	$5.75	$5.30
Operating Costs Per Revenue Hour	$229.12	$242.51	$225.32	$2,005.49	$675.61
Weekend Service Availability	Yes Sat (0530-0000) Sun (0530-0000)	Yes Sat (1000-2300) Sun (None)	Yes Sat (0900-2000) Sun (1200-2400)	Yes Sat 0700-0300) Sun (0700-0200)	
Operating Expenses	$21,000,653	$4,610,771	$12,827,644	$53,688,939	$23,032,002
Maintenance Expenses	$11,439,965	$2,890,659	$6,173,028	$0	$5,125,913
Fare Revenues	$0	$336,188	$1,068,241	$29,446,783	$7,712,803
Farebox Recovery	0.00%	7.29%	8.33%	54.85%	17.62%

Data Source: NTD (2007)

Table 4-6: MDT Metromover 2003-2008 Trends

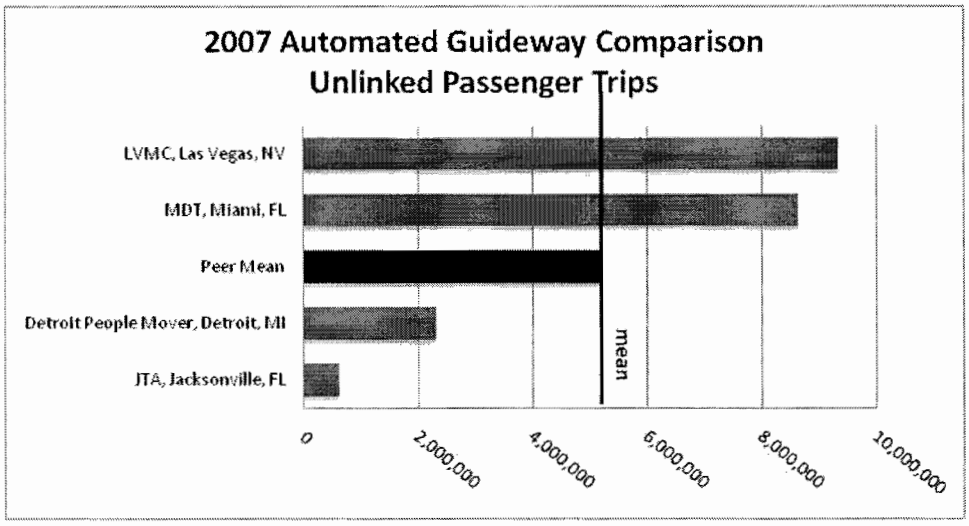
Performance Measures	2003	2004	2005	2006	2007	2008
Unlinked Passenger Trips	6,229,321	7,768,509	9,444,910	8,221,687	8,622,729	8,839,156
Average Age (yrs.) of Fleet	12.9	13.9	14.9	15.6	16.4	16.2
Passenger Miles Traveled	6,391,523	7,910,898	9,437,646	8,213,863	8,840,136	8,593,648
Average Passenger Trip Length	1.03	1.02	1.00	1.00	1.03	0.97
Vehicle Revenue Hours	94,617	93,515	91,705	92,321	91,657	110,228
Vehicle Revenue Miles	1,031,321	953,848	935,393	941,678	934,906	1,120,647
Passenger Trips Per Revenue Hours	65.84	83.07	102.99	89.06	94.08	80.19
Passenger Trips Per Revenue Miles	6.04	8.14	10.10	8.73	9.22	7.89
Operating Costs Per Passenger Trip	$3.10	$2.40	$2.21	$2.33	$2.44	$2.58
Operating Costs Per Revenue Hour	$204.24	$199.68	$227.90	$207.80	$229.12	$207.23
Weekend Service Availability	Yes Sat(24 Hours) Sun(24 Hours)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)	Yes Sat(0530-0000) Sun(0530-0000)
Operating Expenses	$19,324,185	$18,672,871	$20,899,603	$19,184,690	$21,000,653	$22,842,866
Maintenance Expenses	$11,648,797	$11,333,016	$12,290,807	$10,656,675	$11,439,965	$11,711,857
Fare Revenues	$47,865	$0	$0	$0	$0	$0
Farebox Recovery	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%

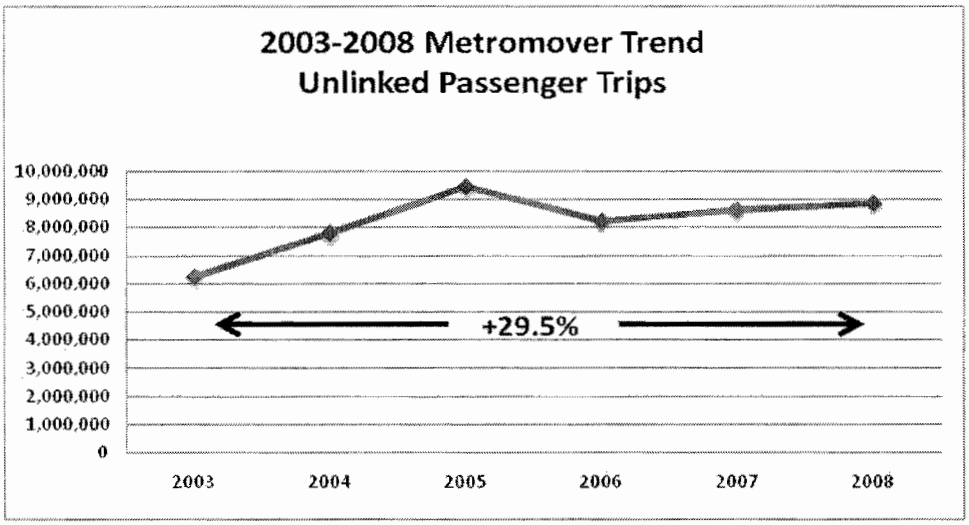
Data Source: NTD (2003-07) and MDT (2008)

As Figure 4-19 illustrates, MDT's automated guideway service in 2007 carried the second highest number of passenger trips among the peer group, with Las Vegas carrying more passenger trips.

MDT's Metromover trend for unlinked passenger trips includes a steady increase between 2003 and 2005, a drop between 2005 and 2006, and then another increase between 2006 and 2008. Overall unlinked Metromover passenger trips increased 29.5 percent (29.5%) over the six year time period.

Figure 4-19: Automated Guideway Unlinked Passenger Trips



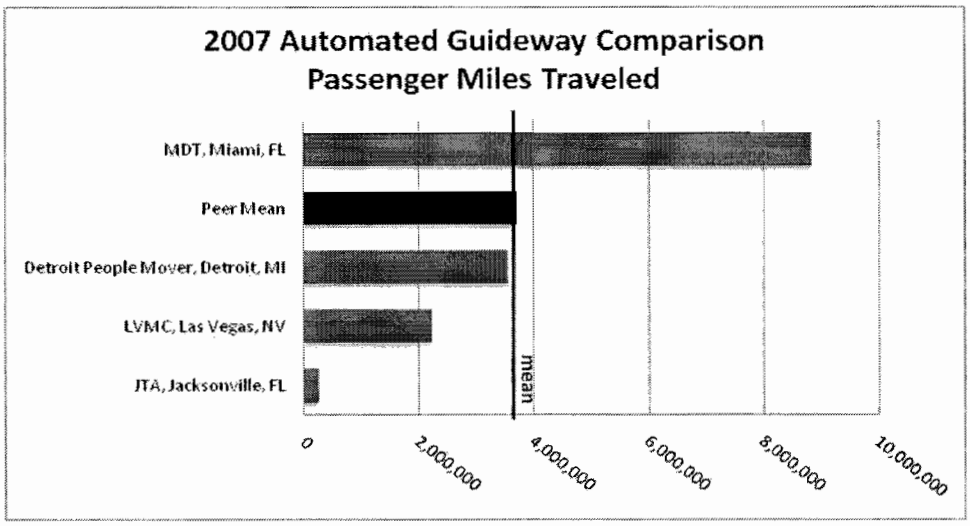


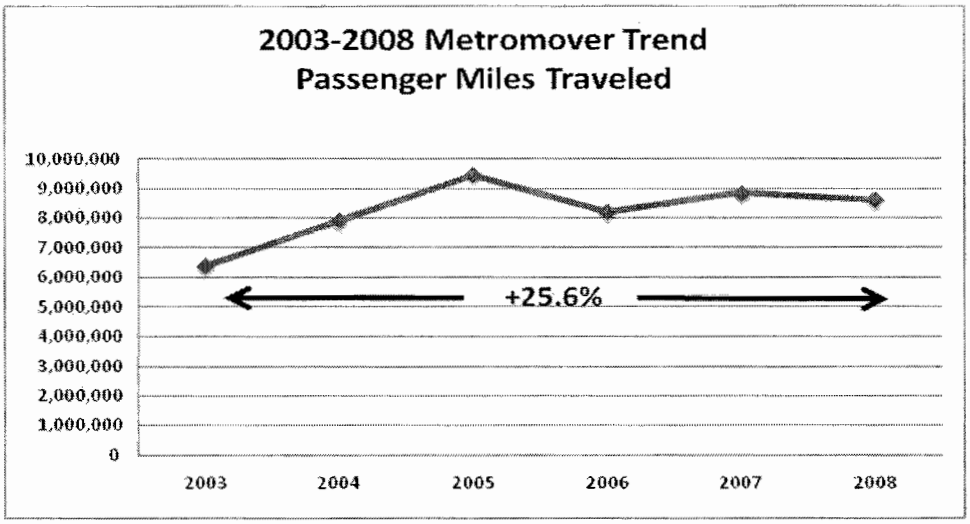
Data Source: NTD (2003-07) and MDT (2008)

MDT has the highest number of passenger miles when compared to the rest of the peer group, and also skews the results of the peer mean due to Metromover passenger miles being so much larger than the rest of the peers. (Figure 4-20)

For the period between 2003 and 2008 passenger miles follows the same trend as unlinked passenger trips. Overall, passenger miles increased 25.6 percent (25.6%) between 2003 and 2008.

Figure 4-20: Automated Guideway Passenger Miles Traveled



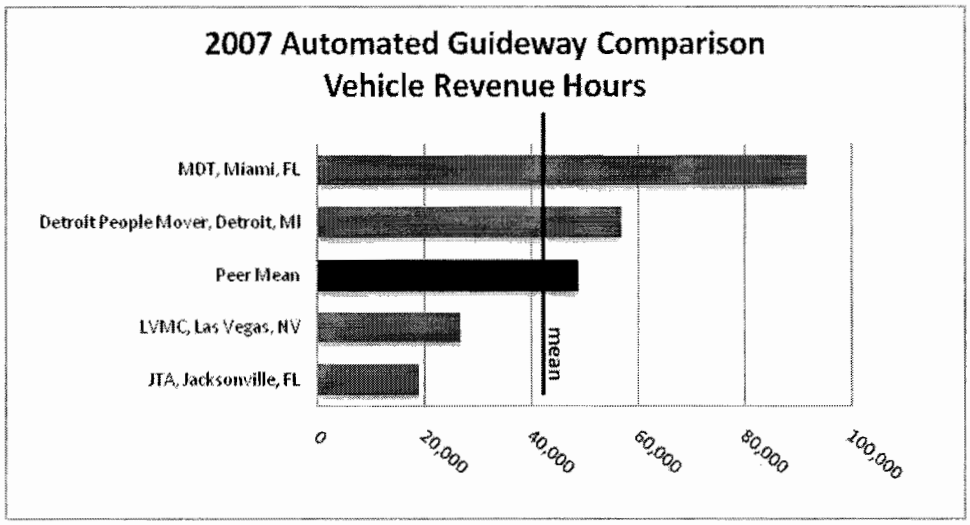


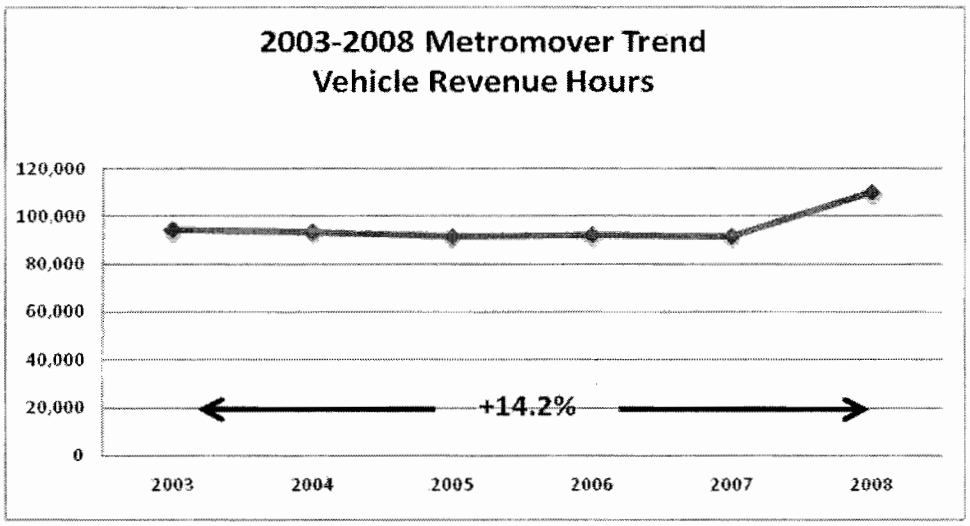
Data Source: NTD (2003-07) and MDT (2008)

Figure 4-21 and Figure 4-22 indicate vehicle revenue hours and miles. MDT operates more revenue hours and miles than any of the peers for automated guideway service.

In terms of trend, MDT's vehicle revenue hours held steady between 2003 and 2007, with a sharp increase between 2007 and 2008. Vehicle revenue hours increased 14.2% between 2003 and 2008, although most of this increase occurred between 2007 and 2008. Vehicle revenue miles decreased between 2003 and 2004, held steady for the middle part of the trend period, and then increased between 2007 and 2008. Overall vehicle revenue miles increased 8.0 percent (8.0%) between 2003 and 2008.

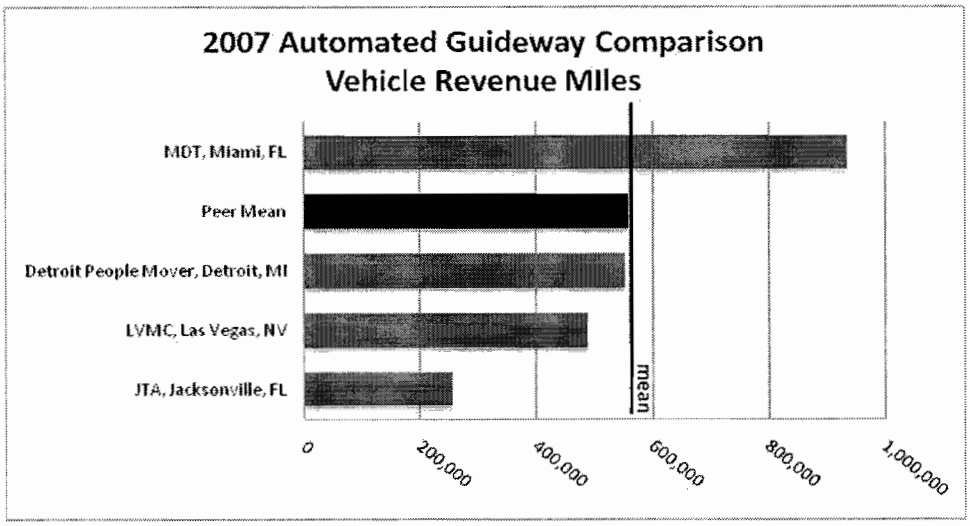
Figure 4-21: Automated Guideway Vehicle Revenue Hours

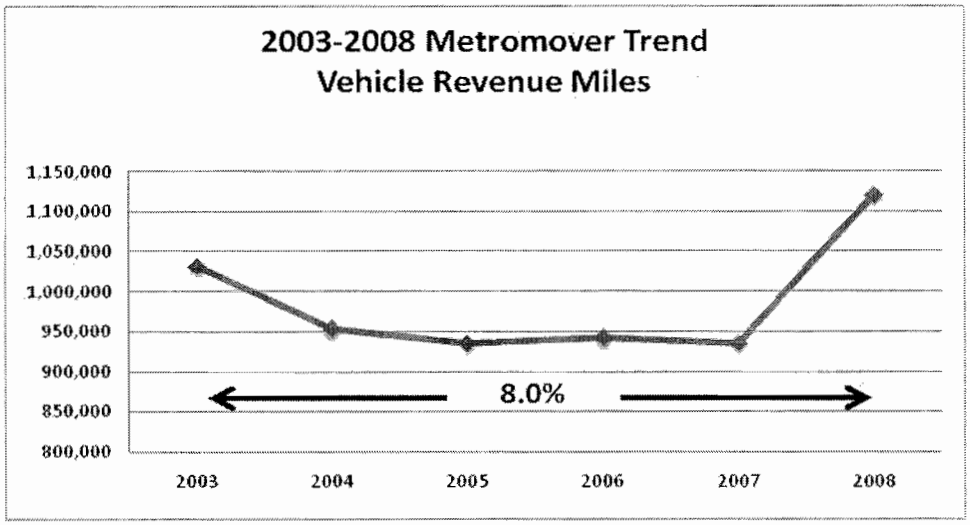




Data Source: NTD (2003-07) and MDT (2008)

Figure 4-22: Automated Guideway Vehicle Revenue Miles



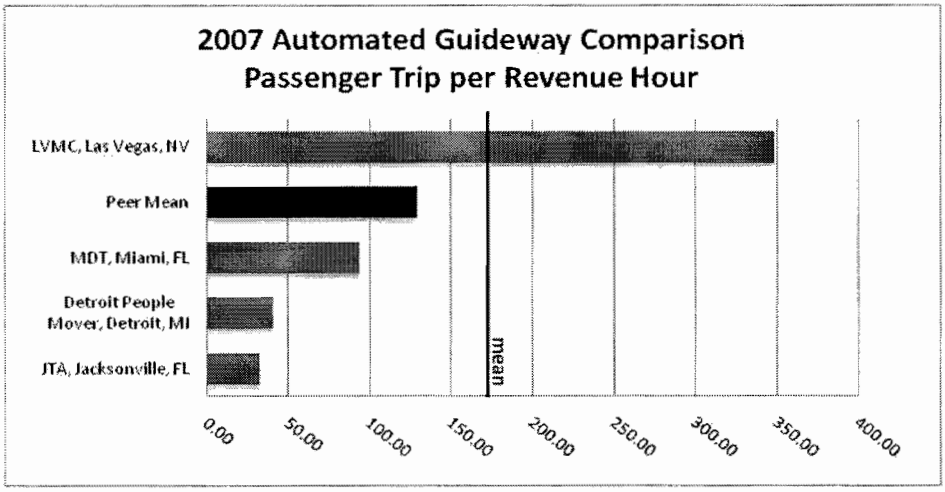


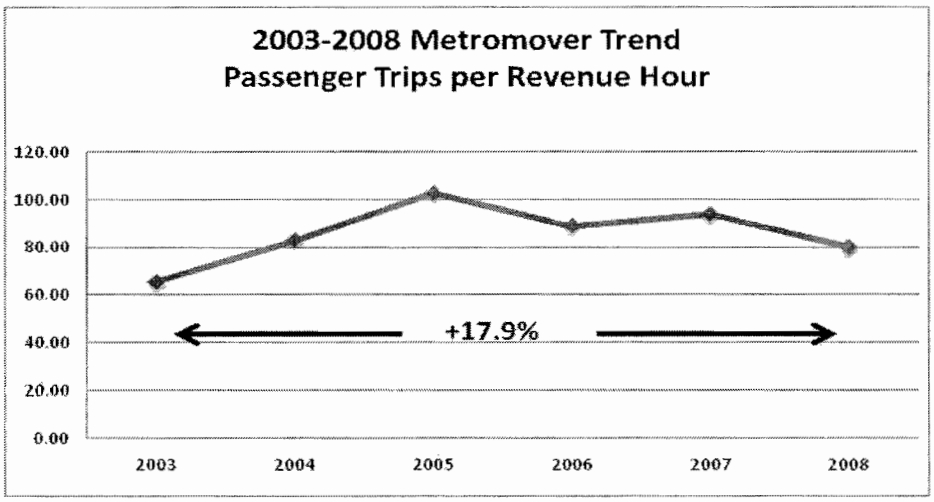
Data Source: NTD (2003-07) and MDT (2008)

Passenger trips per revenue hour and passenger trips per revenue mile are shown in Figure 4-23 and Figure 4-24, respectively. MDT ranks second, ahead of Detroit and Jacksonville and behind Las Vegas in terms of passenger trips per revenue hour. MDT also ranks second in terms of passenger trips per revenue mile. In both cases the Las Vegas system skews the mean by reporting much higher numbers than the rest of the systems.

In terms of the 2003-2008 trend, both measures reflect the same pattern. Between 2003 and 2005 the measures trended positively, decreased from 2005 and 2006, increased again between 2006 and 2007, and then decreased again from 2007 to 2008. The trend reflects the increase/decrease pattern of unlinked passenger trips during the same period where revenue hours and miles held mostly steady. Overall passenger trips per revenue hour increased 17.9 percent (17.9%) between 2003 and 2008. During the same time period passenger trips per revenue mile increased 23.4 percent (23.4%).

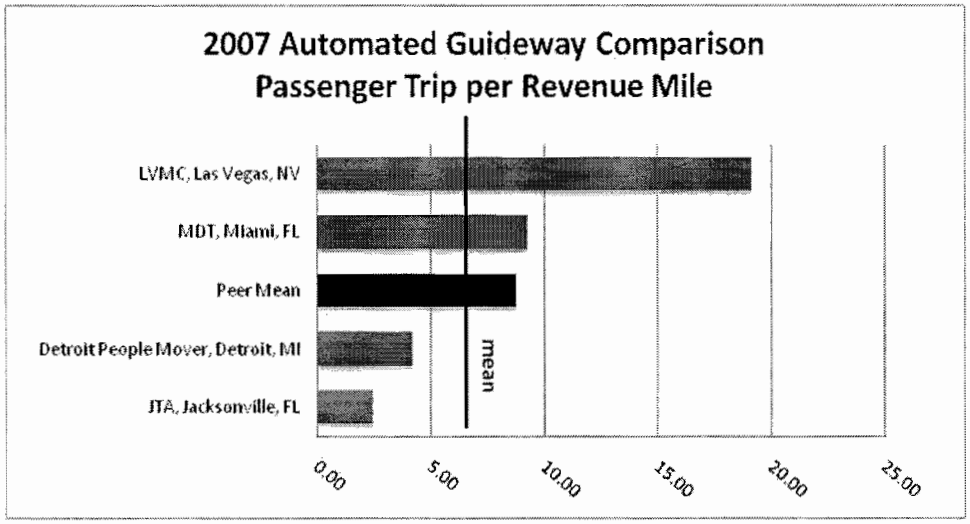
Figure 4-23: Automated Guideway Passenger Trips per Revenue Hour

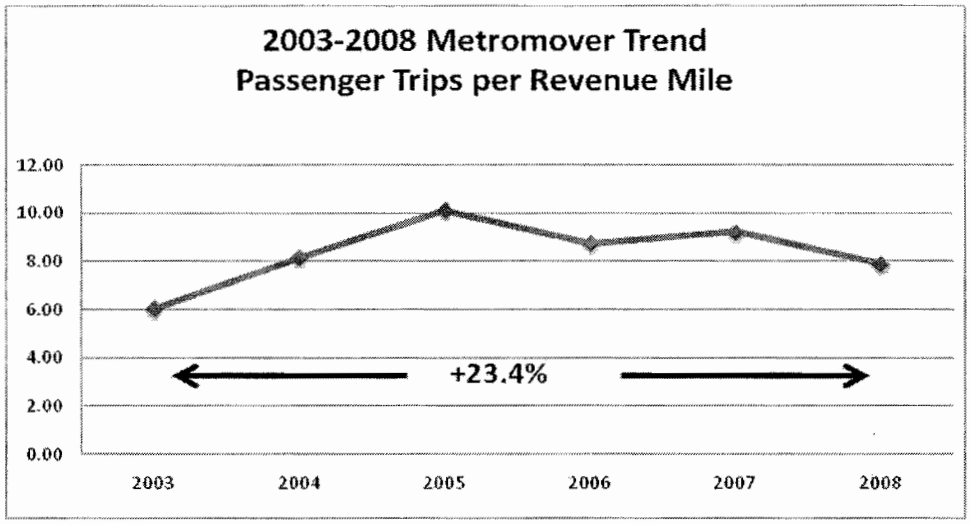




Data Source: NTD (2003-07) and MDT (2008)

Figure 4-24: Automated Guideway Passenger Trips per Revenue Mile





Data Source: NTD (2003-07) and MDT (2008)

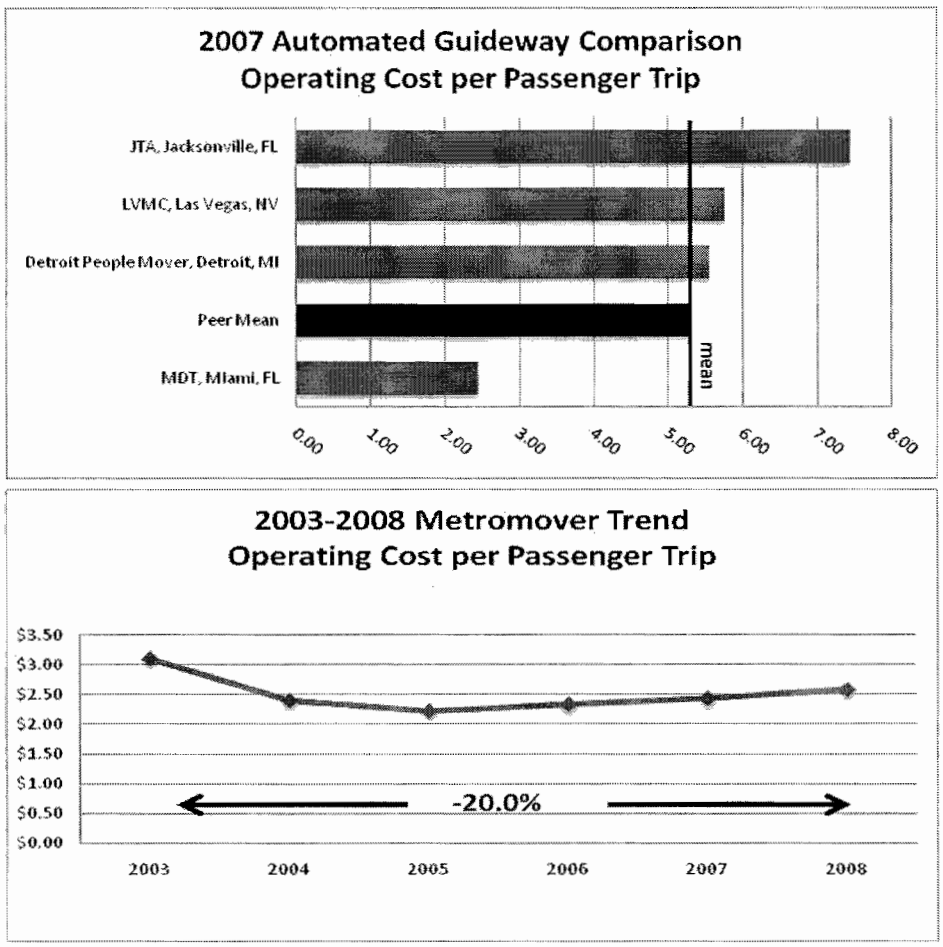
Figure 4-25 and Figure 4-26 indicate efficiency as measured by MDT's operating cost per passenger trip and operating cost per revenue hour. For both indicators MDT has the lowest factored cost amongst the peer group.

Interestingly, the Metromover trends for operating cost per passenger trip and operating cost per revenue hour are different, which is reflective of the differences in passenger trip and revenue hour trends.

Operating cost per passenger trip shows a decrease between 2003 and 2005 and then a steady increase between 2005 and 2008. Overall, the cost per passenger trip decreased 20.0 percent (20.0%), from $3.10 to $2.58, between 2003 and 2008 which means that the Metromover system has become more efficient over the six year time period

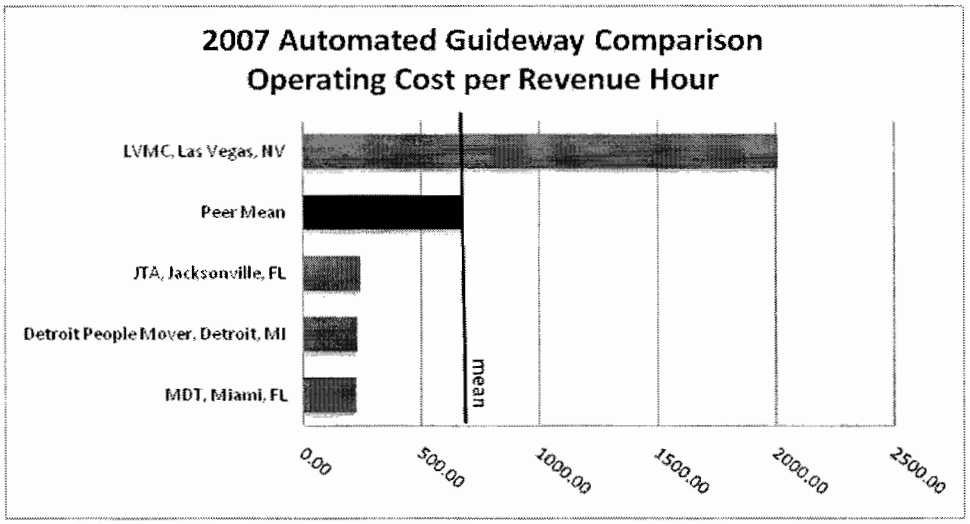
Operating cost per revenue hour shows costs following a pattern of increasing, decreasing, then increasing again between 2003 and 2008. Overall the operating cost per revenue hour has only increased 1.4% in the six (6) year time period, which is an indicator of good performance considering the inflation in costs over this span.

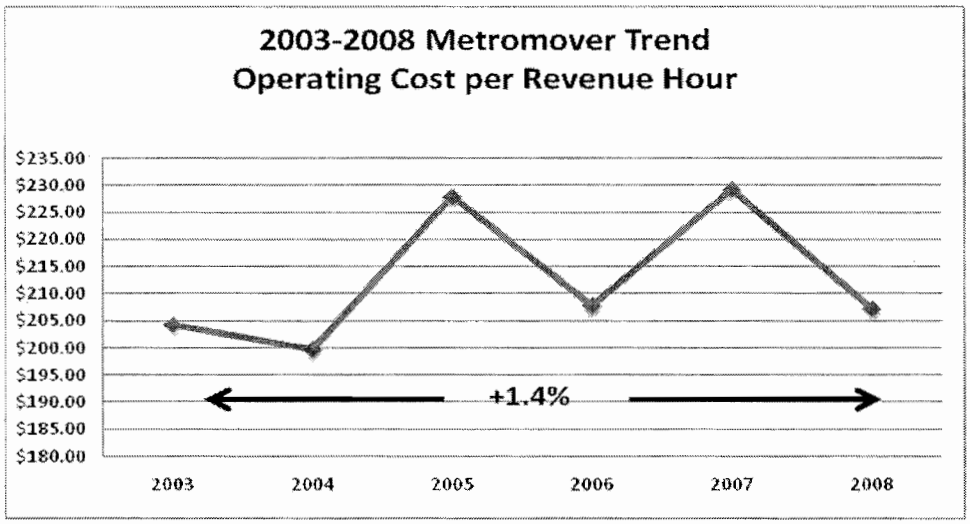
Figure 4-25: Automated Guideway Operating Cost per Passenger Trip



Data Source: NTD (2003-07) and MDT (2008)

Figure 4-26: Automated Guideway Operating Cost per Revenue Hour



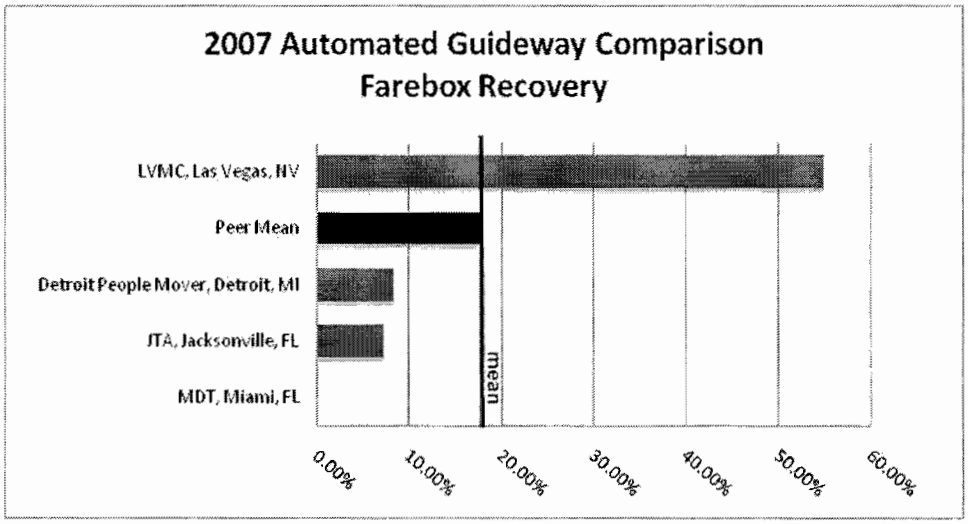


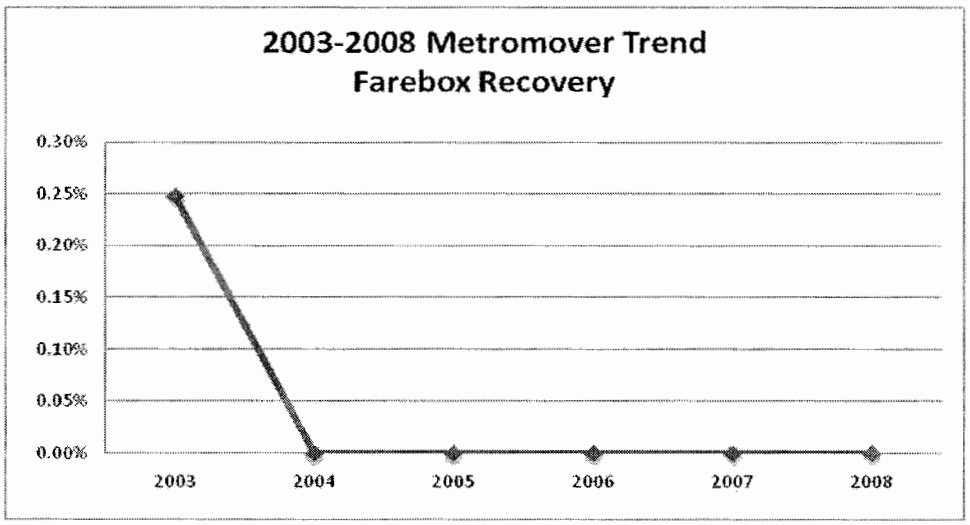
Data Source: NTD (2003-07) and MDT (2008)

In 2004 the decision was made for MDT's Metromover to be a free fare service as a result of the passage of the People's Transportation Plan. As a result the farebox recovery is reported as zero percent (0%), which places MDT at the bottom when compared to the peer group since the other peers all charge fares for their automated guideway systems. (Figure 4-27)

The six (6) year trend for MDT's farebox recovery is not available due to free fare service on the Metromover after 2003.

Figure 4-27: Automated Guideway Farebox Recovery Ratio





Data Source: NTD (2003-07) and MDT (2008)

4.6 Demand Response Peer Comparison

Table 4-5 compares peer agency statistics for demand response service. Demand response service in Miami is impacted by the relatively larger percentage of elderly people in the Miami area, many of whom are eligible to use demand response service.

The members of the peer group for demand response service include a number of other cities that also have relatively high percentages of older people, including Orlando, Jacksonville and Broward County. Table 4-6 shows the 2003-2008 trends in operating and service statistics for the six most recent years MDT's demand response service.

Table 4-7: Demand Response Peer Comparison

Agency	*MDT*	*BCT*	*Lynx*	*JTA*	*VTA*	*OCTA*	*RTC*	
City	Miami, FL	Pompano Beach, FL	Orlando, FL	Jacksonville, FL	San Jose, CA	Orange, CA	Las Vegas, NV	Peer Mean
NTD Number	4034	4029	4035	4040	9013	9036	9045	
Unlinked Passenger Trips	1,678,018	834,205	550,578	402,187	1,025,937	1,231,346	894,219	823,079
Average Age (yrs.) of Bus Fleet								
Passenger Miles Traveled	24,268,233	9,009,411	7,046,737	3,842,800	7,835,246	13,191,180	9,670,927	8,432,717
Average Passenger Trip Length	14.46	10.80	12.80	9.55	7.64	10.71	10.81	10.39
Vehicle Revenue Hours	950,790	546,698	404,675	235,911	445,179	614,620	451,530	449,769
Vehicle Revenue Miles	13,948,718	7,882,892	6,825,312	3,639,796	6,296,061	9,330,511	6,663,336	6,772,985
Passenger Trips Per Revenue Hours	1.76	1.53	1.36	1.70	2.30	2.00	1.98	1.81
Passenger Trips Per Revenue Miles	0.12	0.11	0.08	0.11	0.16	0.13	0.13	0.12
Operating Costs Per Passenger Trip	$25.15	$28.25	$32.69	$46.77	$31.53	$25.94	$33.83	$33.17
Operating Costs Per Revenue Hour	$44.38	$43.10	$44.47	$79.74	$72.67	$51.96	$67.00	$59.82
Weekend Service Availability	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0445-0020) Sun (0645-2221)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0430-2330) Sun (0600-2330)	Yes Sat (0500-0200) Sun (0500-0200)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	
Operating Expenses	$42,198,872	$23,563,309	$17,996,662	$18,811,094	$32,350,519	$31,938,045	$30,253,029	$25,818,776
Maintenance Expenses	$6,024,556	$3,910,391	$979,512	$4,012,008	$3,929,171	$5,001,812	$4,279,416	$3,685,385
Fare Revenues	$4,238,800	$1,228,433	$1,053,158	$9,301,887	$2,931,178	$3,982,916	$740,852	$4,164,774
Farebox Recovery	10.04%	5.21%	5.85%	49.45%	9.06%	12.47%	2.45%	17.04%

Data Source: NTD (2003-07)

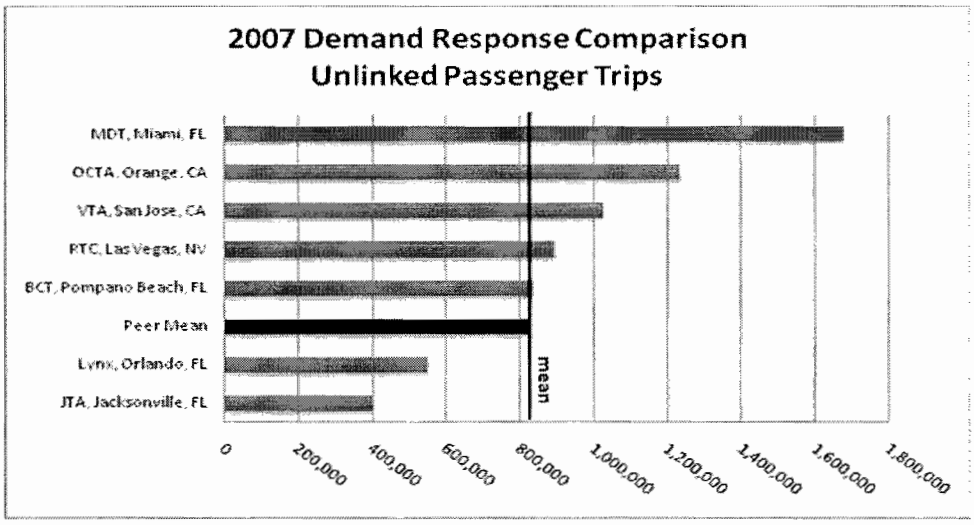
Table 4-8: MDT Demand Response 2003-2008 Trends

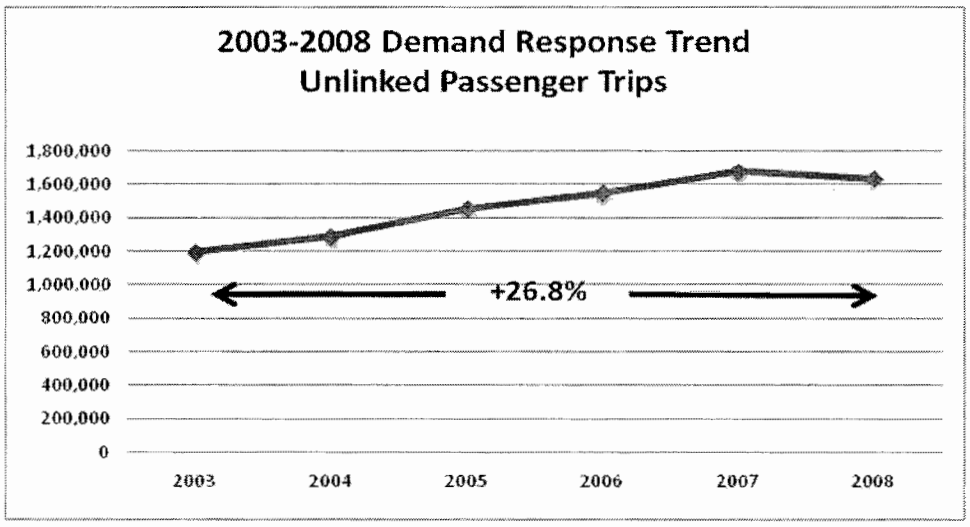
Performance Measures	2003	2004	2005	2006	2007	2008
Unlinked Passenger Trips	1,196,014	1,288,305	1,454,361	1,546,295	1,678,018	1,634,468
Average Age (yrs.) of Fleet	2.8	1.3	1.6	1.9	2.4	2.7
Passenger Miles Traveled	15,942,966	17,562,141	18,107,038	22,997,534	24,268,233	22,224,772
Average Passenger Trip Length	13.33	13.63	12.45	14.87	14.46	13.60
Vehicle Revenue Hours	744,634	787,907	796,847	907,604	950,790	944,519
Vehicle Revenue Miles	11,904,059	12,090,936	12,042,482	13,493,393	13,948,718	13,605,381
Passenger Trips Per Revenue Hours	1.61	1.64	1.83	1.70	1.76	1.73
Passenger Trips Per Revenue Miles	0.10	0.11	0.12	0.11	0.12	0.12
Operating Costs Per Passenger Trip	$23.67	$24.02	$24.84	$25.35	$25.15	$27.43
Operating Costs Per Revenue Hour	$38.02	$39.28	$45.34	$43.19	$44.38	$47.46
Weekend Service Availability	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)	Yes Sat (0000-2359) Sun (0000-2359)
Operating Expenses	$28,313,612	$30,947,301	$36,130,638	$39,199,640	$42,198,872	44,829,765
Maintenance Expenses	$5,019,965	$4,765,885	$5,559,746	$5,992,450	$6,024,556	6,334,171
Fare Revenues	$2,991,136	$3,207,968	$3,669,910	$3,878,264	$4,238,800	4,303,798
Farebox Recovery	10.56%	10.37%	10.16%	9.89%	10.04%	9.60%

Data Source: NTD (2003-07), ATS (2003-2006) and MDT (2007-2008)

As Figure 4-28 indicates, MDT's demand response service in 2007 carried the highest number of passenger trips among the peer group.

Figure 4-28: Demand Response Unlinked Passenger Trips



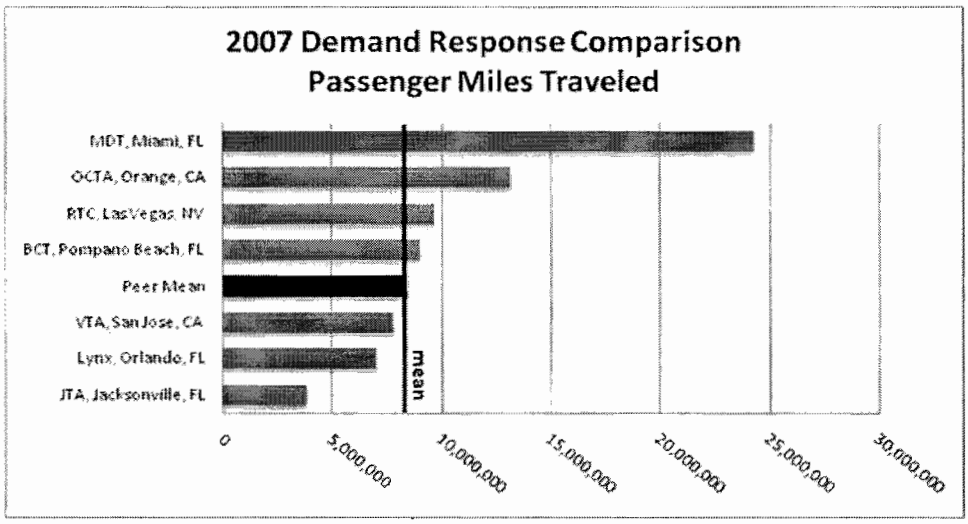


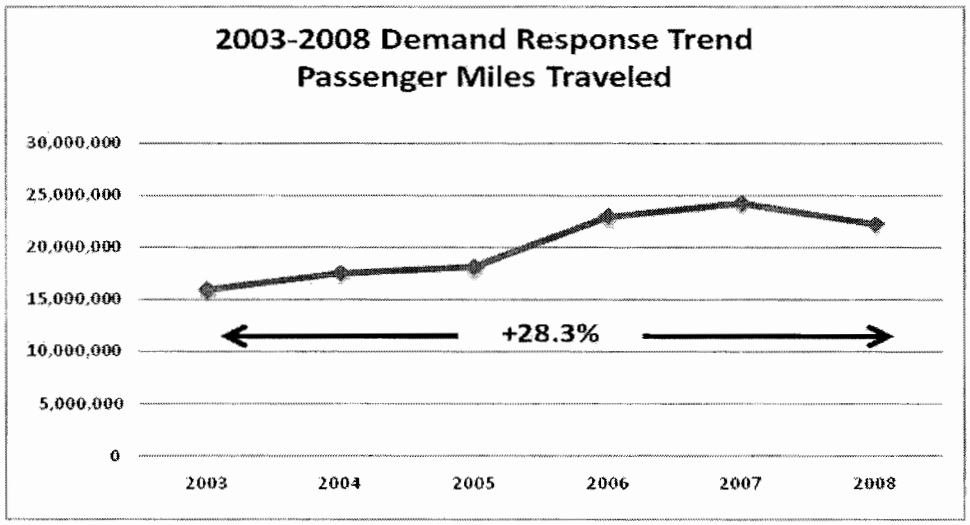
Data Source: NTD (2003-07) and MDT (2008)

Miami is the largest city in service area among the peer group cities for demand response service, and as Figure 4-29 through Figure 4-31 show, MDT provides the largest volume of service as measured by passenger miles traveled and vehicle revenue hours and miles.

As at many transit agencies, demand response service ridership grew dramatically and steadily between 2003 and 2008. MDT's unlinked passenger trips using demand response service increased by 26.8 percent (26.8%) between 2003 and 2008, much more than the increase in fixed route Metrobus or Metrorail service. Passenger miles traveled increased even more, 28.3 percent (28.3%) between 2003 and 2008, although this includes a decrease between 2007 and 2008.

Figure 4-29: Demand Response Passenger Miles Traveled

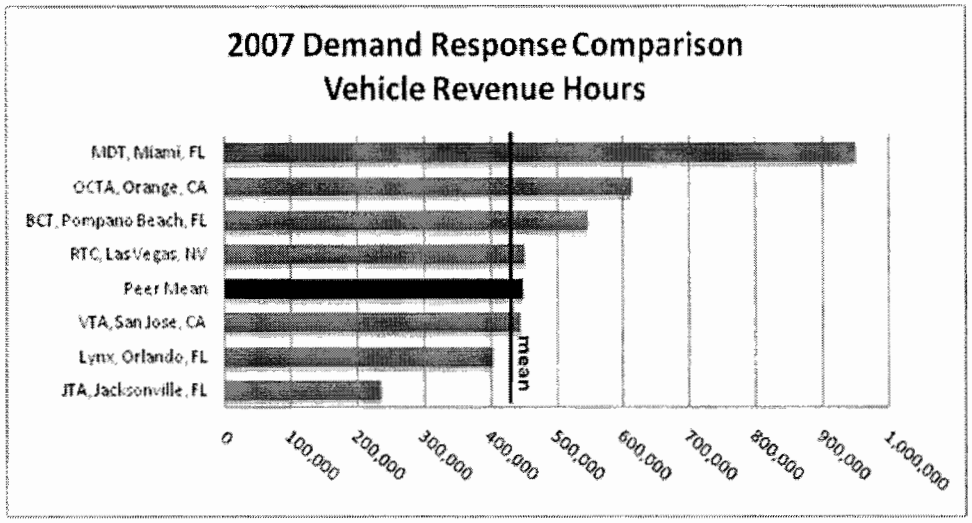


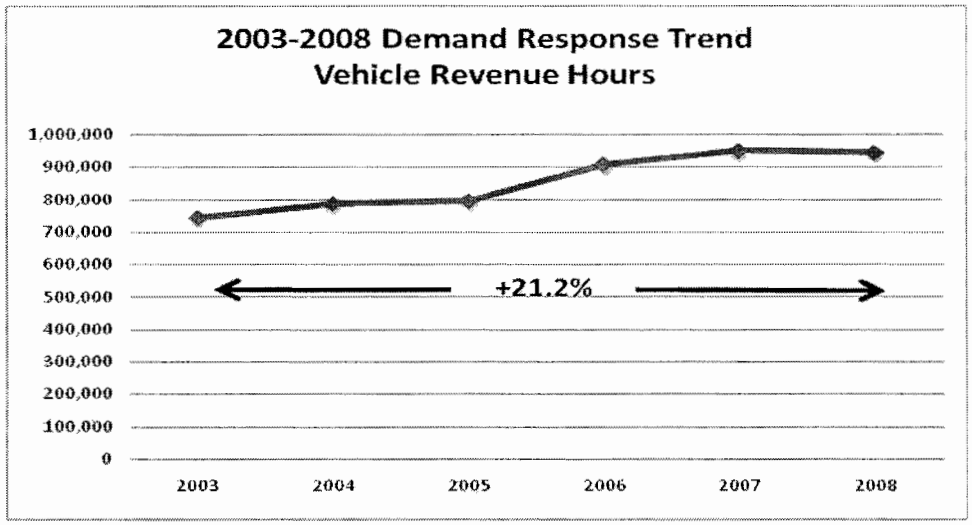


Data Source: NTD (2003-07) and MDT (2008)

Revenue vehicle hours and miles also trended up between 2003 and 2008. Vehicle revenue hours increased 21.2 percent (21.2%) over the time period. Vehicle revenue miles increased 12.5 percent (12.5%) over the same period.

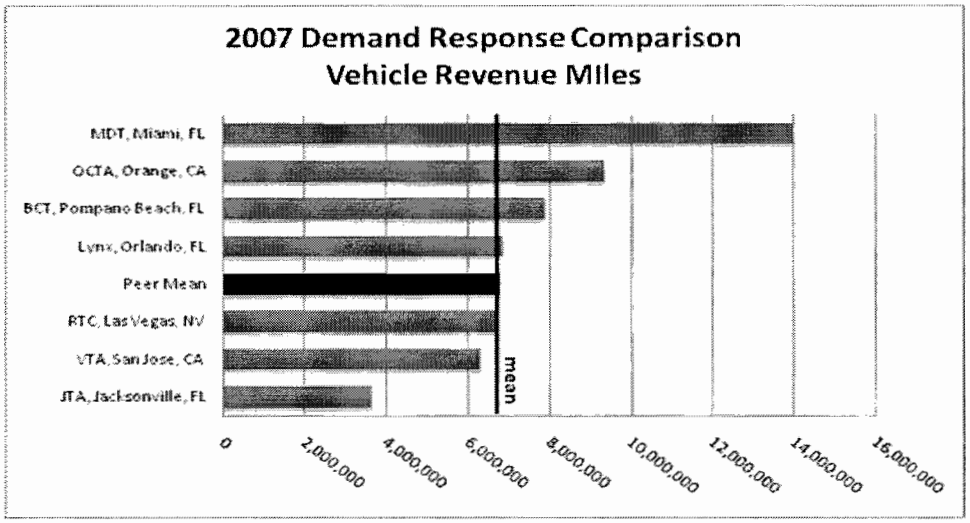
Figure 4-30: Demand Response Vehicle Revenue Hours

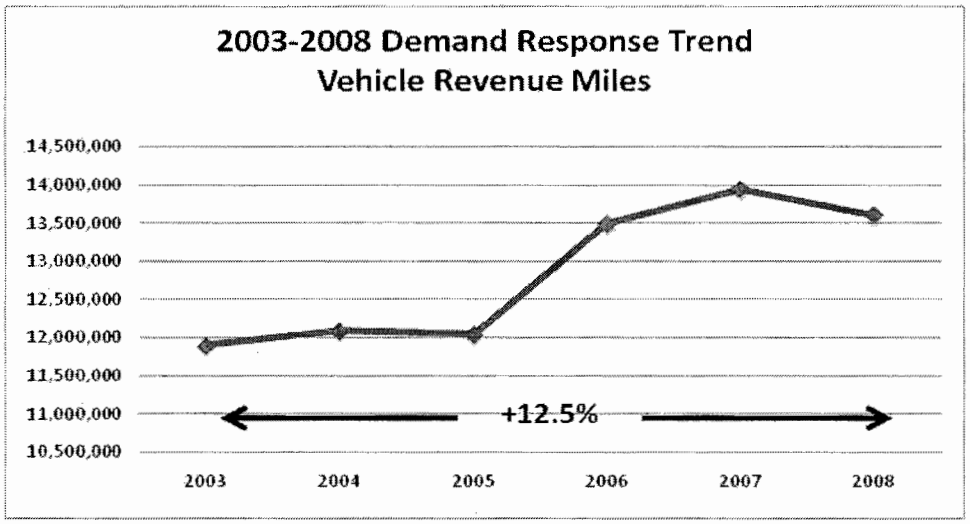




Data Source: NTD (2003-07) and MDT (2008)

Figure 4-31: Demand Response Vehicle Revenue Miles





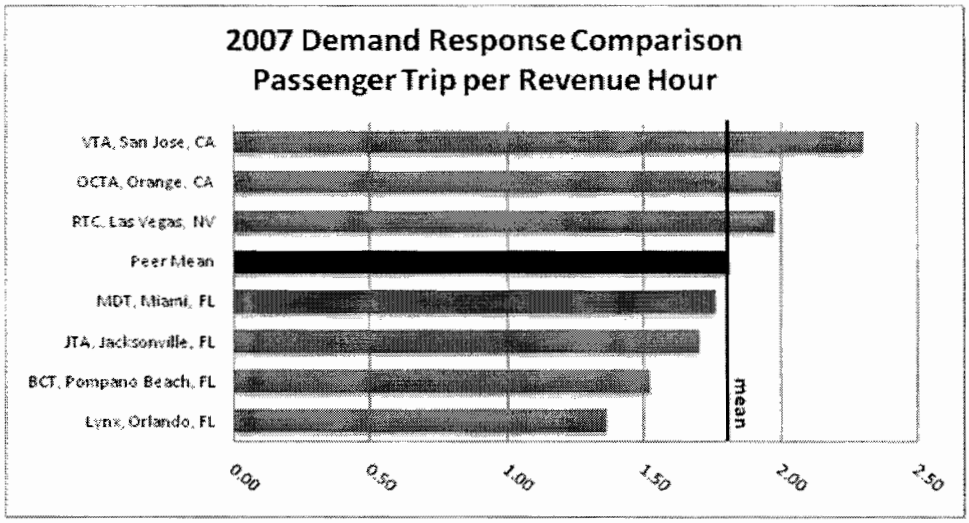
Data Source: NTD (2003-07) and MDT (2008)

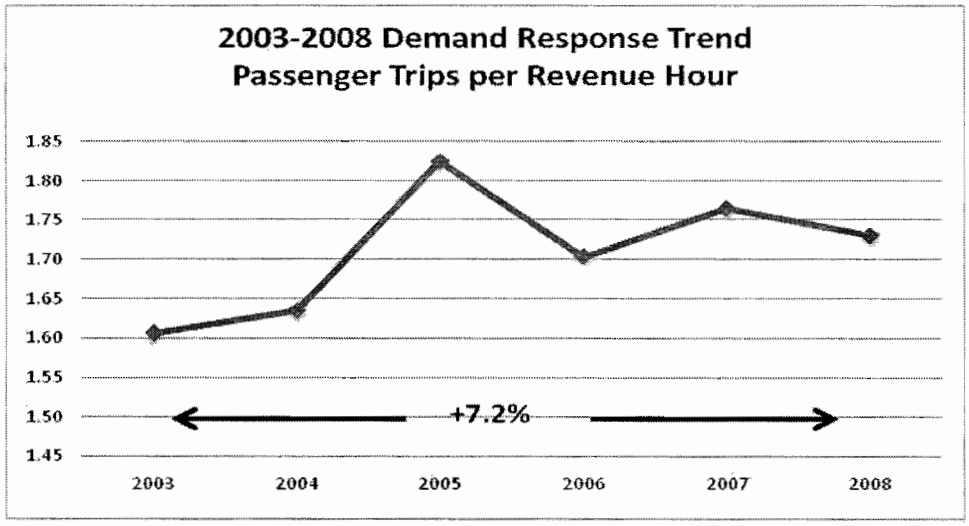
MDT's demand response service is average in terms of productivity as expressed by passenger trips per hour and mile (Figure 4-32 and Figure 4-33) -- higher than Orlando, Jacksonville and Broward County, lower than San Jose, Orange County California and Las Vegas. MDT's service performs at or slightly better than the average on these measures.

Comparing this data to the increase in ridership and passenger miles, the system has become more productive between 2003 and 2008, and this is confirmed by looking at the trends in passenger trips per revenue hour and revenue mile.

Productivity in terms of passenger trips per revenue hour are 7.2 percent (7.2%) higher between 2003 and 2008. The trend included gains in this measure between 2004-05 and 2006-07, with declines between 2005-06 and 2007-08.

Figure 4-32: Demand Response Passenger Trips per Revenue Hour

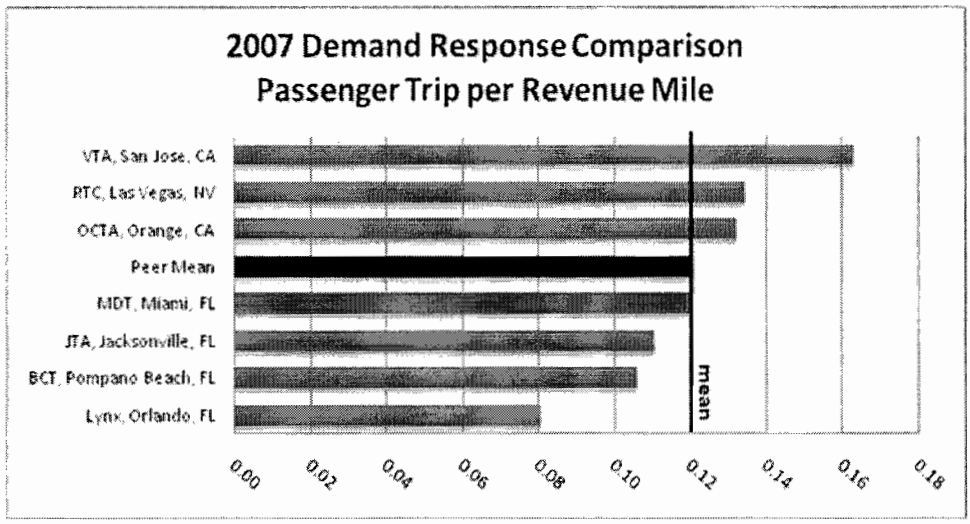


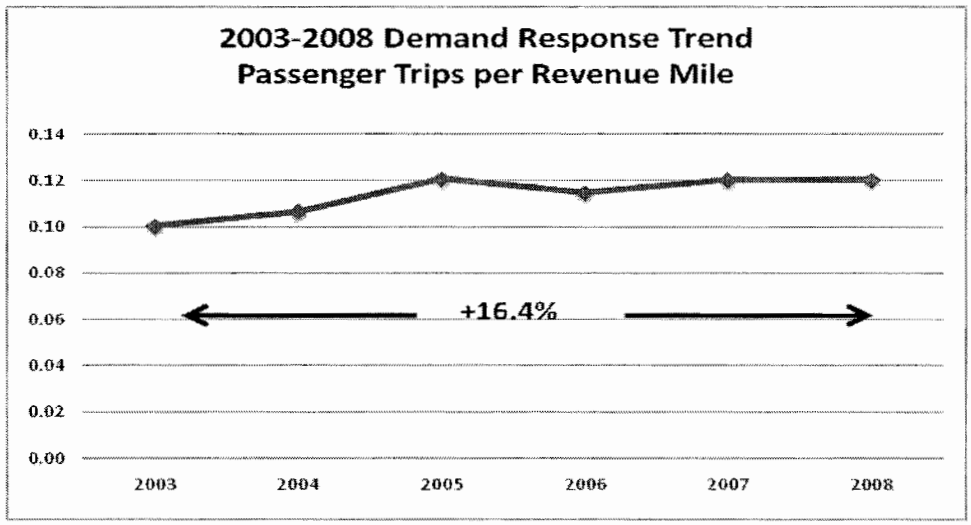


Data Source: NTD (2003-07) and MDT (2008)

Passenger trips per revenue mile traces a similar pattern, although with a smaller rise and fall. The 2003-2008 increase in passenger trips per revenue mile is 16.5 percent (16.4%).

Figure 4-33: Demand Response Passenger Trips per Revenue Mile



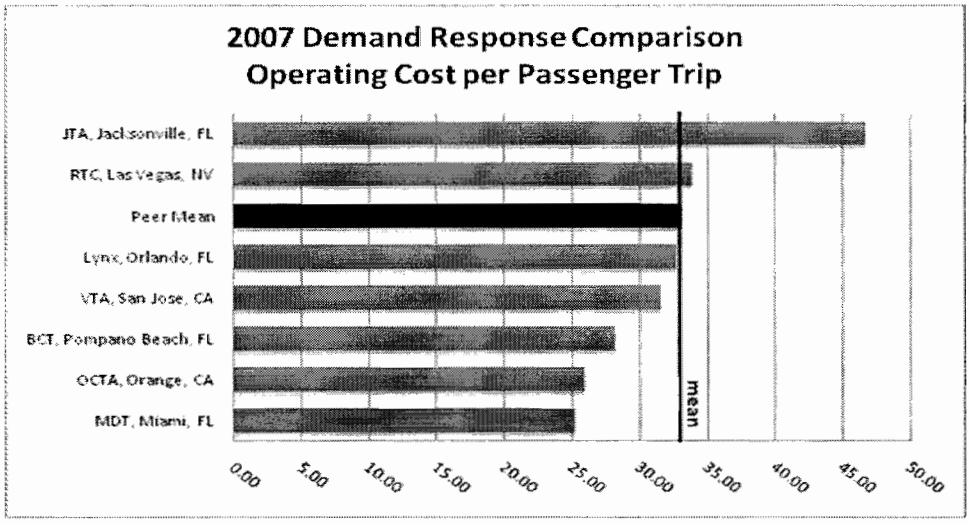


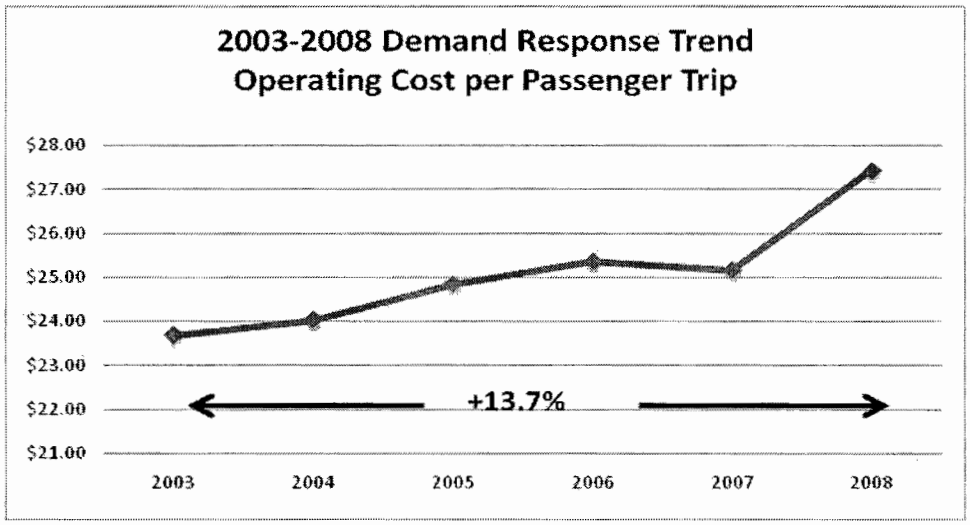
Data Source: NTD (2003-07) and MDT (2008)

As Figure 4-34 and Figure 4-35 indicate, the service also is operated efficiently from a financial standpoint. MDT has the lowest operating cost per passenger trip and the second lowest operating cost per revenue hour amongst all peers for demand response.

The trend for operating cost per passenger trip is a 13.7 percent (13.7%) increase between 2003 and 2008. This rose steadily between 2003 and 2006 before declining slightly between 2006 and 2007, with a large increase between 2007 and 2008.

Figure 4-34: Demand Response Operating Cost per Passenger Trip

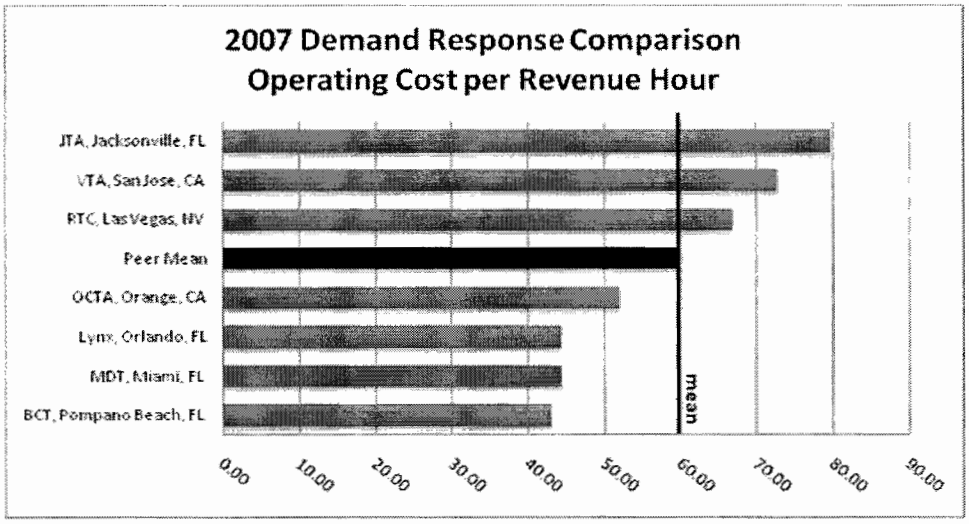


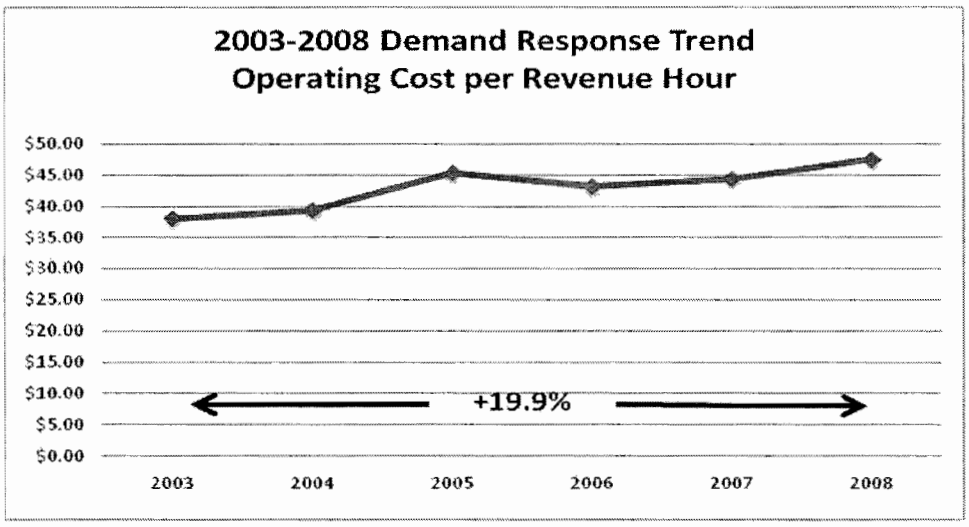


Data Source: NTD (2003-07) and MDT (2008)

The trend for operating cost per revenue hour is an increase of 19.9 percent (19.9%). The trend includes some slight increases and decreases between 2003 and 2008. Not a bad result given the increases in operating cost elements such as fuel and employee benefits over the time period.

Figure 4-35: Demand Response Operating Cost per Revenue Hour



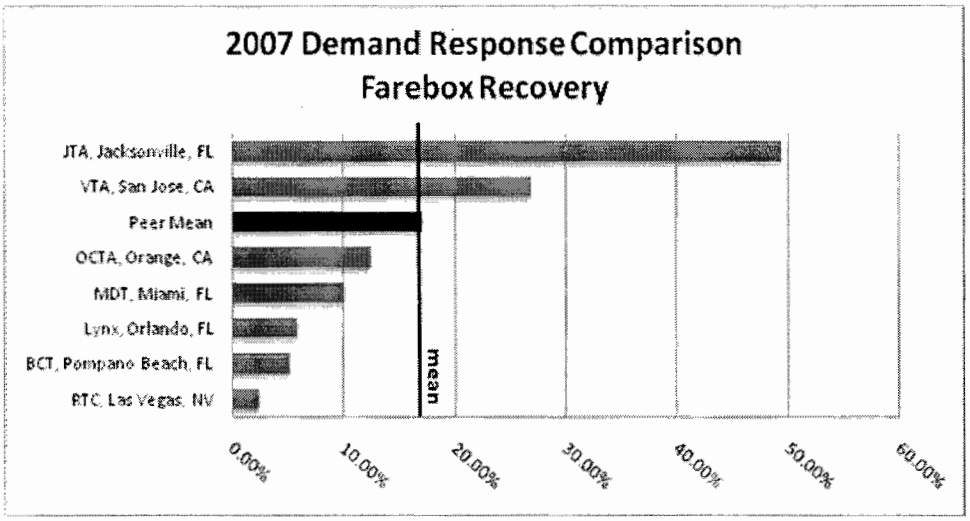


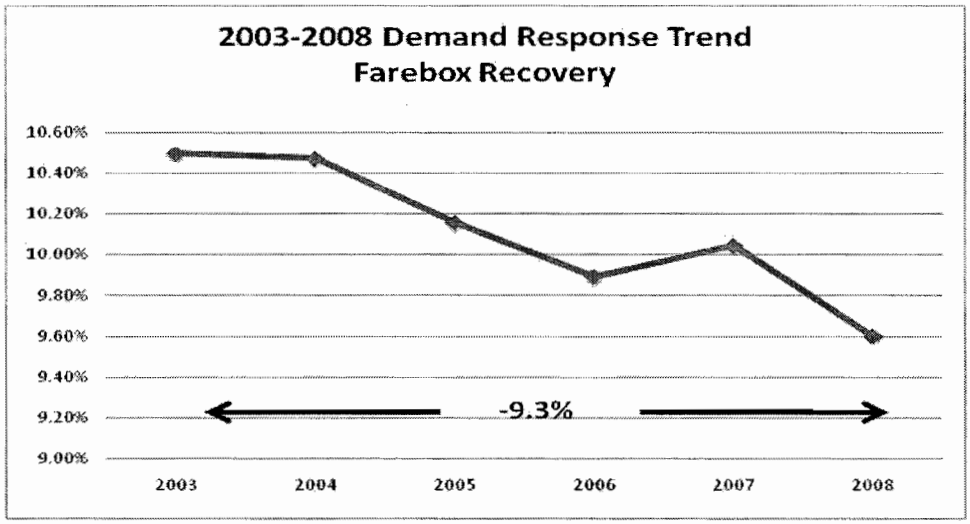
Data Source: NTD (2003-07) and MDT (2008)

Figure 4-36 shows MDT's farebox recovery ratio for demand response service. MDT's service performs a bit below average relative to its peers in terms of farebox recovery ratio—better than Las Vegas, Orlando or BCT. The average for the peer group is artificially high due to the performance of the Jacksonville system, which recovers nearly 50 percent (50%) of its costs through the farebox.

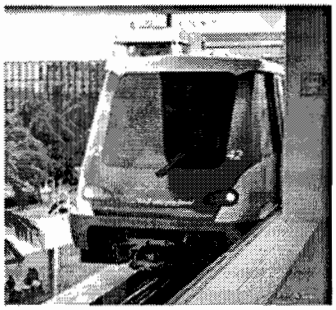
At 9.6 percent (9.6%), MDT's farebox recovery ratio for demand response service is relatively high for this type of service. Performance on this statistic fell between 2003 and 2008, but is still relatively strong. Farebox recovery ratio for demand response service trended down 9.3 percent (9.3%) between 2003 and 2008.

Figure 4-36: Demand Response Farebox Recovery Ratio





Data Source: NTD (2003-07) and MDT (2008)



SECTION 5

Public Involvement

MIAMI-DADE COUNTY

5.0 PUBLIC INVOLVEMENT

5.1 Introduction

Miami-Dade Transit (MDT) fully encourages public involvement and participation in the development of the People's Transportation Plan (PTP) and other transportation-related issues, conducting interactive presentations with communities across the county. Using the Miami-Dade Metropolitan Planning Organization's (MPO) 2007 Public Involvement Plan (PIP), MDT strives to facilitate cooperative transportation planning to reflect the voice and vision of county residents. According to the PIP, "Public Involvement is an integral process that tries to involve all persons in a community, regardless of race, income, or status, being affected positively or negatively by a future transportation project." MDT's mission remains to monitor and help develop a proactive public involvement process that provides complete information, timely public notice, and full public access to key decisions and supports early and continuing involvement of the public in developing transit issues.

Throughout the development of the TDP Major Update, efforts were made to include and actively engage Miami-Dade County citizens. Public input is a valuable tool and will be used to identify the mobility needs of Miami-Dade County residents and visitors. The MDT public participation program includes several different elements, including formal meetings with technical advisory committees, MPO public meetings, and coordination with the workforce board within Miami-Dade County. This chapter identifies and summarizes specific public involvement activities conducted for the TDP Major Update.

5.2 Public Involvement Objectives

The goal of the MPO PIP process is to ensure that the PTP and other county public transit programs reflect community values and equitably benefit all segments of the community.

The following are PIP objectives which support this goal:

- Inform the public, to the maximum extent possible with available resources, of opportunities to participate in the transportation decision-making process and of their role in transportation planning and/or implementation.
- Involve the public by providing opportunities early and often in the transportation planning and decision-making processes.
- Reach out to all demographic communities that make up the planning area, so that everyone has the opportunity to participate in the development of transportation and services.
- Improve the public involvement process.
- Opportunities for citizens to provide reasonable comments and suggestions throughout each phase of project development are welcomed, recorded and incorporated into the report.

As related to the TDP Major Update, public involvement and participation is a vehicle of two-way information exchange to inform citizens of the project process and associated findings. The following methods were used as part of the TDP Major Update development effort to accomplish the previously listed PIP objectives:

- Gather input from the November 2008 Transit Summit for the TDP Major Update.
- Utilize the 12 public meetings for the 2035 LRTP as outreach efforts for the TDP Major Update.
- Other methods such as the 2009 Metrorail survey and the 311 public feedback program were used to obtain additional public input.
- Attend and present the TDP Major Update at select Miami-Dade County transportation, planning, citizen and governing committees to obtain input on the development of the TDP Major Update.
- Establishment of the Transit Development Plan Advisory Review Committee for this Major Update.

5.3 TDP Major Update Review Committees

5.3.1 TDP Advisory Review Committee

For the development of the TDP Major Update, a Transit Development Plan Advisory Committee (TDPARC) was established. The purpose of the TDPARC is to provide an overall county perspective for the development of the TDP through the various project milestones. The committee provides technical guidance, input and recommendations on transportation planning issues within Miami-Dade County, as well as within the region. Members of the committee include selected individuals from various divisions (Finance, Operations, and Marketing) within MDT, and representatives from the South Florida Workforce Board, Florida Department of Transportation (FDOT), and the Miami-Dade County Metropolitan Planning Organization (MPO).

At the June kick-off meeting the TDPARC provided the necessary input for the development of the TDP Major Update's goals, objectives and measures. Throughout the course of the TDP Major Update development the TDPARC has been involved with the review and comment of various project deliverables and technical documentation. Input as gathered from this committee is reflected throughout the TDP Major Update document.

5.3.2 Transportation Disadvantaged Local Coordinating Board

The Transportation Disadvantaged (TD) Program was established to make certain that an opportunity for public involvement shall be provided for all persons, including those with disabilities, to participate in the transportation planning process. The TD program also ensures the availability of efficient, cost-effective, and quality transportation services for transportation disadvantaged persons.

The Transportation Disadvantaged Local Coordinating Board (LCB), a committee of the Miami-Dade MPO, was created in an effort to identify local needs of the transportation disadvantaged within the community. The primary focus of the LCB is

compliance with state requirements for transportation disadvantaged planning. In addition, the LCB assists to ensure that the public transit system through MDT is accessible to people who are disadvantaged (physically and mentally) and currently are unable to use the public transit system. The LCB reports information, suggestions, and guidance as to the needs of the transportation disadvantaged the Community Transportation Coordinator (CTC) as required by Chapter 427 of the Florida Statutes. Since 1990, MDT has acted as the CTC for Miami-Dade County.

A presentation of the TDP Major Update was given on September 15, 2009 at the LCB meeting.

5.3.3 Citizens Transportation Advisory Committee

The Citizens Transportation Advisory Committee (CTAC) is a group of private citizens residing in the county, appointed by the MPO Governing Board members (2 per board member) to provide assistance in ensuring that transportation projects under review or proposed remain closely tied to the vision, goals, objectives, and needs of the greater community it serves. The CTAC acts as a public voice to raise awareness about the MPO's Transportation Plan process, transportation planning in Miami-Dade County, and evaluating transportation recommendations as received.

A presentation of the TDP Major Update to date was given during a CTAC meeting held on September 23, 2009.

5.3.4 Transportation, Infrastructure, and Roads Committee

The Transit, Infrastructure and Roads Committee (TIRC) oversee the transportation systems in Miami-Dade County from a local and regional perspective, in addition to the capital improvement and infrastructure program. A presentation of the TDP Major Update has been scheduled for the October 14, 2009 TIRC Committee meeting.

5.3.5 Miami-Dade County Board of County Commissioners

The TDP Major Update is scheduled to go before the Board of County Commissioners at the November 3, 2009 meeting for formal adoption prior to the submittal of the final TDP Major Update document to FDOT. During the BCC public hearing the TDP Major Update will be discussed.

5.4 Community Involvement

MDT embarked on a continuous public outreach effort spanning from November 2008 through August 2009, in support of the People's Transportation Plan (PTP). MDT's role as it relates to community involvement includes activities such as attending local community interest group sponsored meetings and conducting informational meetings. Comments, suggestions, and input received were collected to gain a perspective and understanding of the community MDT serves to assist in the development of this TDP Major Update.

MDT is also committed to working with the Miami-Dade MPO in conjunction with many of the community outreach programs it conducts. Coordinated efforts on countywide planning documents include the MPO's 2035 Long Range Transportation Plan (LRTP)

update and the FY 2010-2014 TIP. This chapter presents an overview of the various public involvement activities conducted during the TDP Major Update process.

5.4.1 2008 TRANSIT SUMMIT

On November 15, 2008, Miami-Dade County held the People's Transportation Plan (PTP) Summit. The Summit's objective was to effectively inform the community of the current status of PTP commitments, related challenges and accomplishments. The Summit also provided the County a unique opportunity to present its position on management of the PTP and future long range program visions. In total, 600 Miami-Dade County residents attended the event and 60 individuals provided comments and input. A majority of public comments focused on bus service improvements (route expansions, bus shelters, and bus operator customer service), PTP funding and program management, rail expansion, handicap accessibility on Metrobus, and MDT's new Fare Collection System. These public comments were reviewed and considered for the Development of the TDP major Update.

5.4.2 2035 LRTP Public Meetings

Citizens of Miami-Dade County were invited to attend a series of public meetings to review and comment on the draft Needs Alternative of the 2035 LRTP. The 2035 LRTP is developed by the Miami-Dade MPO as a decision making planning document spanning 25 years addressing county-wide transportation system goals. The LRTP is updated every five (5) years and includes strategies for creating an integrated County transportation system. Input received at the 2035 LRTP public meetings was also used in the development of the MDT TDP Major Update.

A total of 12 LRTP public involvement meetings were advertised using local media and held in each of the six (6) planning areas of the County. The public was presented with a list of needed County transportation improvements to be used as a foundation of LRTP. The community was urged to participate and share their perspectives, critiques on approaches to current transportation challenges, and overall sentiments towards defined County transportation needs.

A list of the 2035 LRTP meetings that were held between January and July 2009 is presented in Table 5-1. A summary of the comments recorded at several of these public meetings is included in the appendix for reference.

Table 5-1: 2035 LRTP Public Meetings

Date	Meeting Facility	Address
January 29, 2009	Miami Beach Regional Library	227 22nd Street Miami Beach, FL 33139
January 29, 2009	West Kendall Regional Library	10201 Hammocks Blvd Miami, FL 33196
February 3, 2009	Homestead Branch Library	700 N Homestead Blvd. Miami, FL 33196
February 3, 2009	Coral Gables Library	3443 Segovia Street Coral Gables, FL 33134
February 5, 2009	Gwen Margolis Center	1590 NE 123rd Street North Miami, FL 33161
February 5, 2009	Miami-Dade College West Campus	3800 NW 115th Avenue Room 1121 Doral, FL 33178
July 15, 2009	Miami Beach Regional Library	227 22nd Street Miami Beach, FL 33139
July 15, 2009	Miami Lakes Library	6699 Windmill Gate Road Miami Lakes, FL 33014
July 17, 2009	West Dade Regional Library	9445 Coral Way Miami, FL 33165
July 17, 2009	South Dade Regional Library	10750 SW 211 Street Miami, FL 33189

5.4.3 MIAMI-DADE 2009 METRORAIL TRANSIT SURVEY

In April 2009, the MPO conducted the Metrorail Transit Survey (MTS) of Metrorail passengers and passenger door counts. The purpose of the MTS was to provide with real world ridership data and basic demographic information. The MTS gathered transportation characteristics including trip purpose, mode of access and egress, and origin-destination information. Data from the MTS will be used as regional transportation planning tool and help to validate assumptions in the Southeast Regional Planning Model (SERPM v6.5).

Survey instruments were distributed in English, Spanish, and Creole with 18 questions for passengers to complete and return at each of the 22 Metrorail stations. The survey was administered during the period of 6:00 AM to 6:00 PM on trains traveling in both north and south directions. Of the total 30,112 surveys distributed during the MTS, 17,862 (59% return rate) surveys were returned and considered valid.

5.4.4 3-1-1 Public Feedback

The Government Information 3-1-1 Answer Center was established for public use in 2005 and operates to provide county residents with information regarding government services and programs available. The 3-1-1 Answer Center is proud to be one of the nation's first multi-jurisdictional call centers providing non-emergency government service information. Callers receive personal service in English, Spanish, or Creole, to

answer questions and provide information on non-emergency issues such as trash collection days, property taxes, after school programs, transit routes, and other countywide services. The 3-1-1 Answer Center is free of charge and available seven (7) days a week at varying operation times.

Through the 3-1-1 Answer Center MDT has received feedback on its transit service from over 10,000 customers in this past fiscal year. This feedback has allowed MDT to continue to make customer service a priority and to better understand the transportation needs of its ridership while planning for the future.

5.4.5 SOUTH FLORIDA WORKFORCE COORDINATION

The South Florida Workforce (SFW), was enacted in 2000 by the Florida Legislature under the Workforce Innovation Act to provide youth, employment, and business enterprise development services. The SFW serves Miami-Dade County exclusively and coordination with MDT was initiated in the decision making process and identification of future needs in the development of the TDP Major Update.

A SFW representative participates on the TDPARC. Coordination efforts are underway between MDT and the SFW to schedule a meeting with the Executive Director for purposes of obtaining input for the development of the TDP Major Update.

Section 6

Goals and Objectives

MIAMI-DADE COUNTY

6.0 GOALS AND OBJECTIVES

The FY 2010 - 2019 TDP Major Update presents an opportunity for Miami-Dade Transit (MDT) to develop specific goals, objectives and measures consistent with the Agency's Mission and Vision. The goals and objectives will facilitate assessment of various projects and initiatives that are proposed, planned and implemented throughout the Miami-Dade transit system. These goals and objectives will also be applied to evaluate proposed projects and policy changes recommended by the TDP Major Update and for subsequent minor TDP updates as required by FDOT.

The foundation of these goals and objectives serve to meet the Agency's overall vision and mission for the administration, management and provision of transit services: Miami-Dade Transit's defined functioning purpose is to ***"provide public transportation services."*** Miami-Dade Transit's purpose is rooted in accordance with the Agency's vision ***"To be the #1 Transportation Choice in Miami-Dade County,"*** and also in MDT's mission statement ***"To meet the needs of the public for the highest-quality transit service: Safe, Reliable, Efficient and Courteous."***

6.1 TDP Major Update Goals and Objectives

The development of the FY 2010 – 2019 TDP Major Update goals and objectives were formed on the basis of the specific goals and objectives developed for the Miami-Dade Metropolitan Planning Organizations (MPO) Long Range Transportation Plan 2035 (LRTP). These goals and objectives were the outcome of extensive public outreach and stakeholder input as part of the MPO's 2035 LRTP development process. For the TDP Major Update, additional collaboration with the TDP Advisory Review Committee occurred to articulate the vision for public transportation and its relevance to the local and regional environment over the next ten years. The TDP Advisory Review committee is comprised of representatives from the Miami-Dade MPO, Florida Department of Transportation District Six, South Florida Workforce Board and representatives from various MDT departments.

These stakeholders worked together to refine and shape the TDP Major Update goals and objectives for purposes to assess: the quality of transit service; MDT's Image and public awareness; operations and maintenance of facilities and equipment; stakeholder coordination; operating performance; technology advancement; and financial stewardship.

During the development of the TDP goals and objectives various stakeholders to include the South Florida Workforce were given opportunities to provide input throughout the TDP Major Update.

The goals and objectives developed for the MDT FY 2010 – 2019 TDP Major Update reflect and support the policies and plans of local regional and State governmental agencies and identify opportunities for operating enhancements and improvements.

A list of the FY 2010 - 2019 TDP Major Update goals, objectives and specific measures are presented in the following table.

Table 6-1: TDP Major Update Goals, Objectives and Measures

OBJECTIVE		MEASURE
Goal 1: Improve the Quality of Transit Services		
1.1	Improve accessibility to major health care, recreation, education, employment, cultural and social services facilities	• Transit service route miles within 1/4 mile of major health facilities, recreation, education, employment, cultural and social services facilities
1.2	Enhance mobility for people through improved transit connectivity	• Average travel time, transfer time
1.3	Improve transit level of service on major roadway corridors and between major origins and destinations	• Headway and service span, average transit time savings
1.4	Maximize service reliability and efficiency	• On time performance, frequency of service
1.5	Maximize multimodal travel options and provide travel choices	• Transit service route miles by transit mode (Metrorail, Metromover, Express and Local Bus)
1.6	Fill transit service coverage gaps	• Service coverage in transit supportive areas completed in a regional level
1.7	Promote transit reliability	• Increase in ridership
1.8	Improve transportation facilities' and services' regional connectivity	• Transit service route miles in corridors of regional significance • Number and location of shelters, stations, transit centers relative to service standards
1.9	Include provisions for non-motorized modes in new projects and in reconstructions	• Non-motorized infrastructure on transit improvements
1.10	Increase reverse commute opportunities for disadvantaged communities	• Transit service routes miles from urban centers to suburban employment areas in the AM Peak period
1.11	Promote transportation improvements that provide for the needs of the elderly and disabled	• Average transit travel time to/from TAZs with a high proportion of elderly and disabled population
1.12	Improve transit services that provide access to educational facilities	• Transit service route miles within 1/4 mile of educational facilities
Goal 2: Improve Customer Convenience, Comfort and Safety on Transit Service and within Facilities		

2.1	Improve safety on vehicle service operations	• Level of investment in safety projects/Audit of System Safety Program Plan.
2.2	Reduce roadway and multi-modal crashes	• Number of accidents involving transit vehicles, Number of accidents/incidents per 100,000 miles
2.3	Enhance outreach opportunities to educate the community on transportation issues and highlight transit service benefits such as service reliability, passenger cost savings, and environmental benefits	• Develop speaker's bureau to inform public about transit benefits • Work with MPO, Transportation Management Organizations, major employers to promote transit service • Recruit community leaders to advise on promoting transit service
2.4	Maintain convenient, clean, safe transit passenger facilities and vehicles	• Reduction of passenger complaints regarding safety and cleanliness of vehicles and facilities • Completion of bi-annual safety and inspection audits of Metrorail and Metromover stations • Number of safety related accidents and incidences on-board and in stations/transit facilities

Table 6-1: TDP Major Update Goals, Objectives and Measures (continued)

OBJECTIVE		MEASURE
Goal 3: Increase the Security of Transit Vehicles and Facilities		
3.1	Ensure transit vehicles and facilities provide a secure environment for customers	• Percent of functioning video cameras • Security personnel capabilities • Ensure 100 percent compliance with security contract • Reduction of security related incidents
3.2	Increase security at transit stops and intermodal stations and connections	• Number of criminal incidents on-board transit and in stations/transit facilities
Goal 4: Support Economic Vitality		
4.1	Provide transit access to urban centers at a minimum of 30-minutes during the peak	• Transit service within 1/4 mile of urban centers as identified by MDT • Average home base to work (HBW) travel times on transit route providing access to urban centers
4.2	Enhance major tourist travel and access opportunities within the Urban Growth Boundary	• Transit service route miles within 1/4 mile of tourist attractions
4.3	Increase and improve transit access to Miami International Airport and the Port of Miami	• Transit service route miles within 1/4 mile of MIA and Port of Miami • Service hours on transit routes operating within 1/4 mile of MIA and Port of Miami
4.4	Implement projects that support economic development and redevelopment areas	• Transit service route miles within 1/4 mile of redevelopment areas • Service hours on routes operating within 1/4 mile of redevelopment areas
4.5	Apply transportation and land use planning techniques, such as transit-oriented development (TOD), that support intermodal connections and	• Promote modification of permitted land use to encourage mixed-use and TOD • Encourage use of transit overlay districts to simplify

Table 6-1: TDP Major Update Goals, Objectives and Measures (continued)

OBJECTIVE		MEASURE
	coordination	implementation of transit-friendly land use in areas of high transit service or around transit station facilities
Goal 5:–Preserve the Environment and Promote Energy Conservation		
5.1	Minimize and mitigate air quality impacts of transportation facilities, services, and operations	• Tons per day of emissions (Nox, CO, VOC) generated by the region's transportation system
5.2	Reduce fossil fuels consumption through the consideration of alternative fuel vehicle technology	• Number of gallons of bio-diesel fuel consumed • Ratio of bio-diesel to standard clean diesel fuel consumed • Number of hybrid technology buses in MDT fleet. • Average miles per gallon of bus fleet
5.3	Promote transit service projects that support urban infill and densification	• Transit service route miles within the Urban Infill Area • Service hours on routes serving the Urban Infill Area
5.4	Minimize adverse impacts to established neighborhoods	• Minimize impacts to established neighborhoods
5.5	Promote transportation improvements that are consistent with adopted comprehensive development master plans	• Consistent with adopted comprehensive development master plans
Goal 6: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight		
6.1	Provide multi-modal options consistent with the local government	• Consistency with adopted comprehensive development master plans
6.2	Facilitate connections between transportation modes	• Multimodal connections (bus-rail, transit-taxi etc.) • On-time performance • Transfer time • Transfer policies
6.3	Ensure transportation options are available during emergency evacuations for the elderly and persons with disabilities	• Transit service route miles within 1/4 mile of TAZs with a high proportion (20% or higher) of elderly and the disabled population
6.4	Increase coordination between regional and local transportation providers	• Provide better Multimodal connections: Tri-Rail-bus, bus-rail, municipal services-MDT, transit-taxi, jitney etc.
Goal 7: Optimize Sound Investment Strategies for System Improvement and Management/Operation		
7.1	Optimize benefits of capital expenditures	• Capital expenditure
7.2	Optimize operations and maintenance expenses	• Decrease cost per revenue mile • Decrease cost per revenue hour
7.3	Optimize applications of People's Transportation Plan funding	• PTP expenditure • Consistency of PTP funding being used with commitments made in PTP
7.4	Identify Public, Private Partnership opportunities	• Number of private sector funded transit projects • Dollar amount of private sector funding

Table 6-1: TDP Major Update Goals, Objectives and Measures (continued)

OBJECTIVE		MEASURE
		• Ratio of public to private sector funding for operating funds and capital improvements
7.5	Align MDT priorities and deliverables with available funding and resources	• Availability of additional funding from new sources tied to specific projects or programs • Projects completed within budget and on-time
Goal 8: Maximize and Preserve the Existing Transportation System		
8.1	Continue to examine the provision and utilization of special-use lanes on the existing system for transit use	• Lane miles of special use/managed lanes used by transit services. • Dollar amount of planned right-of-way acquisition for transit facilities
8.2	Identify and implement the best available technologies and innovations to improve the reliability and efficiency of the transportation system	• Operation of new technologies and innovations in transportation improvements
8.3	Upgrade and maintain existing transit infrastructure and facilities in a state of good repair	• Capital expenditure on existing transit infrastructure is in line with identified needs (IRP)
8.4	Maintain the operational functionality of transit vehicles to maximize reliability	• Number/percentage of missed pullouts, failures • Adherence to preventative maintenance programs • Mean distance between service disruptions on Metrorail, metromover and bus

Section 17

Relationship to Other Plans

MIAMI-DADE COUNTY

7.0 RELATIONSHIP TO OTHER PLANS

7.1 Transportation Plans Consistency

In accordance with Section 14-73.001(3)(f) of the Florida Administrative Code, the MDT Transportation Development Plan (TDP) Major Update FY 2010-2019 has been evaluated for consistency with other transportation programs, plans, and strategies. The implementation plan identified in this TDP Major Update is consistent with the following documents:

- 2025 Florida Transportation Plan, South Florida Regional Planning Council;
- South East Florida Transportation Council;
- South Florida Regional Transportation Authority;
- 2030 Miami-Dade Metropolitan Planning Office (MPO) Long Range Transportation Plan;
- 2009 and 2010 Unified Planning Work Program (UPWP);
- 2010 – 2014 MPO Transportation Improvement Program;
- Miami-Dade County Comprehensive Development Master Plan;
- Miami-Dade County Strategic Plan (2003-2007);
- MDT Business Plan (2009-2010); and the
- Miami-Dade County Transportation Disadvantaged Service Plan.

The ten-year implementation strategies identified in this TDP are evaluated in the context of these plans.

This chapter serves as a summary of existing plans and planning documents in the south Florida region relevant in content to the MDT TDP Major Update. The coordination with other State, local and regional transportation agencies helps to solidify interagency planning and goals development to achieve a more regional unified transportation system.

The MDT TDP Major Update was determined to be consistent with the plans, programs, policies and strategies reviewed in this effort. Specific MDT TDP Major Update goals are presented alongside referenced plans to illustrate concurrency.

7.2 Florida Department of Transportation

7.2.1 2025 Florida Transportation Plan

The 2025 Florida Transportation Plan (FTP), adopted on September 29, 2005, highlights the importance of establishing Florida's transportation systems to effectively

meet the transportation needs of residents, creating a competitive economy, building communities, and the preservation of our natural environment. In addition, the FTP provides guidance strategies on how best to direct transportation investments during economic times of constrained funding. The five (5) established goals of the FTP are presented below with consistent MDT TDP Major Update goals.

Transportation goals of the 2025 Florida Transportation Plan include the following:

1. A safer and more secure transportation system for residents, visitors, and businesses. Long range objectives of the FTP include safety and security improvements, and reduction of fatalities and injury.
   - ***MDT TDP Major Update Goal 2:*** *Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*
   - ***MDT TDP Major Update Goal 3****: Increase the Security of Transit Vehicle and Facilities.*
2. Enrich quality of life and responsible environmental stewardship. Long range objectives focus on the enhancement of community livability, effective public involvement, preservation of the natural environment and resources, and land coordination improvements.
   - ***MDT TDP Major Update Goal 5:*** *Preserve the Environment and Promote Energy Conservation.*
3. Adequate and cost-efficient maintenance and preservation of Florida's transportation assets. Maintenance of all elements of transportation system, elimination of illegal and overweight vehicles, and the use of alternative modes are outlined as long range objectives.
   - ***MDT TDP Major Update Goal 6:*** *Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
   - ***MDT TDP Major Update Goal 8:*** *Maximize and Preserve the Existing Transportation System.*
4. Build a stronger economy through enhanced mobility for people and freight. Long range objectives include mobility between regions, states, and nations; mobility within regions; and mobility within communities.
   - ***MDT TDP Major Update Goal 4:*** *Support Economic Vitality.*
5. Sustainable transportation investments for Florida's future. Looking to the future long range objectives for this goal include the identification of gaps between funding and needs, reduction of transportation facility operating costs, establishment of transportation investment priorities, and finally the reduction of transportation backlogs to meet growth needs.
   - ***MDT TDP Major Update Goal 7****: Optimize Sound Investment Strategies for System Improvement and Management/Operation.*

7.3 Regional Planning Councils

According to Chapter 186.502 (4) of the Florida Statutes, Regional Planning Councils are recognized as Florida's only multipurpose regional entity charged with the planning and coordination of intergovernmental solutions to growth-related problems on greater-than-local issues, provision of technical assistance to local governments, and meeting other needs of its communities. The ultimate product of a regional planning council is the Strategic Regional Policy Plan (SRPP), which is designed to provide a holistic, comprehensive approach to achieving goals that reflect priority issues of the region. The MDT TDP Major Update was found to be consistent with the regional planning council's transportation goals and objectives.

7.3.1 South Florida Regional Planning Council (SFRPC)

The SFRPC is a planning and public policy agency whose areas of interest include local emergency planning, quality of life, brownfield redevelopment, safety, and economic development. Activities of the SFRPC respond to statutory requirements as well as the needs of member units of local government.

The mission of the SFRPC is to "Identify the long-term challenges and opportunities facing Southeast Florida and assist the Region's leaders in developing and implementing creative strategies that result in more prosperous and equitable communities, a healthier and cleaner environment, and a more vibrant economy."

7.3.2 South East Florida Transportation Council (SEFTC)

The Southeast Florida Transportation Council was created, under Florida Statutes Chapter 334.175(5)(i)(2), to serve as a formal forum for policy coordination and communication to carry out regional initiatives agreed upon by the MPO's from Broward, Miami-Dade, and Palm Beach Counties. In January 2005, an interlocal agreement between the three MPO's was completed and that following year the first SEFTC meeting was officially held. In 2006, coordinated efforts began among agencies and the development of regional goals and objectives were identified. The regional goals and objectives reflect the overall goals and objectives of each of the three MPO's as outlined in their 2030 LRTPs. The seven (7) established regional goals of SEFTC are presented below with consistent MDT TDP Major Update goals.

SEFTC regional transportation goals include:

1. Improve regional transportation systems and travel.
   - ***MDT TDP Goal 1:*** *Improve the Quality of Transit Services.*
2. Support regional economic vitality.
   - ***MDT TDP Goal 4:*** *Support Economic Vitality.*
3. Enhance regional social benefits.
   - ***MDT TDP Goal 2:*** *Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*

4. Mitigate regional environmental impacts.
   - ***MDT TDP Goal 5:*** *Preserve the Environment and Promote Energy Conservation.*
5. Integrate regional transportation with land use and development considerations.
   - ***MDT TDP Goal 4:*** *Support Economic Vitality.*
   - ***MDT TDP Goal 6:*** *Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
6. Optimize sound regional investment strategies.
   - ***MDT TDP Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*
7. Provide for a safer and more secure transportation system for residents, businesses and visitors.
   - ***MDT TDP Goal 3:*** *Increase the Security of Transit Vehicles and Facilities.*

7.4 South Florida Regional Transportation Authority (SFRTA)

In January 1989, the Tri-County Commuter Rail (Tri-Rail) was established in accordance to Florida State Statute 343.51 to provide interim commuter rail service within the South Florida Rail Corridor. In 2003, SFRTA, a tri-county public transit authority, was created by the Florida Legislature and enacted by FDOT, replacing the existing Tri-County Commuter Rail Authority. The purpose for creating SFRTA was to expand cooperation between Tri-Rail commuter rail services (Tri-Rail) and the county transit operators and planning agencies within Palm Beach, Broward, and Miami-Dade Counties.

Transportation Development Plan Major Update FY 2009-2018

The SFRTA TDP Major Update FY 2009-2018 presented a ten-year service plan which addressed capital and operational improvements for the SFRTA. The TDP is updated annually and is consistent with local regional planning council plans, long range transportation plans, and county comprehensive master plans. Goals from the SFRTA TDP consistent with MDT TDP Major Update goals are outlined below:

SFRTA's goals that support regional transportation system include:

1. Develop cost effective transit system.
   - ***MDT TDP Major Update Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*
   - ***MDT TDP Major Update Goal 8:*** *Maximize and Preserve the Existing Transportation System.*

2. Improve intergovernmental coordination.
   - ***MDT TDP Major Update Goal 6**: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*

3. Increase customer safety, convenience and comfort.
   - ***MDT TDP Major Update Goal 1:** Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 2:** Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*
   - ***MDT TDP Major Update Goal 3:** Increase the Security of Transit Vehicle and Facilities.*

4. Stimulate transit-oriented development (TOD) at or near Tri-Rail station areas.
   - ***MDT TDP Major Update Goal 4:** Support Economic Vitality.*

5. Pursue opportunities to maximize on Transportation Demand Management (TDM) strategies being implemented throughout the region.
   - ***MDT TDP Major Update Goal 1:** Improve the Quality of Transit Services.*
6. Pursue opportunities to promote sustainability and environmental goals for the South Florida region.
   - ***MDT TDP Major Update Goal 5:** Preserve the Environment and Promote Energy Conservation.*

South Florida Regional Transportation Authority Strategic Regional Transit Plan 2008

The goal of the SFRTA Strategic Regional Transit Plan is to *"Think creatively to define a bold vision and strategic plan for regional transit's role in the overall regional transportation system to ensure mobility, economic viability, and quality of life in the South Florida region for the next generation."* With the understanding that south Florida's future relies on the stability and improvement of transit services, the Strategic Regional Transit Plan looked into various alternatives and defined three (3) potential transit networks serving the needs and desires of communities throughout the region.

Agency Goals Supporting Regional Transit include:

1. Identify key regional transit corridors and infrastructure needs.
   - ***MDT TDP Major Update Goal 6**: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*

2. Define regional transit investment strategies.
   - ***MDT TDP Major Update Goal 7:** Optimize Sound Investment Strategies for System Improvement and Management/Operation.*

3. Positively impact future development patterns in the region.
   - ***MDT TDP Major Update Goal 4:*** *Support Economic Vitality.*
   - ***MDT TDP Major Update Goal 5:*** *Preserve the Environment and Promote Energy Conservation.*
4. Assess the region's current and future trends.
   - ***MDT TDP Major Update Goal 6****: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
5. Identify a safe and cost-effective regional transit system.
   - ***MDT TDP Major Update Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*
6. Define SFRTA's role in the development, funding and operations of regional transit services.
   - ***MDT TDP Major Update Goal 6****: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
   - ***MDT TDP Major Update Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*

7.5 Miami-Dade County Transportation Plans

7.5.1 Miami-Dade Metropolitan Planning Organization

In accordance with federal legislation urban areas with a population exceeding 50,000 residents are required to establish a Metropolitan Planning Organization (MPO) for transportation policy and planning purposes. The MPO is an entity whose mandate is to help ensure that current and future expenditures for transportation programs and projects have a basis or foundation in a continuing, cooperative, and comprehensive planning or "3-C" planning process.

The Miami-Dade County MPO develops plans and programs subject to approval by federal transportation agencies for federal funding for the region. The primary MPO activities include the development and maintenance of a Long-Range Transportation Plan (LRTP) and a Transportation Improvement Program (TIP). The LRTP is updated every five (5) years and provides a visioning plan for implementing county-wide transportation system goals. The LRTP looks ahead over a 25 year span in an effort to meet the growing diverse needs of the county during that time. Included in the LRTP are both long-range and short-range strategies for the development of an integrated multimodal transportation system to facilitate the movement of people and goods in a safe manner.

The MPO also develops a Unified Planning Work Program (UPWP) on an annual basis. This program outlines planning activities and the amount of funds required to implement annual efforts and effectively serves as the budget and work program for

the MPO. The goals and objectives of the MDT TDP Major Update are consistent with those proposed in the 2030 LRTP.

2030 Miami-Dade MPO Long Range Transportation Plan

Goals from the 2030 Miami-Dade MPO LRTP

1. Improve transportation systems and travel.
   - ***MDT TDP Major Update Goal 1**: Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 2**: Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*
   - ***MDT TDP Major Update Goal 8**: Maximize and Preserve the Existing Transportation System.*
2. Support economic vitality.
   - ***MDT TDP Major Update Goal 4**: Support Economic Vitality.*
3. Enhance social benefits.
   - ***MDT TDP Major Update Goal 1:** Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 2:** Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*
4. Mitigate environmental and energy impacts.
   - ***MDT TDP Major Update Goal 5:** Preserve the Environment and Promote Energy Conservation.*
5. Integrate transportation with land use and development considerations.
   - ***MDT TDP Major Update Goal 6**: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
6. Optimize sound investment strategies.
   - ***MDT TDP Major Update Goal 7**: Optimize Sound Investment Strategies for System Improvement and Management/Operation.*

FY 2009 and 2010 Unified Planning Work Program

The MPO FY 2009 - 2010 UPWP is a planning document that describes all transportation planning activities to be accomplished during the fiscal years presented. The UPWP outlines the associated planning project's budget and activities that will support the approved TIP as included in the 2035 Miami-Dade MPO LRTP.

MPO Work Elements from the FY 2009 and 2010 UPWP include:

1. Element A: Plan for the preservation and development of a multimodal transportation system that is responsive to the mobility needs of the metropolitan population and to changes in land use.
   - ***MDT TDP Major Update Goal 8***: *Maximize and Preserve the Existing Transportation System.*
2. Element B: Plan for maximum economic and performance efficiencies in transportation services and facilities.
   - ***MDT TDP Major Update Goal 7***: *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*
3. Element C: Plan for a full, multimodal transportation system to allow for ease of intermodal transfers, alleviate congestion, improve the natural environment and enhance safety across all modes.
   - ***MDT TDP Major Update Goal 6***: *Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
4. Element D: Combine professional expertise with proactive citizen and private sector involvement to carry out a transportation decision-making process that wisely allocates financial resources by incorporating the true long and short-term costs of available options.
   - ***MDT TDP Major Update Goal 4***: *Support Economic Vitality.*
   - ***MDT TDP Major Update Goal 7***: *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*

Transportation Improvement Program (FY 2010-2014)

In addition to the development of the LRTP, the Miami-Dade MPO is tasked with the creation of a TIP. The TIP is a staged multi-year program that prioritizes transportation improvement projects for federal, state and local funding within a five year period. Projects within the TIP are also used in the development of the capital improvements element for the LRTP. Projects within the TIP are categorized in order of priority by funding source and implementation responsibility. The following are major project categories of the TIP:

1. Multi-Modal Transit Improvements.
2. Primary State Highways and Intermodal Projects.
3. Secondary Roads.
4. Road Impact Fee Improvements.
5. Transportation Disadvantaged.
6. Transportation System Management.

The TIP's priorities focused on the necessity to preserve natural resources conserve energy, air quality improvement, enhancement of social and environmental quality of communities, and enhancement of urban mobility and transportation system. The goals and objectives outlined in the MDT TDP Major Update, specifically ***Goals 1, 4, 5, 6, and 8*** are found to be consistent with the goals of the FY 2010 - 2104 TIP.

7.5.2 Miami-Dade County Comprehensive Development Master Plan

The Miami-Dade County Comprehensive Development Master Plan (CDMP) is a planning document that expresses the County's goals, objectives and policies spanning a 10-20 year period. Within the CDMP goals and objectives concerning sustainable development, land conservation, and natural resource preservation, and an urban development boundary is established. The CDMP is reviewed and updated every seven (7) years. A semiannual CDMP amendment process is also undertaken for periodic review.

Countywide goals supporting growth development and transportation include:

1. Growth at a rate commensurate with projected population and economic growth.
   - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 8:*** *Maximize and Preserve the Existing Transportation System.*
2. Contiguous growth pattern centered around a network of high intensity urban centers well connected by multimodal intra-urban transportation facilities.
   - ***MDT TDP Major Update Goal 4:*** *Support Economic Vitality.*
3. Development in locations which optimize efficiency in public service delivery and conservation of valuable natural resources.
   - ***MDT TDP Major Update Goal 5****: Preserve the Environment and Promote Energy Conservation.*

7.5.3 Miami-Dade County Strategic Plan 2003-2007

The Miami-Dade County Strategic Plan for years 2003 to 2007, launched in 2004, is a countywide business plan for six (6) service delivery areas which together support the overall mission of Miami-Dade County. The Miami-Dade County Transportation Component of the Miami-Dade County Strategic Plan described current transportation trends, strengths, weaknesses and future needs of the transportation system.

The Transportation mission statement of the report reads: "To provide a seamless, efficient, intermodal transportation system that enhances mobility throughout our neighborhoods and region, and expedites domestic and international commerce." Goals set forth in the MDT TDP Major Update are consistent with goals presented in the Miami-Dade County Strategic Plan.

Countywide Goals Supporting Transportation include:

1. Encourage and promote innovative solutions to transportation challenges, including incentive plans.
   - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 4:*** *Support Economic Vitality.*
   - ***MDT TDP Major Update Goal 8:*** *Maximize and Preserve the Existing Transportation System.*
2. Maximize the use of efficiency of the existing transportation system on a neighborhood, county and regional basis.
   - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 2:*** *Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*
   - ***MDT TDP Major Update Goal 3:*** *Increase the Security of Transit Vehicle and Facilities.*
   - ***MDT TDP Major Update Goal 6:*** *Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
3. Improve mass transit along major corridors and between major origin and destination locations.
   - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*
   - ***MDT TDP Major Update Goal 4:*** *Support Economic Vitality.*
   - ***MDT TDP Major Update Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*
   - ***MDT TDP Major Update Goal 8:*** *Maximize and Preserve the Existing Transportation System.*
4. Enhance the ease of movement of people and goods to, from and through the airport, the seaport, and other centers through new and improved inter-modal linkages.
   - ***MDT TDP Major Update Goal 6:*** *Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*
5. Educate the community regarding transportation issues and opportunities.
   - ***MDT TDP Major Update Goal 2:*** *Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*

6. Promote improved mobility of people and commerce to capitalize on South Florida's advantage.
    - ***MDT TDP Major Update Goal 6:*** *Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight.*

7.5.4 Miami-Dade Transit Business Plan FY 2009 and 2010

The MDT Business Plan covering FY 2009 and 2010 outlines planned programs and initiatives for the next two fiscal years. The plan identifies future or continued transit endeavors, methods of revenue maximization, infrastructure renewal, transit efficiency and effectiveness. Projects included in the MDT three to five year outlook consist of the following:

- Rapid transit expansion of the existing Metrorail system.
- Metrorail vehicle modernization.
- Metromover Phase II car replacement.
- NW 7th Avenue Transit Village.
- Construction of additional Park and Ride facilities
- Automated Fare Collection system.
- Track and guideway rehabilitation.
- New bus acquisition.

System goals from the Miami-Dade Transit Business Plan FY 2009 and 2010 include:

1. Minimum wait time for transit passengers.
    - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*
2. Safe and reliable transit facilities and vehicles.
    - ***MDT TDP Major Update Goal 3:*** *Increase the Security of Transit Vehicle and Facilities.*
3. Increase public knowledge and understanding of public transportation alternatives and benefits.
    - ***MDT TDP Major Update Goal 2:*** *Improve Customer Convenience, Comfort and Safety on Transit service within Facilities.*
4. Improved level-of-service on major roadway corridors.
    - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*

5. Motivated, dedicated workforce team aligned with organizational priorities and effective management and oversight of dedicated transit funds.
   - ***MDT TDP Major Update Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*
6. Sound asset management and financial investment strategies.
   - ***MDT TDP Major Update Goal 7:*** *Optimize Sound Investment Strategies for System Improvement and Management/Operation.*

7.5.5 Miami-Dade County Transportation Disadvantaged Service Plan

Dating back to 1979, MDT has firmly established a commitment to the coordination of a transportation system that accommodates the transportation disadvantaged within its service area. MDT provides door to door transportation for disabled individuals who are unable to use conventional public transportation modes through the Special Transportation Service (STS). In addition, MDT also coordinates sponsored and non-sponsored trips for the elderly, children-at-risk, participants of the Welfare to Work program, low income individuals, homeless, unemployed, and disabled. MDT's coordinated area for transportation services includes all of urbanized Miami-Dade County, a transit corridor within southern Broward County and the area spanning from Key Largo to Marathon in Monroe County. As such, the MDT TDP Major Update, most specifically Objective 1.10 and 1.11, is consistent with the identified goals and objectives listed below for providing quality transit service for the Transportation Disadvantaged in Miami-Dade County and surrounding areas as presented below in the MDT Transportation Disadvantaged Service Plan.

Transportation Disadvantaged Service Plan Goals Supporting Accessibility include:

1. Create a public transit system that is accessible to people who are physically and mentally challenged and currently unable to use the public transit system which compliant with Federal requirements.
   - ***MDT TDP Major Update Goal 1:*** *Improve the Quality of Transit Services.*

Section 8 Situational Appraisal

MIAMI-DADE COUNTY

8.0 SITUATIONAL APPRAISAL

The situation appraisal assesses the transit operator and system to assist in identifying ways to enhance the delivery of transit services. This appraisal takes into account the evaluation of existing conditions and assessment of future projections of systemwide travel demand, land use, roadway level of service, and changes to the transit system that have been proposed by MDT. This chapter presents an overview of the transit provider's organizational structure, agency coordination efforts, estimated future travel demand, land use, and roadway level of service, and efforts to help foster a more transit-friendly operating environment.

8.1 Miami-Dade Transit Agency Coordination

As Miami-Dade County's transit operator, MDT coordinates with all areas of county government. This includes the Mayor's office, the County Manager's Office, the Board of County Commissioners, the Miami-Dade MPO, Miami-Dade County Planning and Zoning and other county departments whose efforts and responsibilities integrate with the operation of mass transit services.

MDT coordinates extensively with the Miami-Dade MPO for the development of the FY 2010 – 2014 Transportation Improvement Program (TIP) and the 2035 Long Range Transportation Plan (LRTP) through the participation on the TIP development committee and LRTP steering committee. MDT also collaborates with the MPO for ongoing countywide transportation planning initiatives and studies through participation on the Transportation Planning Council. MDT also coordinates with the Miami-Dade Planning and Zoning Department and the South Florida Regional Planning Council (SFRPC) by providing input on various transit impacts of the Comprehensive Development Master Plan Bi-annual Amendments, as well as, with area-wide issues tailored to the various Commissioner Districts and Community Councils.

Miami-Dade Transit continuously undertakes extensive outreach efforts to engage local stakeholders and the public for purposes of providing educational information and to collect feedback and input on MDT's existing and future service plans. These outreach efforts consist of stakeholder meetings, presentations at community meetings, news releases and through MDT's feedback zone. The feedback zone provides an opportunity for the community to submit comments, suggestions, and complaints about MDT services through email or U.S. mail.

Miami-Dade Transit also works in cooperation with FDOT Districts 4 and 6, the South Florida Regional Transportation Authority (SFRTA, the operator of the Tri-Rail commuter rail system), and Broward County Transit (BCT) on various transportation issues, conceptual plans and policies, and the implementation of projects of local and regional significance. Several projects where MDT is in a participating and coordinating role include the development of the SFRTA Regional Strategic Transit Plan, South Florida East Coast Corridor Transit Analysis (SFECCTA), the implementation of I-95 Managed Lanes project and integration of Intelligent Transportation System (ITS) projects into the regional information technology architecture.

8.2 Local and Regional Transportation Plans

A review of several local and regional short-term and long range planning documents was performed to assess the level of impact that proposed and programmed project initiatives would have on MDT services. Furthermore, these documents were reviewed to ensure that the FY 2010 – 2019 TDP Major Update is consistent with corresponding transit capital and operational improvement projects for the Miami-Dade Transit service area.

8.2.1 MPO 2030 LRTP

The MPO 2030 LRTP was adopted in November 2004 to include a cost feasible plan for the implementation of transit projects as grouped by priority (Priority 1 through 4). The projects listed as Priority 1, Priority 2, and Priority 3 occur within the planning horizon of the FY 2010-2019 TDP Major Update. Specifically, Priority 1 projects were included in the FY 2005 – 2009 TIP under the 2030 LRTP and remain in the existing FY 2010 – 2014 TIP, with completion dates of 2012 for the MIC-Earlington Heights project; 2017 for the North Corridor project and 2023 for the East-West Corridor. Priority 2 and Priority 3 projects were included as funded projects between 2010 – 2015 and 2016 – 2020 respectively. The following premium transit projects are listed in the 2030 LRTP by priority to include:

- MIC-Earlington Heights Connection (Priority 1)
- North Corridor (Priority 1)
- East-West Corridor (FIU to MIC) (Priority 1)
- East-West Corridor (MIC to Government center) (Priority 2)
- Kendall Corridor (Priority 2)
- Bay Link (downtown Miami – Miami Beach) (Priority 3)

Current MDT plans have placed these projects on hold with the exception of the MIC-Earlington Heights connection, and the Kendall Corridor is also moving forward as an enhanced bus service, due to a lack of funding for the construction and operation of these capital improvements. MDT is revaluating alternate options and strategies for implementing premium transit service within these corridors listed in the 2030 LRTP.

8.2.2 MPO 2035 LRTP

The Miami-Dade County MPO is currently updating the 2030 LRTP to the year 2035. The previous LRTP was adopted in November of 2004. An update of the latest LRTP needs to occur every five years to meet federal and state requirements. The 2035 LRTP is anticipated to be approved by the MPO Governing Board in the fall of 2009.

In addition, the 2035 LRTP will focus on improving the efficiency of the current transportation infrastructure while identifying innovative ways to enhance mobility. At the time of this writing, the proposed transportation improvements and prioritization of transit projects were not available. Miami-Dade Transit is represented on the LRTP Steering Committee to assure that the development of the 2035 LRTP is aligned with MDT's policy and project initiatives.

8.2.3 MPO Short-Term Transit Improvement Options Study

The Miami-Dade MPO is preparing a report on short-term transit improvement options (draft July 15, 2009). The goals of this effort are to reduce transit operating costs and revenue miles, and improve transit services in the county. The report includes specific recommendations for the following seven corridors:

- Biscayne Boulevard
- Busway Corridor
- Collins Avenue
- West Flagler Street
- Kendall Drive
- Miami Gardens Drive
- NW/SW 27th Avenue

Of these seven corridors, one already has high-capacity transit service (the south Miami-Dade Busway Corridor) and two other (Collins Avenue; NW 27th Avenue) have high-capacity transit services planned and programmed in the existing Long-Range Transportation Plan (Bay Link Light Rail; North Corridor Metrorail Extension). The recommendations of the report include converting the bus system to a trunk and feeder system, in which longer distance service acts as trunk lines, with short-distance circulator and shuttle routes serving as collector routes. According to the report, this would eliminate duplicative service, maximize resources where they are needed most, reduce cost and improve service.

The report provided specific recommendations for changes to alignments and headways on existing services in each of the corridors, as well as recommendations for new services in many corridors. Other specific recommendations in the corridors include relocation and reduction in the number of bus routes, greater coordination with municipalities, and more construction of terminal facilities, transit centers and park-and-ride lots.

The report is not completed as of this writing, and MPO and MDT staff will continue coordination efforts to discuss these issues over the next several months to recommend improvements to service in these corridors. Many of the recommendations include the implementation of new services, changes to existing route service frequencies, and implementation of new infrastructure, which could have significant operating and/or capital cost implications. Given the current funding issues at MDT and currently planned service reductions on many routes, service improvements, including routes identified for service increases by the MPO's report, would need to find funding sources in addition to the existing sources now utilized for bus operations.

8.2.4 MPO Metrorail Survey

The Miami-Dade County MPO has initiated a data collection program in accordance with the Federal Transit Administration (FTA) guidelines for transit demand modeling

efforts. This program serves to obtain data that will supplement transit planning and modeling efforts in Miami-Dade County and the South Florida Region for those transit capital projects that will seek federal funding assistance. In April 2009, the MDT Metrorail Transit Survey (Metrorail Survey) was administered to obtain ridership characteristics such as: origin-destination patterns, trip purpose and mode of station access and egress. The data obtained from this survey will be used to update and validate the Southeast Regional Planning Model (SERPM) and for transportation planning.

At the time of this writing the survey data collected was being further tabulated for analysis. The origin and destination response data for each Metrorail station is presented in Figure 8-1. The survey response data illustrates the high demand of service on Metrorail from the Civic Center station to the south with the highest on-off activity occurring at Dadeland South, Dadeland North, South Miami, University, Douglas Road, Brickell, and the Civic Center stations.

Figure 8-1: MPO Metrorail Survey Responses – Origin and Destination

Origin/Destination	Dadeland South	Dadeland North	South Miami	University	Douglas Road	Coconut Grove	Vizcaya	Brickell	Government Center	Overtown	Culmer	Civic Center	Santa Clara	Allapattah	Earlington Heights	Brownsville	Dr.MLK Jr.	Northside	Tri-Rail	Hialeah	Okeechobee	Palmetto	No Response	Grand Total
Dadeland South	19	44	71	98	156	58	36	224	883	90	39	595	19	44	18	15	54	34	26	20	8	30	10	2,591
Dadeland North	16	13	29	54	75	43	32	154	622	48	28	350	8	17	8	3	16	12	7	11	9	9	8	1,572
South Miami	20	19	10	20	27	12	7	38	297	27	5	171	0	8	9	1	5	8	14	2	7	4	2	713
University	27	28	5	4	14	3	13	12	93	8	5	104	2	6	5	0	6	1	20	7	6	6	0	375
Douglas Road	98	87	61	32	11	21	12	93	236	21	21	89	14	25	10	7	16	9	15	9	15	8	7	917
Coconut Grove	80	53	47	24	45	4	5	44	135	6	5	52	5	11	6	2	7	4	12	6	7	9	4	573
Vizcaya	28	37	16	17	30	5	3	11	32	3	3	27	2	3	2	1	3	4	6	6	4	5	3	251
Brickell	117	131	60	35	65	21	12	12	40	7	15	66	5	11	8	4	5	7	28	22	11	22	4	708
Government Center	354	367	176	80	148	55	26	28	34	19	11	104	17	48	47	25	37	50	82	91	76	91	12	1,978
Overtown	76	58	33	22	32	10	11	12	43	5	7	29	1	3	19	4	9	17	10	11	18	18	4	452
Culmer	37	29	27	14	27	4	9	17	46	2	5	17	3	8	7	15	9	8	7	7	7	4	2	311
Civic Center	204	206	91	60	45	21	11	41	81	4	7	24	3	14	24	13	45	42	78	42	36	34	7	1,133
Santa Clara	20	20	13	9	16	5	1	18	58	4	4	8	5	5	4	6	7	6	3	4	2	4	2	224
Allapattah	37	24	30	38	39	11	7	24	97	5	7	43	3	10	14	11	13	10	15	16	6	16	3	479
Earlington Heights	43	16	16	14	31	7	5	21	122	9	10	73	4	8	12	7	14	13	7	22	13	8	5	480
Brownsville	17	8	14	9	11	2	2	5	72	11	12	40	0	7	11	11	5	20	8	11	13	11	3	303
Dr.MLK Jr.	49	17	19	27	25	6	8	16	129	11	12	85	6	15	12	13	9	9	3	11	8	10	5	505
Northside	39	20	26	27	56	4	30	17	166	16	8	93	3	13	11	11	9	12	3	12	16	14	0	606
Tri-Rail	37	9	9	31	9	8	8	45	146	6	0	132	8	9	1	4	4	4	6	8	13	16	7	520
Hialeah	20	22	14	24	26	9	10	39	206	12	8	108	10	21	17	2	14	20	7	7	9	16	7	628
Okeechobee	25	8	5	13	25	4	12	35	227	26	4	155	12	8	4	8	7	14	7	0	8	13	0	620
Palmetto	14	12	5	15	18	10	7	40	215	17	3	159	4	7	4	7	8	11	16	13	9	4	1	599
Total Responses	**1,377**	**1,228**	**777**	**667**	**931**	**323**	**267**	**946**	**3,980**	**357**	**219**	**2,524**	**134**	**301**	**253**	**170**	**302**	**315**	**380**	**338**	**301**	**352**	**96**	**16,538**
No Response	9	4	2	2	7	5	5	4	27	3	3	18	0	4	3	1	3	5	6	6	4	0	1203*	1,324
Grand Total	**1,386**	**1,232**	**779**	**669**	**938**	**328**	**272**	**950**	**4,007**	**360**	**222**	**2,542**	**134**	**305**	**256**	**171**	**305**	**320**	**386**	**344**	**305**	**352**	**1,299**	**17,862**

* The sum of both the origin and destination questions that were not answered

Source: MPO Metrorail Survey, Draft Report, August 2009

The Government Center station has the highest activity as both a destination and origin of travel during the peak period travel in both the north and south direction of the Metrorail system based on the number of responses collected at that station and ridership data from MDT. These results indicate an opportunity to identify operational improvements for this segment based upon its high passenger activity.

8.2.5 SFRTA Strategic Regional Transit Plan

The SFRTA developed the Strategic Regional Transit Plan (SRTP) for the promotion of regional transit to ensure mobility, economic viability and quality of life in the south Florida region. The Strategic Plan serves as a long range plan to identify transportations service needs for the South Florida region. The SRTP defined three potential transit networks:

- Connective Network: Serves future land use and activity centers maximizing infrastructure investments.
- Productive Network: Places transit options in most heavily used corridors.
- Value Network: Presents transit options that result in high ridership through a provision of good transit service at a reasonable price.

The transit alternatives proposed in the SRTP serve either one or more of the three listed networks include:

- Miami Beach Light Rail Transit
- Tri-Rail branch to downtown Miami
- Kendall Drive Bus Rapid Transit
- Metrorail East-West Extension
- 137th Avenue Rapid Bus

The projected capital and operating costs for the implementation of these projects is significant. Each project has the potential for eligibility under the FTA 5309 New Starts program where up to 75 percent of capital funds could be secured through the federal (50%) and state (25%) government participation. However, the associated operating cost of a project would need to be funded locally over the life of the project. Therefore, operating funding in addition to existing sources being applied to fund current transit operations will need to be identified.

8.3 Information Technology

Miami-Dade Transit is committed to the deployment of a comprehensive, inter-operative and fully integrated system of Intelligent Transportation Systems (ITS) technologies. MDT is continuously working to ensure seamless technology integration with county and regional technology initiatives, and incorporating technology in the implementation of transit business processes. The Agency adheres to a locally approved regional ITS architecture and has developed its own ITS architecture that integrates existing systems with future ITS initiatives. MDT participates with FDOT and other local agencies to incorporate and integrate all ITS projects to the overall regional architecture.

The information technologies deployed serve to provide enhanced methods of communicating information to transit passengers and better align MDT's business objectives for the proficient administration, operation, and maintenance of transit services. The following lists several key projects that demonstrate MDT's commitment to implementing technology enhancements to better serve the community:

- **Kiosk:** Electronic Transit information centers provide transit information relating to bus routes, schedules, service interruptions, service modifications, station and emergency information to the MDT patrons.
- **Rider Alerts:** Submit messages to the public pertaining to any delays, detours, or service disruptions affecting any route on the MDT system. The public has the ability to sign up on the MDT website to receive alerts via text messages, emails and/or electronic pagers.
- **Train Tracker:** Informs Metrorail passengers of the time of arrival for the next train approaching a station. This information has significantly reduced the waiting time of MDT's riding customers.
- **Electronic Asset Management (EAMS):** This project has integrated and automated MDT's Materials Management, Maintenance and Inventory system providing information on detailed worked performed, hours necessary to perform the task, and automatic preventive maintenance generation of work orders resulting in a more efficient delivery of services.
- **Electronic Document Management (EDMS):** Created an electronic filing system enabling the Engineering Planning and Development directorate to obtain fast, accurate and reliable access to MDT's project files. This has enhanced the assurance of document integrity and records management work flows. The system is now being deployed agency wide.

MDT is concentrating heavily in the infrastructure area for future ITS deployment. The following is a list of several key projects that are in various phases of development and implementation:

Automated Fare Collection System

This project is currently underway and will implement a comprehensive automated Fare Collection System with "smart" card (EASY CARD) technology to include:

- Photo ID/Easy Card System
- Data Center Rewiring/Redesign
- Automated Passenger Counters (APC) Data & Business Process Integration
- Easy Card Website
- Corporate Discount Program Website
- Upgrade to MDT Network

Electronic Signage Information Systems (ESIS) / Wireless at Rail Stations

The focus of this project is to implement electronic audio and visual signage at Metrorail stations that are integrated with real-time information. This will enable MDT to have an Emergency Management system for emergency notification and for security personnel.

Metro-Mover Fiber Repair/Replacement

The fiber optic cable system currently used to support the Metromover system is well past its useful life. A total of six stations will need to have fibers replaced. This project will also replace fibers for Video and Wireless Networking Security CCTV System and conduit.

CAD/AVL System Replacement

The current CAD/AVL System has been in service for 13 years and has reached its end-of-life cycle. The CAD/AVL software is also an antiquated system that needs to be replaced. This project will provide migration of both hardware and software to current technology for easier and more cost efficient maintenance and support. This project also provides easier integration to the new critical systems, such as Transit Operations System (TOS) and the Fare Collection System currently being implemented.

Transit Operating System (TOS) Upgrade and Replacement

This system is used to dispatch Bus Operators and tracks Bus Operators payroll. The current system is obsolete and running on antiquated hardware. TOS was installed in 1988 and throughout the years has undergone several modifications to meet MDT requirements. However, TOS platform and computing environments have not caught up with the improvement and sophistication that have occurred in the past twenty years in technology. As a result, the TOS has become limited in it use.

MDT's assessment of new technology available for development coupled with the implementation of ITS project improvements are aligned with the TDP Major Update goals and objectives.

8.4 Assessment of Miami-Dade County Comprehensive Development Master Plan

An evaluation of the Land Use and Transportation elements of the Miami-Dade County Comprehensive Development Master Plan (CDMP) was performed as part of the TDP Major Update situation appraisal. This review was performed to determine whether policies of these CDMP elements were supportive or hindered the provision of MDT transit services.

8.4.1 General Observations

The Land Use Element and Transportation Element of the CDMP represent a very positive policy and design direction that benefits the provision of MDT transit services. The Land Use Element represents a complete array of planning strategies and techniques for creating a symbiotic relationship between land development and MDT transit services.

The Transportation Element addresses the needs of automobile traffic, bicyclists, and pedestrians in the Traffic Circulation Sub-element. Transit needs are covered in the Mass Transit Sub-element. The policies in these two sub-elements clearly support transportation modes other than automobiles, but as discussed in later sections, private automotive traffic receives the majority of the policy emphasis.

8.4.2 CDMP Evaluation Criteria

The Florida Department of Transportation (FDOT) Guidance for Producing a Transit Development Plan provides information to help transit agencies evaluate the level of support offered by local comprehensive plans. To facilitate this type of evaluation, the guidance document includes a list of 19 evaluation criteria. These criteria were used to guide the review of the CDMP Land Use and Transportation elements. A listing of the specific criteria is provided in the appendix as a reference.

8.4.3 Land Use Element Evaluation

In general, the Land Use Element of the CDMP is supportive of transit. This portion of the CDMP has 12 broad objectives, each with several supporting policies. The objectives and policies recognize the importance of multi-modal transportation and the role that land use and urban design play to support transit services. In particular, Objective LU-7 states that "*Miami-Dade County shall require all new development and redevelopment in existing and planned transit corridors and urban centers to be planned and designed to promote transit-oriented development (TOD), and transit use, which mixes residential, retail, office, open space and public uses in a pedestrian-friendly environment that promotes the use of rapid transit services.*"

Policy statements that support the objectives, which are directly or indirectly related to transit, are presented in the following table.

In addition to the policy themes summarized above, the CDMP Land Use Element includes a narrative discussion about the importance of good pedestrian environments, increased density with good urban design, allowing neighborhood commercial development to occur in residential areas, and allowing mixed-use development.

Table 8-1: CDMP Land Use Policy Statements

Transit-Supportive Policy Themes – Land Use	Policy Number
Concentrating higher density development in centers and corridors, which have multi-modal accessibility.	LU-1A, LU-1B, LU-7F, LU-7G, LU-7I, LU-9H, LU-9R, LU-9T & LU-10A
Recognizing the need to prioritize infill development within existing urban areas.	LU-1C, LU-1M, LU-10A, LU-10C, LU-12A, LU-12B & LU-12D
Encouraging safe and convenient automotive, pedestrian, and bicycle circulation.	LU-1D
Creating an aesthetically pleasing and dynamic built environment.	LU-1E, LU-9I, LU-9J & LU-9O
Encouraging housing diversity, including minimum residential densities.	LU-1F, LU-7F & LU-9G
Clustering business development rather than locating it in strips or isolated locations.	LU-1G
Preventing discontinuous, scattered development along the urban fringe.	LU-1O
Giving first priority to providing services and facilities within the Urban Development Boundary (UDB).	LU-2B
Requiring transit-oriented development (TOD) within transit corridors and urban centers.	LU-7A, LU-7G, LU-7H & LU-7I
Encouraging mixed-use development near transit.	LU-1D, LU-7H, LU-7I, LU-9P, LU-9Q & LU-9U
Discouraging uses that are not transit-friendly within transit areas.	LU-7E
Encouraging walking, transit, and bicycling, and creating a pedestrian-friendly environment through design and land use considerations.	LU-7B, LU-7C,LU-7D, LU-7F & LU-7G
Giving priority to UDB (Urban Development Boundary) expansion areas located within one mile of an urban center and/or "extraordinary" transit service.	LU-8G (iii)

Source: CDMP, Land Use Element

A section on urban centers promotes the ideas of accessible grid street systems, shared parking, locating buildings toward the street and placing parking in less obtrusive locations, and making allowances to increase density over time. The plan document also identifies fourteen "long-standing concepts embodied in the Miami-Dade CDMP". Several of these related concepts that promote transit include:

#5. Minimize consumption of energy for transportation purposes and the amount of air pollution from transportation sources by encouraging a more compact urban form.

#6. Shape the pattern for urban development to maximize the efficiency of existing public facilities and support the introduction of new public facilities or services such as improved mass transit system.

#8. Rejuvenate decayed areas of development by promoting redevelopment, rehabilitation, infilling and the development of activity centers containing a mixture of land uses.

#9. Promote development of concentrated activity centers of different sizes and character to provide economies of scale and efficiencies of transportation and other services for both the public and private sectors.

#10. Redirect higher density development towards activity centers or areas of high countywide accessibility.

#13. Avoid excessive scattering of industrial or commercial employment locations.

8.4.4 Transportation Element Evaluation

In general, the Transportation Element is also supportive of transit. This portion of the CDMP has several overall planning objectives and policies followed by five sub-elements. Two of these sub-elements, Traffic Circulation and Mass Transit, apply to transit. Similar to the Land Use Element, the transportation objectives and policies recognize the importance of transit and the creation of a multi-modal transportation system. Policy statements that support the objectives, which are directly or indirectly related to transit, are presented in Table 8-2:

Table 8-2: CDMP Transportation Policy Statements

Transit-Supportive Policy Themes – Transportation	Policy Number*
Supporting, and seeking funding for, convenient mass transit.	TE-1A, MT-1A, MT-3A, MT-4C, MT-5A, MT-5B & MT-5C
Establishing level of service measures for transit.	MT-1A – MT-1D
Providing inter-city and inter-state commuter rail and bus service.	TE-1B
Providing high quality intermodal connections.	TE-1C, TE-1D & MT-8A – MT-8E
Implementing transit-supportive Land Use Element policies.	TE-1F, MT-4A & MT-4B
Providing for safe, convenient, and comfortable movement of pedestrians and non-motorized vehicles, including on-site circulation.	TE-2A - TE-2G
Coordinating transportation and land use planning efforts.	TE-3A – TE-3C, TC-4A, TC-4B, MT-2A - MT-2C, MT-5D, MT-6A – MT-6E & MT-7A – MT-7C
Tolerating greater peak hour congestion where good transit is available within ½ mile.	TC-1B
Considering more flexible and/or reduced parking requirements in Urban Centers and locations where transit service is available.	TC-1I
Considering transit to help improve air quality and conserve energy.	TC-6E

* TE – Transportation Element – General goals, objectives and policies.
TC – Traffic Circulation Sub-element
MT – Mass Transit Sub-element

8.4.5 Suggested Policy Amendments

Based upon the evaluation of the CDMP's Land Use and Transportation elements several proposed policy amendments have been developed. For the Land Use Element, the amendments seek to further enhance the type of land use development, design and definition as related to supporting mass transit. Related to the Transportation Element the proposed amendments place more emphasis on the promotion of mass transit services and non-motorized transportation.

8.4.5.1 Land Use Element

The objectives and policies in the Land Use Element clearly recognize the importance of multi-modal transportation and the role that land development should play in creating a well-integrated relationship between transit and the land uses it serves. Three policy amendments to the Land Use Element are suggested to further enhance its support for transit. Each of these proposed policy amendment are described below.

Evaluate policies that may discourage mixed-use development.

Under Objective LU-4, Policies LU-4A, LU-4C, and LU-4D address the issue of incompatible land uses, with a focus on protecting residential neighborhoods. While this is an appropriate concern, it appears these policies could discourage the mixed-use and transit-oriented development sought in other sections of this plan element, such as Objective LU-7.

Policies under Objective LU-4 should be modified to acknowledge that in some cases, different uses should be mixed with careful consideration of their characteristics and application of sound urban design principles to ensure compatibility.

Develop a stronger policy regarding inappropriate land uses and development design near transit.

Policy LU-7E states that land uses "not conducive to public transit" should not be permitted within a ¼ mile of rail rapid transit stations. The county should consider amending this policy in three ways:

1. The prohibition should be mandatory – at least for uses that are clearly incompatible in all conceivable circumstances.
2. The policy should indicate where a specific list of prohibited uses can be found in the county's land use ordinance. In addition to use, the county should consider the physical form of development when determining land uses, including which land uses are incompatible with transit. For example, a car dealership is not necessarily incompatible with creating a good pedestrian/transit environment if it has storefront windows near the street with parking behind or within the building.
3. The policy should be expanded to apply to more than "rail rapid transit stations" by including urban centers and important transit corridors.

View major streets (section line roads) as potential community focal points rather than neighborhood boundaries.

The "Residential Communities" section of the Land Use Element notes that the section line roads should form the physical boundaries of neighborhoods. This section also states that along major streets, pedestrians should be accommodated by sheltering sidewalks from passing traffic with landscaping on the street edge. Even when done well, this tends to create an isolated, noisy, and uninviting pedestrian environment situated between busy, high-speed streets and parking lots. People will only walk in these environments when they are forced to do so, not because they want to. Thinking of such streets as boundaries may also have the unintended consequence of creating few pedestrian and bicycle linkages across these major roadway barriers.

Therefore, the county should consider using design treatments along major streets, and especially along important transit corridors, to allow them to become attractive and active community centers rather than neighborhood barriers. Traffic calming, mixed land uses, pleasant and convenient pedestrian/bike access. Good urban design can transform vehicle throughways into truly multi-modal corridors.

8.4.5.2 Transportation Element

The objectives and policies in the Transportation Element clearly recognize the importance of multi-modal transportation. However, the emphasis of the general Transportation Element objectives and policies and the Traffic Circulation Sub-element is clearly biased toward accommodating automobiles over other transportation modes. The Transportation Element could benefit from three types of future amendments that would give more attention and emphasis to transit and non-motorized travel. Each of the three proposed policy amendments is presented below.

De-emphasize the focus on level of service (LOS) for automobiles.

Objective TC-1 states that "It is desirable that all roadways in Miami-Dade County operate a level of service (LOS) C or better." Supporting Policy TC-1H states that "...Miami-Dade County will give highest priority to the funding of necessary capacity improvements to roadways on the Florida Intrastate Highway System..." Objective TC-3 states "The County's transportation system will emphasize safe and efficient management of traffic flow." Supporting Policies TC-3A and B focus on auto-related system treatments and correcting high accident locations.

Similarly aggressive policy statements are absent regarding pedestrian and bicycle system safety and performance, connectivity, and convenience issues. The Mass Transit Sub-element Objective MT-1 and supporting policies suggest appropriate levels of transit service, and Objective MT-3 indicates that a "sound funding base" should be provided. However, the policy language suggests that compared to automobile travel, transit and non-motorized modes are lower priorities.

Therefore, the County should consider promoting a true multi-modal balance by strengthening its policy and financial commitment for transit, walking, and bicycling while diminishing the emphasis on maintaining or expanding roadway capacity.

Consider Transportation Demand Strategies (TDM) that include transit and non-motorized transportation.

Objective TC-1F lists a number of possible TDM strategies to reduce overall peak-hour demand and use of single occupant vehicles. Of the strategies, offering a subsidy for transit riders and park-and-ride lots are the only transit-related alternatives. There are no walking or bicycling strategies.

The county should consider broadening the list of TDM strategies to encourage people not to drive. The key will be to provide realistic and attractive travel options to driving.

Provide a clearer and more detailed vision regarding pedestrian and bicycle system improvements that complement transit.

Successful transit depends upon people having easy access to it. Walking and bicycling are the two common and most efficient ways to reach transit. Objective MT-8 and the supporting policies begin to address this by noting the importance of pedestrian walkways, comfortable pedestrian environment, and bicycle lockers and racks. But the Transportation Element does not clearly address what accommodations should be made to provide pedestrians and bicyclists with safe, convenient, and comfortable access between transit and surrounding development.

The county should consider broadening the objectives and policies to cover:

- Safe and convenient pedestrian and bicycle networks, especially within urban centers and transit corridors.
- A planned countywide non-motorized network featuring a fine-grained system that is comparable to the level of attention given to vehicular modes. CDMP figure 6 – Planned Non-Motorized Network 2005 (Traffic Circulation Sub-element), is very limited in scope and identifies few facilities countywide.
- Access strategies for the major county centers that would promote transit use along with walking and bicycling. CDMP figure 4 – Major Existing Traffic Generators and Attractors 2025 (Mass Transit Sub-element) shows major destinations in the county, but there is no discussion about how access should be provided by transit, walking, or bicycling.

8.5 Land Use

The pattern of land use and urban growth promoted in the original Comprehensive Development Master Plan (CDMP) continues to occur throughout Miami-Dade County. The location and configuration of Miami-Dade County's urban growth through the year 2025 shall emphasize concentration and intensification of development around centers of activity, development of well-designed communities containing a variety of uses, housing types and public services, renewal and rehabilitation of blighted areas, and contiguous urban expansion when warranted, rather than sprawl.

Miami-Dade County shall require all new development and redevelopment in existing and planned transit corridors and urban centers to be planned and designed to promote transit-oriented development (TOD), and transit use, which mixes residential, retail, office, open space and public uses in a pedestrian-friendly environment that promotes the use of rapid transit services. This set of actions will produce short trips, minimize transfers, attract transit ridership, and promote travel patterns using the transit line that are balanced directionally and temporally to promote transit operational and financial efficiencies. In fact, when the existing land use map is compared to the adopted 2015 and 2025 land use plan it is noticeable that areas along the South Miami-Dade Busway changed from undeveloped land to low or medium residential density in the new plan (refer to the segment between Florida City and SW 200 Street).

The County will give special emphasis to providing a high level of public mass transit service to all planned urban centers. These Urban Centers are intended to be moderate- to high-intensity design-unified areas. The adopted land use plan for 2015 and 2025 shows that Urban Centers such as Downtown Miami will continue with a residential density increase that goes along with the population growth forecasted for this area.

8.6 Systemwide Travel Demand Model Estimates

Travel demand estimates were prepared for the TDP Major Update using the existing Dade/Broward Model which was accepted by FDOT District IV as an appropriate method of estimation for the FY 2010 – 2019 TDP Major Update.

8.6.1 Methodology

Travel demand estimates on transportation needs in a region are based on projected levels of population and employment as well as the characteristics of the existing and planned transportation networks. To estimate these transportation needs, the Dade-Broward travel demand model was developed by merging the calibrated and validated travel demand models created by the both the Miami-Dade County and Broward County Metropolitan Planning Organizations. This travel demand estimation model was specifically developed to address MDT's needs in assessing potential transit ridership within Miami-Dade and across the Dade-Broward county line.

The main input to the model include population and employment data as well as roadway and transit networks. The demographic data used in the model were developed by the respective Planning and Zoning department for each county. The roadway and transit networks reflect the networks that were approved as part of the respective county's model updates of their LRTP's development process for the forecast years. The mode choice component of the model was refined and calibrated in collaboration with the Federal Transit Administration and based on the comprehensive transit on-board survey performed in 2004 by Miami-Dade Transit.

The model was further updated to provide information needed for the MDT TDP Major Update. The updates to the Dade-Broward model included estimating 2009 and 2019 conditions based on the available 2000 and 2030 MPO data. Socio-economic data for 2009 and 2019 were estimated by interpolating between the 2000 and 2030 data. The roadway and transit networks were also adjusted to reflect current conditions and projected conditions in 2019. The transit network for both 2009 and 2019 is based on the latest line-up rolled out in June 2009 by MDT.

8.6.2 Ten Year Model Estimate Forecast (2009 – 2019)

The population and employment levels are expected to grow in Miami-Dade by approximately 2.5 and one percent per year respectively. As a result, estimated ridership between 2009 and 2019 is projected to increase at approximately 2.5 percent per year.

The largest increase is seen in estimated ridership (passenger link trips) for Metrorail with the introduction of the Orange Line Phase 1: MIC-Earlington Heights service in 2012 and the completion of the Miami International Airport PeopleMover project. For this analysis, the 2019 operating scenario assumes that the MIC-EH would operate from the Miami Intermodal Center to Dadeland South. The service will operate on the new section of elevated tracks between the MIC and Earlington Heights and share the existing elevated tracks currently used for the Stage 1 line from Palmetto to Dadeland south. The line MIC-EH line is assumed to run at 7.5-minute headway during the peak period and 15-minute headway during the off-peak hours, while the existing line would

continue to operate at 7.5 and 15-minute headways during peak and off-peak periods. The Miami International Airport PeopleMover service is assumed to operate at 90-second headways all day and interface with the regional transit service including the MIC-EH line at the MIC station. Figure 8-2 shows the assumed operating plan. The subsequent phases of the Orange Line, Phase 2: North Corridor and Phase 3: East-West are not included since they are not planned at this time to be in operation by 2019.

The MIC-EH Metrorail Extension and the MIA PeopleMover projects will in effect provide rail service at one of the region's major employment centers – Miami International Airport. Metrorail ridership is expected to increase by 45 percent between 2009 and 2019. Although the service on Metrobus is not expected to change over the planning horizon of the TDP Major Update, ridership is expected to grow by 12 percent between 2009 and 2019 accounting for the growth in population and employment as well as the new Metrorail service to Miami International Airport, as bus routes will connect Metrorail to the region. Consistent with the increase in the number of passengers using the transit system, both passenger miles and hours will also increase by approximately 20 percent between 2009 and 2019. A summary of the mode choice output results is provided in the subsequent tables.

Table 8-3: 2009 Estimated Transit System Summary

	Total Daily Passenger Linked Trips	Total Daily Passenger Miles	Total Daily Passenger Hours
Metrobus	191,350	703,800	49,100
Express Bus	3,070	23,560	1,000
Metrorail	53,790	331,830	9,360
Metromover	22,050	15,410	1,310
Total	270,260	1,074,600	60,770

Source: Dade-Broward Model, 2009

Table 8-4: 2019 Transit System Summary

	Total Daily Passenger Linked Trips	Total Daily Passenger Miles	Total Daily Passenger Hours
Metrobus	214,960	785,870	55,950
Express Bus	3,900	31,760	1,350
Metrorail	78,230	450,560	12,550
Metromover	29,420	21,040	2,580
MIA Mover	5,330	5,330	800
Total	331,840	1,294,560	73,230

Source: Dade-Broward Model, 2009

Figure 8-2: Operating Plan Used for Travel Forecast Estimates

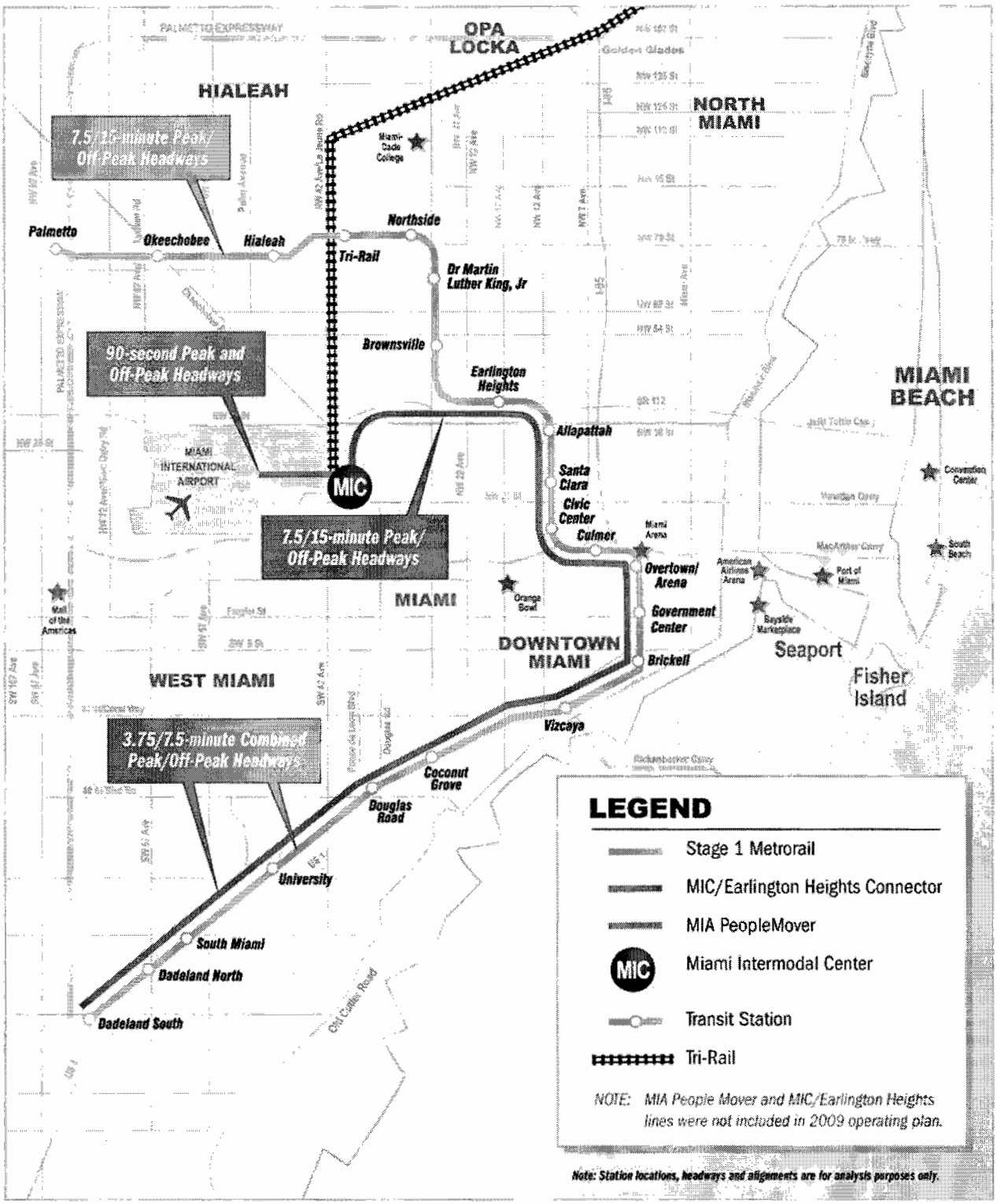


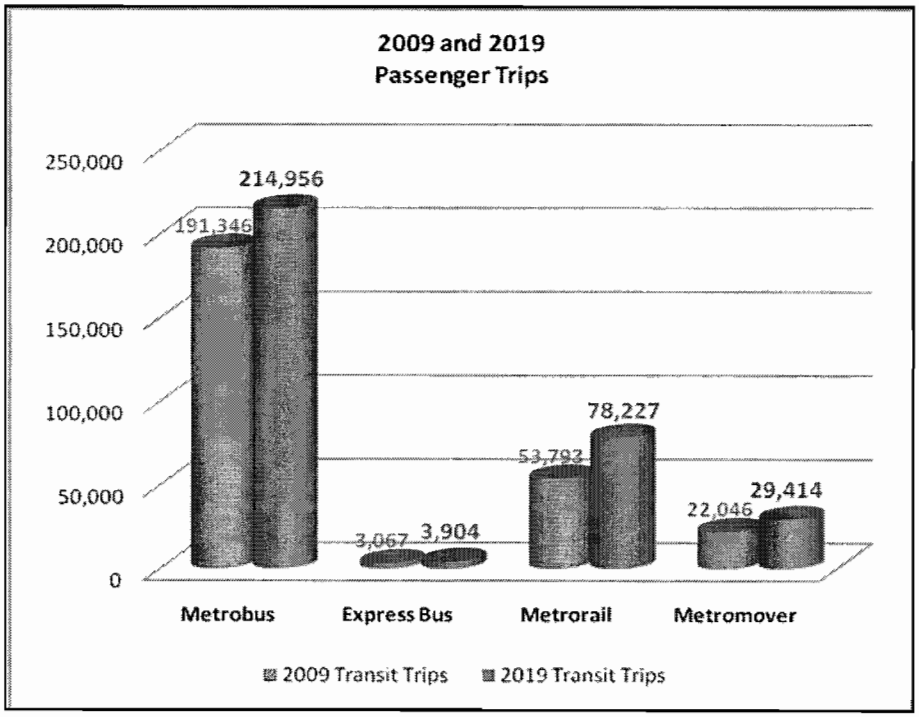
Table 8-5: Difference between 2009 and 2019 Transit System Summary

	Total Daily Passenger Linked Trips	Total Daily Passenger Miles	Total Daily Passenger Hours
Metrobus	23,610	82,070	6,860
Express Bus	840	8,200	350
Metrorail	24,440	118,730	3,190
Metromover	7,370	5,630	1,280
MIA Mover	5,330	5,330	800
Total	61,590	219,960	12,480

Source: Dade-Broward Model, 2009

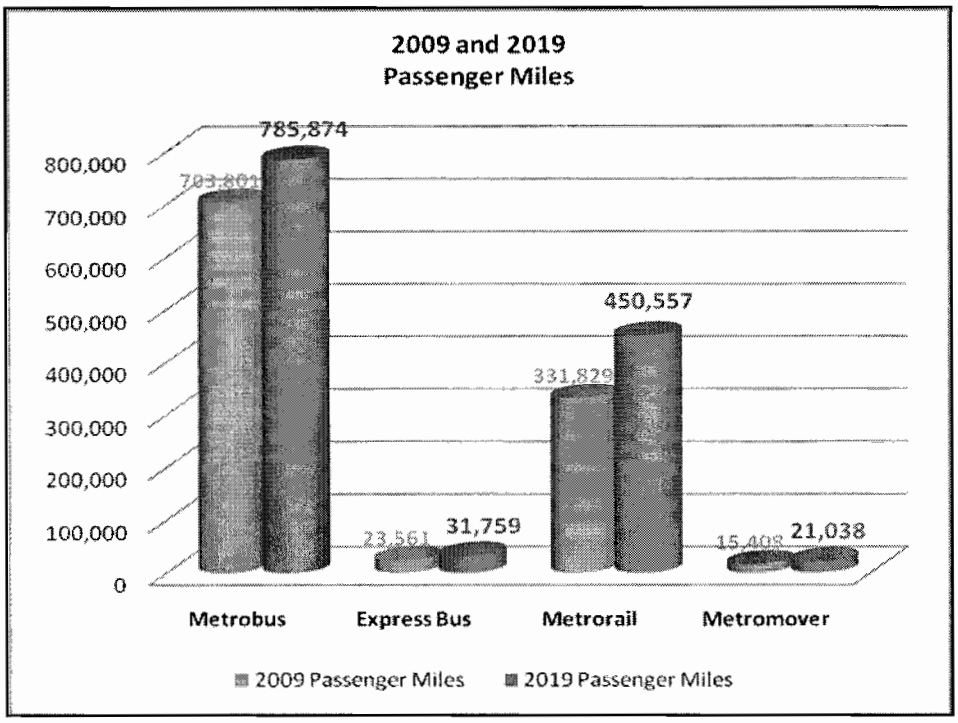
The following figures (Figure 8-3 through Figure 8-5) help to illustrate the percent change or growth in passenger trips, passenger miles and passenger hours according to transit mode between 2009 and 2019.

Figure 8-3: Difference in 2009 and Projected 2019 Passenger Trips



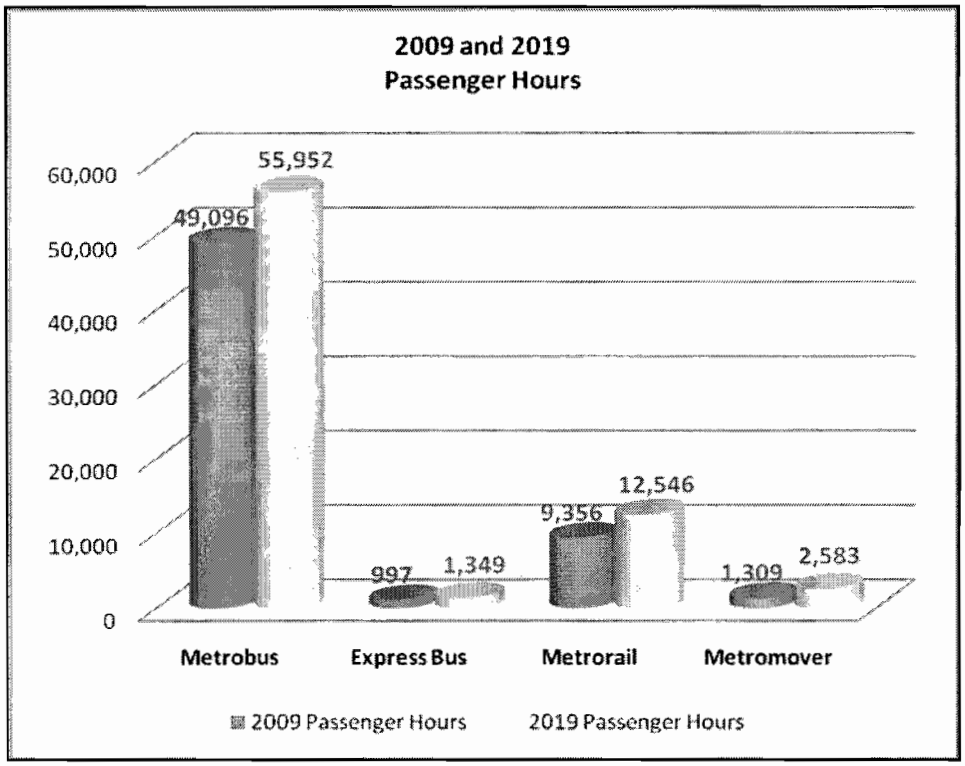
Source: Dade-Broward Model, 2009

Figure 8-4: Difference in 2009 and Projected 2019 Passenger Miles



Source: Dade-Broward Model, 2009

Figure 8-5: Difference in 2009 and Projected 2019 Passenger Hours



Source: Dade-Broward Model, 2009

8.7 Transit Propensity

A transit propensity analysis was performed for the TDP Major Update based upon the latest available Census data for 2000. The transit propensity analysis takes into account various demographic characteristics of geographic areas of Miami-Dade County and uses this information to identify those areas that have the strongest propensity for transit use. The transit propensity analysis prepared for the MDT TDP Major Update took into account three demographic characteristics:

- Percentage of Population Age 65 or Over
- Percentage of Low Income Households (household income <$10,000)
- Percentage of Zero Car Households

All of these household characteristics are considered an important transit market, so places with a high concentration of these three characteristics can be considered to be locations where improvements to transit service are likely to yield the greatest return in terms of transit ridership.

The maps in Figure 8-7, Figure 8-7, and Figure 8-8 on the following pages show concentrations of elderly persons, low income households and "Zero Car" households, households that traditionally lack access to a private vehicle. As seen on the map showing percentage of population age 65 and over, the greatest concentration of elderly residents is located in the mid-county and northern areas and along the coast. Concentration of low income households are found mainly west and north of downtown, with other pockets scattered throughout the County. Zero-car household distribution is similar to location of low income households, with the households mostly located west and north of downtown, with some scattered pockets throughout the County.

Figure 8-9 shows the combined concentration of each of these demographic characteristics plotted on the same map, allowing identification of the areas in which they overlap. The areas with high concentration of all three demographic (age 65 and over, low income, and zero-car households) characteristics are shown on the map in Figure 8-10.

Figure 8-6: Percentage of People 65 Years and Older

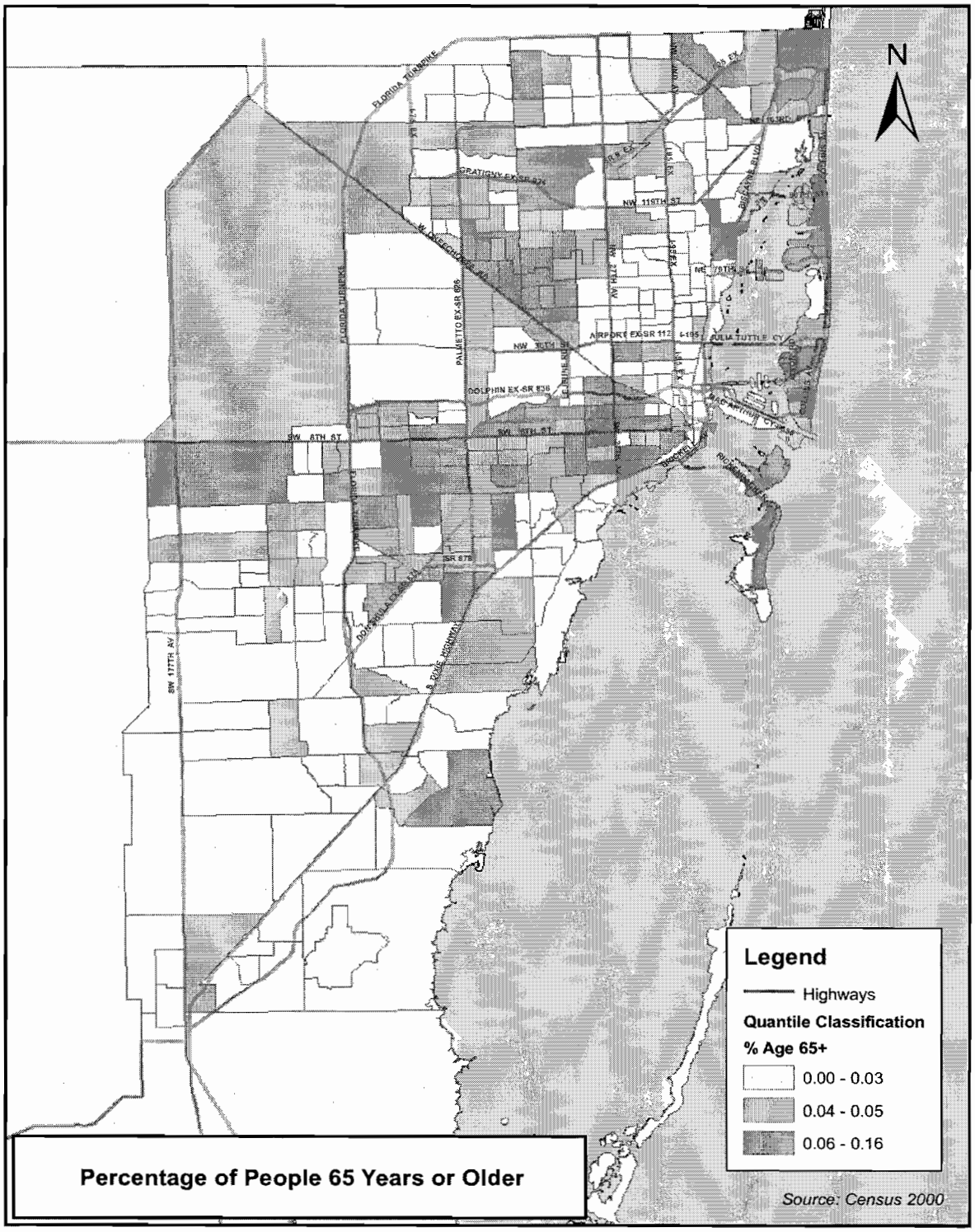


Figure 8-7: Percentage of Low Income Households

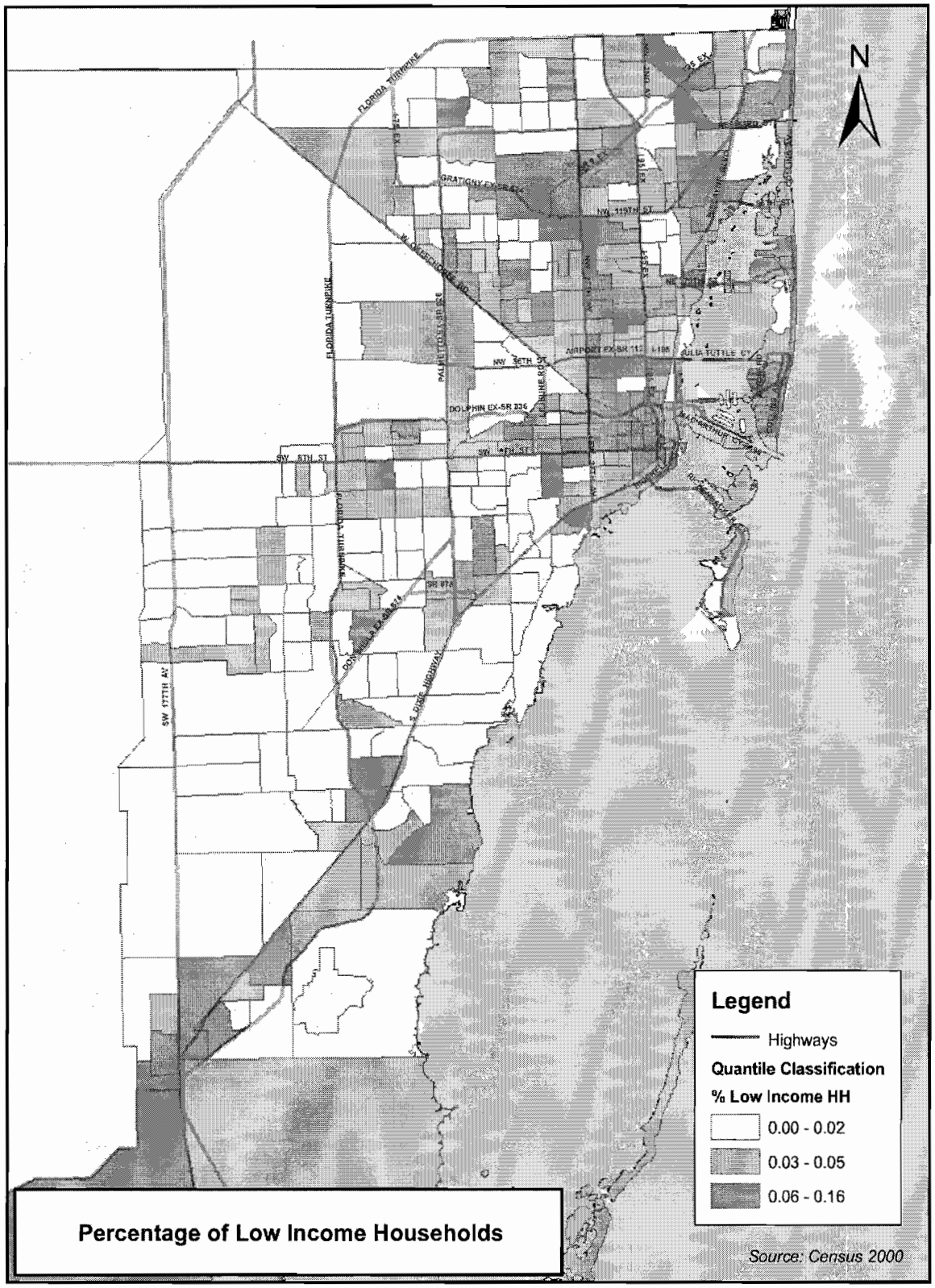


Figure 8-8: Pecentage of Zero Car Households

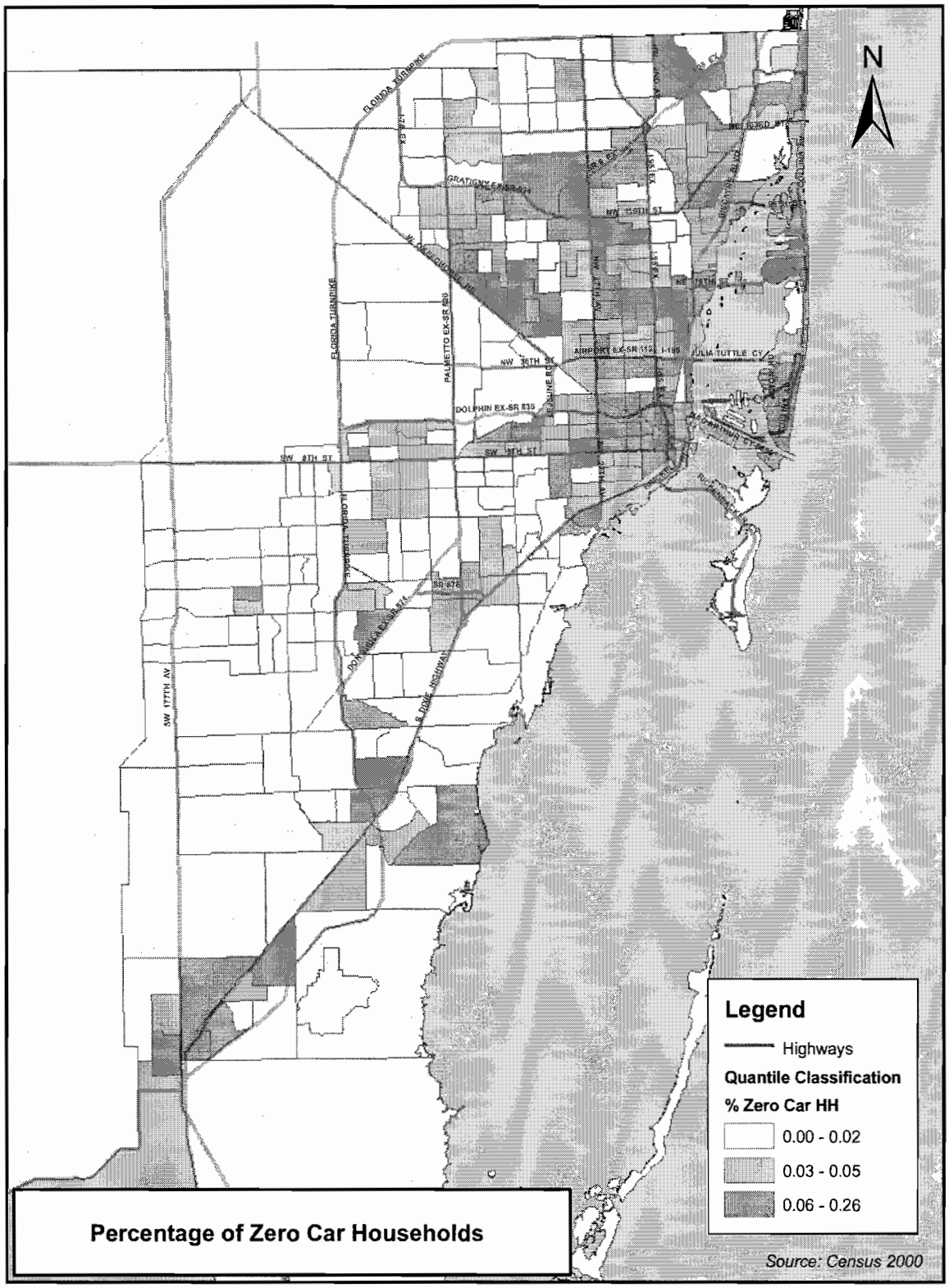


Figure 8-9: Highest Concentration of Transit Dependant Population

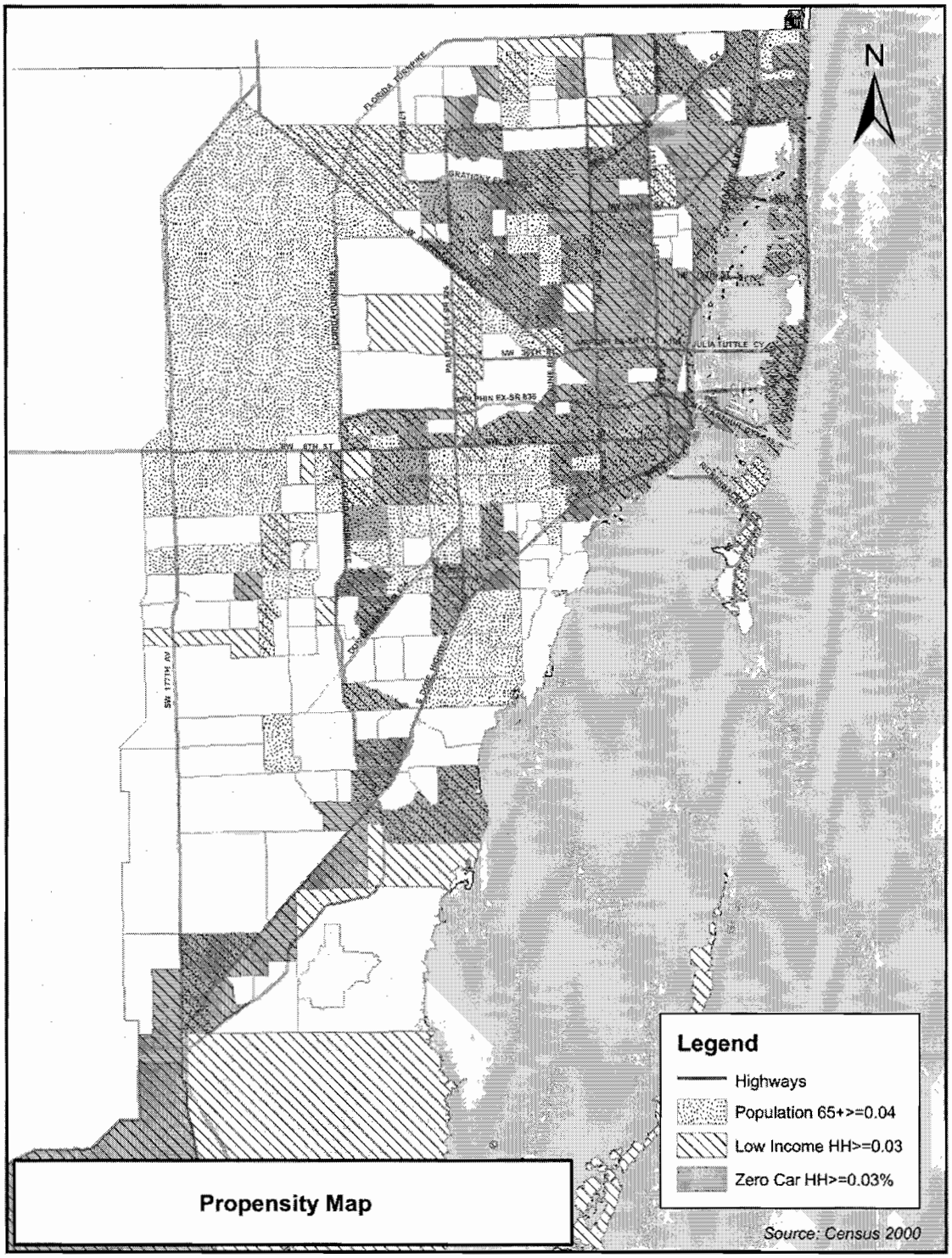
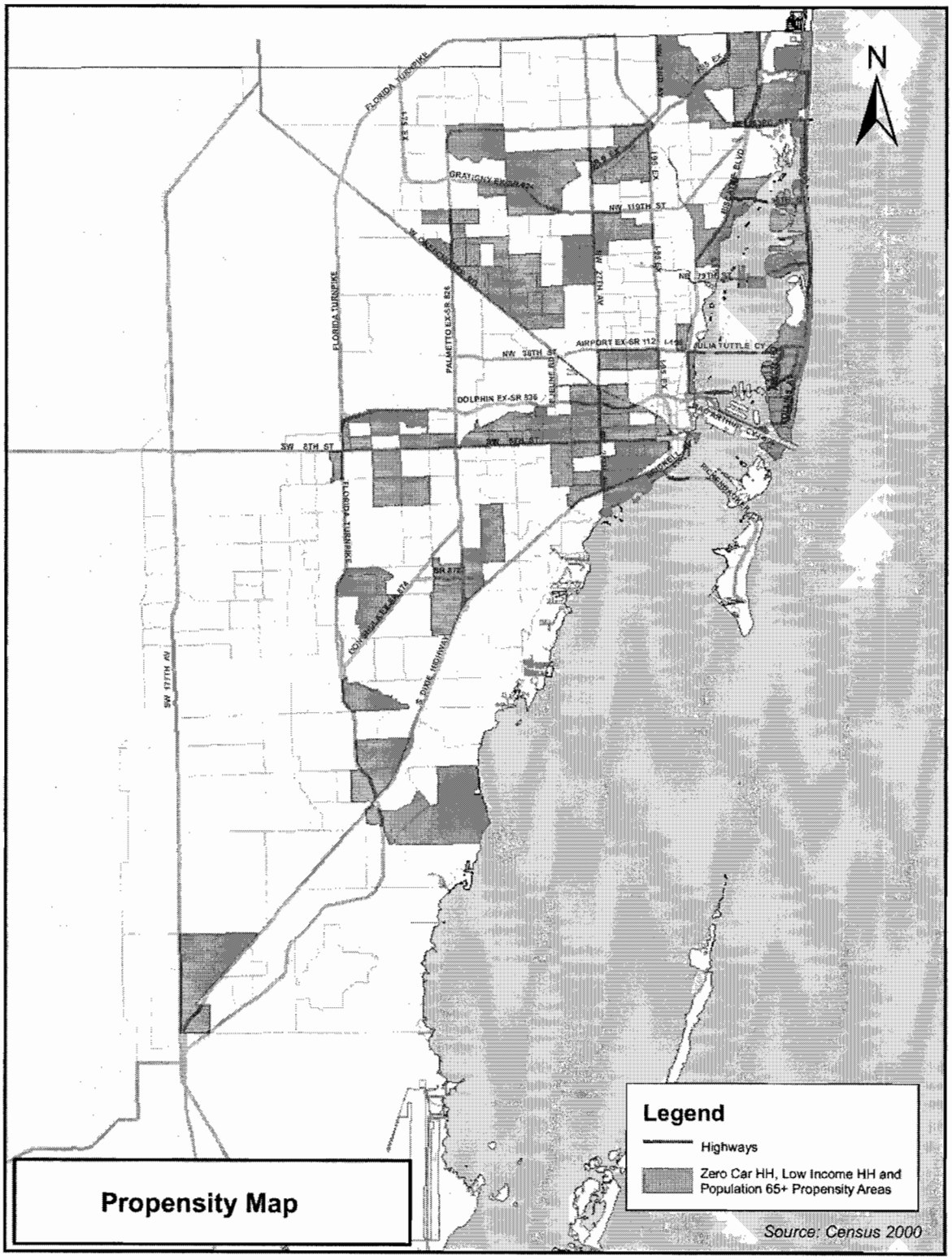


Figure 8-10: Transit Propensity Map

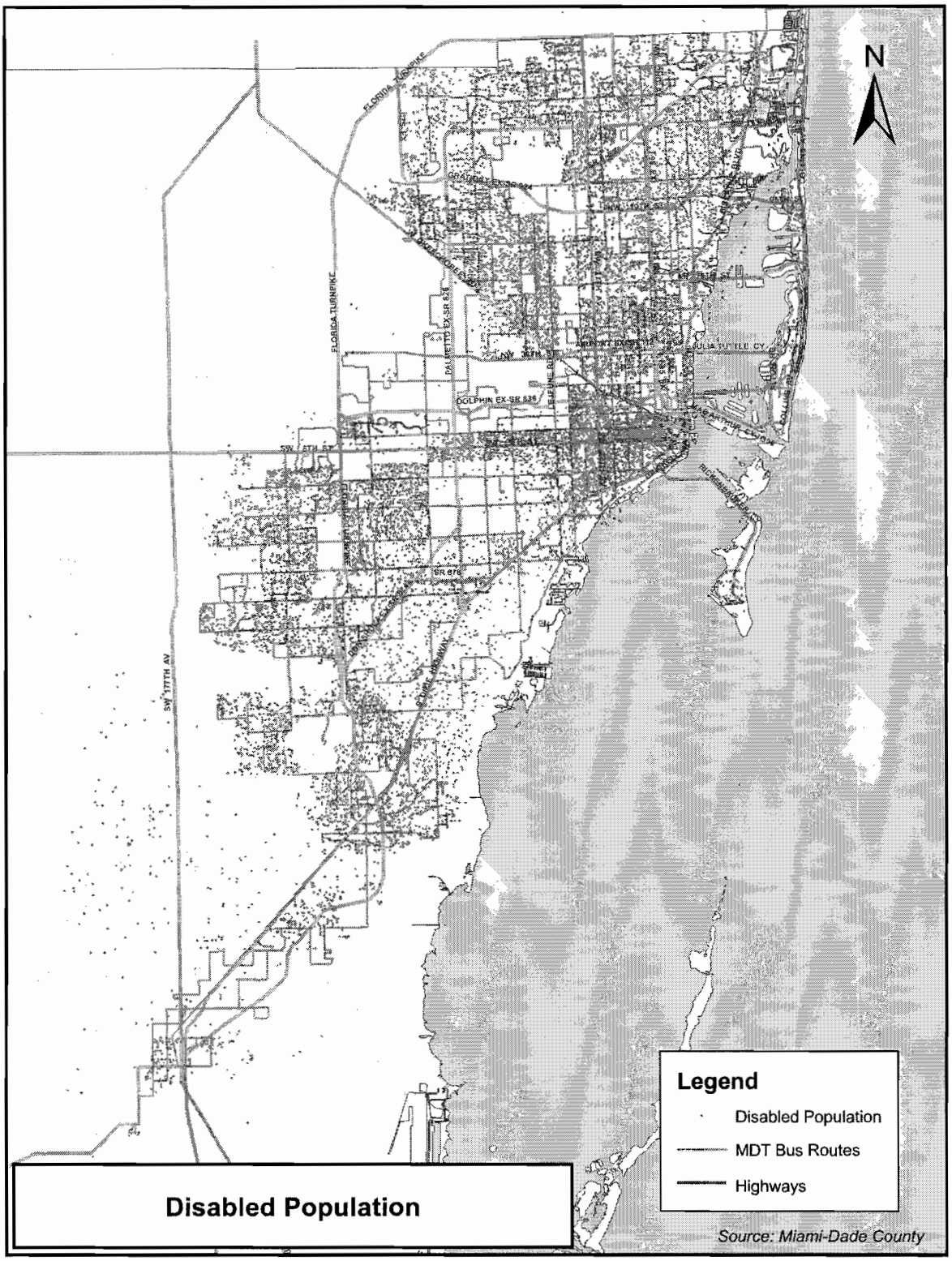


The transit propensity map shows a strong concentration of areas for high transit ridership potential areas west of downtown and mid-County, with a number of pockets north and south and along the coast. These areas generally correspond to those areas where MDT is providing higher level transit service or has plans to expand its service offerings;

- The Hialeah area and higher-propensity pockets north and south of downtown are served by the existing Metrorail and Busway services.
- Many of the high propensity areas in the northern areas of Miami-Dade County would be served by a premium transit service in the NW 27th Avenue corridor (North Corridor as referenced in the FY 2010 – 2014 TIP).
- High propensity areas along the coast would be served by a proposed premium transit service from downtown Miami to Miami Beach (Baylink light rail service as referenced in the 2030 LRTP).
- Areas along West Flagler Street, SW 8th Street and nearby parallel routes are served by high frequency bus service such as the Routes 8 and 11, and the Flagler MAX.

The distribution of the disabled population within Miami-Dade County is presented in Figure 8-11 to include an overlay of existing Metrobus service. Although Metrobus service provides coverage for many of these areas, bus routes and stops tend to be located at distances that create an inconvenience for many potential users. These far distances between a residence and a bus stop create a potential unsafe pedestrian condition for the disabled when there is a need to cross multi-lane roadways and busy street intersections to reach a bus stop. However, in some cases where the bus stop is in close proximity (e.g., several blocks) to a residence, Metrobus service may actually be able to supplement existing demand response services.

Figure 8-11: Disabled Popluation Distribution



8.7.1 Roadway Level of Service

The maps shown in Figure 8-12 and Figure 8-13 show existing and projected roadway level of service (LOS) on the major arterial and higher-level roadways in Miami-Dade County for 2005 and 2015. The figures were developed by the MPO as part of the Arterial Grid Analysis Study performed recently. Based on the study, the Future Conditions LOS (2015) was determined using traffic growth rates from Miami-Dade County's 2030 LRTP. Roadway level of service is calculated largely, though not entirely on the basis of volume-over-capacity (V/C) ratios. Roadways where the demand for peak period traffic access is at or exceeds the capacity of the roadway experience levels of service E and F, depending on the degree to which demand exceeds capacity. Roadways on which conditions are free-flowing are indicated by LOS A and B. Roadways that are approaching capacity are indicated by LOS C and D.

Traffic congestion is a critical issue for bus service that uses urban arterials. Traffic congestion results in bus service being less efficient and effective, extending running times, making it difficult to maintain bus schedules and causing inconvenience to bus passengers.

The map in Figure 8-12 indicates that traffic congestion already is a serious problem in Miami-Dade County and affects many of MDT's highest ridership bus routes. As the map in Figure 8-13 shows, by 2015 serious traffic congestion will spread, and most segments on the major arterial roadways in the county, both north-south and east-west, will experience LOS D, E or F conditions during the peak travel periods.

Many streets on which MDT's highest ridership routes operate, including Collins Avenue (Routes L and S, among others) Flagler Street (Route 11) and Biscayne Boulevard (Route 3) are already experiencing high levels congestion, and will experience worsening congestion in the future, virtually along their entire alignments. Improvements such as through signal or roadway priority treatments should therefore be put in place to mitigate the adverse impacts of traffic congestion on transit service. These mitigation measures will minimize the need to deploy and operate more buses in order to maintain and achieve the same service headways.

The increase in bus running time is apparent as illustrated in Figure 8-14 through Figure 8-17 depicting travel time for buses serving downtown Miami. Figure 8-14 and Figure 8-15 identifies existing bus travel time for 2009 and Figure 8-16 and Figure 8-17 shows 2009 and 2019 for express bus travel time. For purposes of the analysis in Figure 8-16 MDT express bus service routes and limited stop routes considered are the following:

- Kendall - Kendall Area Transit (KAT) (Route 288);
- Killian KAT (Route 204);
- Sunset KAT (Route 272);
- 95 Civic Center (Route 95X);
- Dade-Monroe Express (Route 301)

The data shown on these figures was developed using the travel time matrices from the Dade-Broward model for 2009 and 2019. Each map is color coded to show the areas that take longer than 45 minutes by bus to reach downtown Miami. One notable difference between the bus and express bus maps is in the area of the Golden Glades interchange where an improvement to travel time to downtown Miami is shown as a result of the implementation of the I-95 Express lane service. Overall, the 45 minutes travel time shed decreases slightly between 2009 and 2019.

Figure 8-12: Roadway Level of Service (2005)

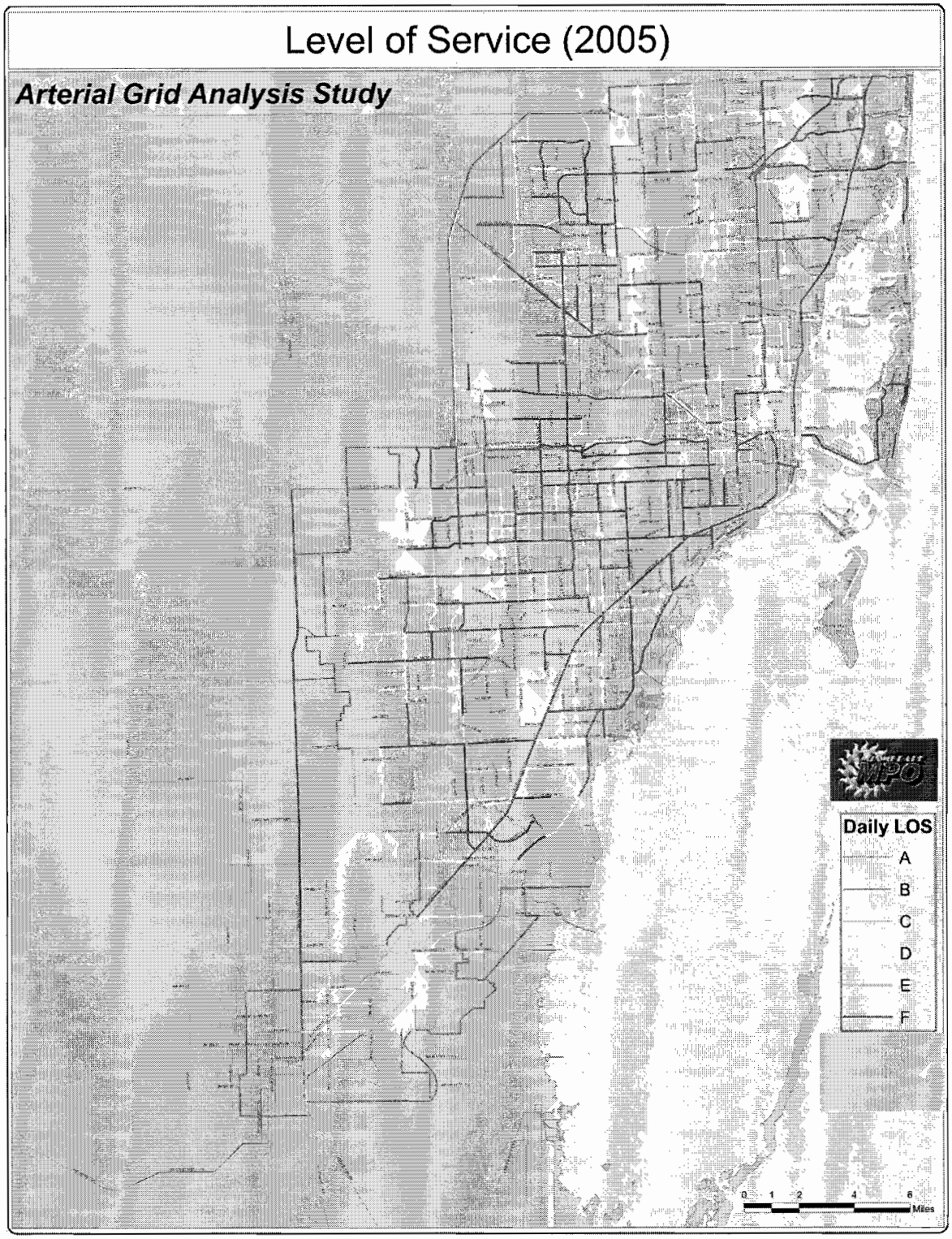


Figure 8-13: Projected Roadway Level of Service (2015)

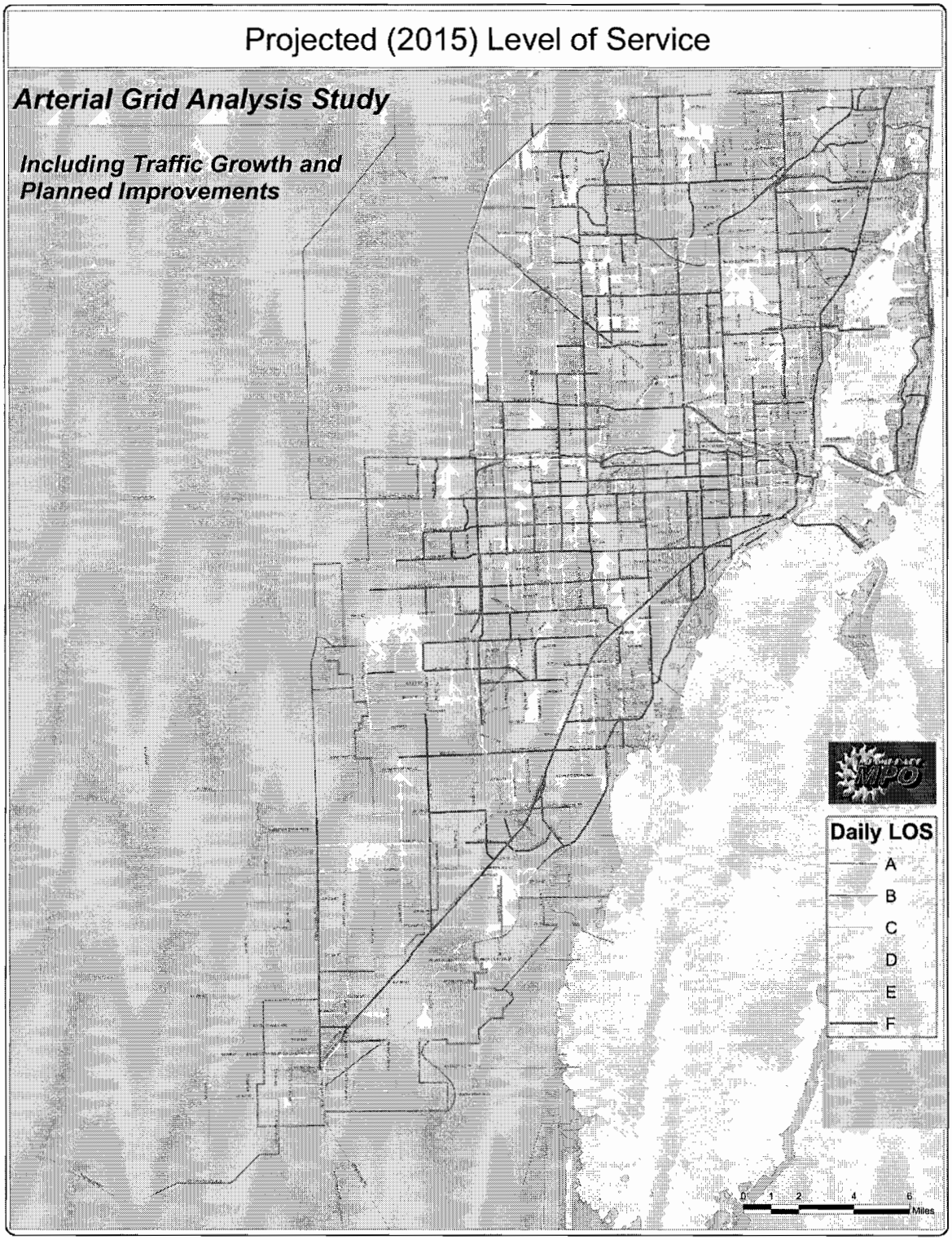
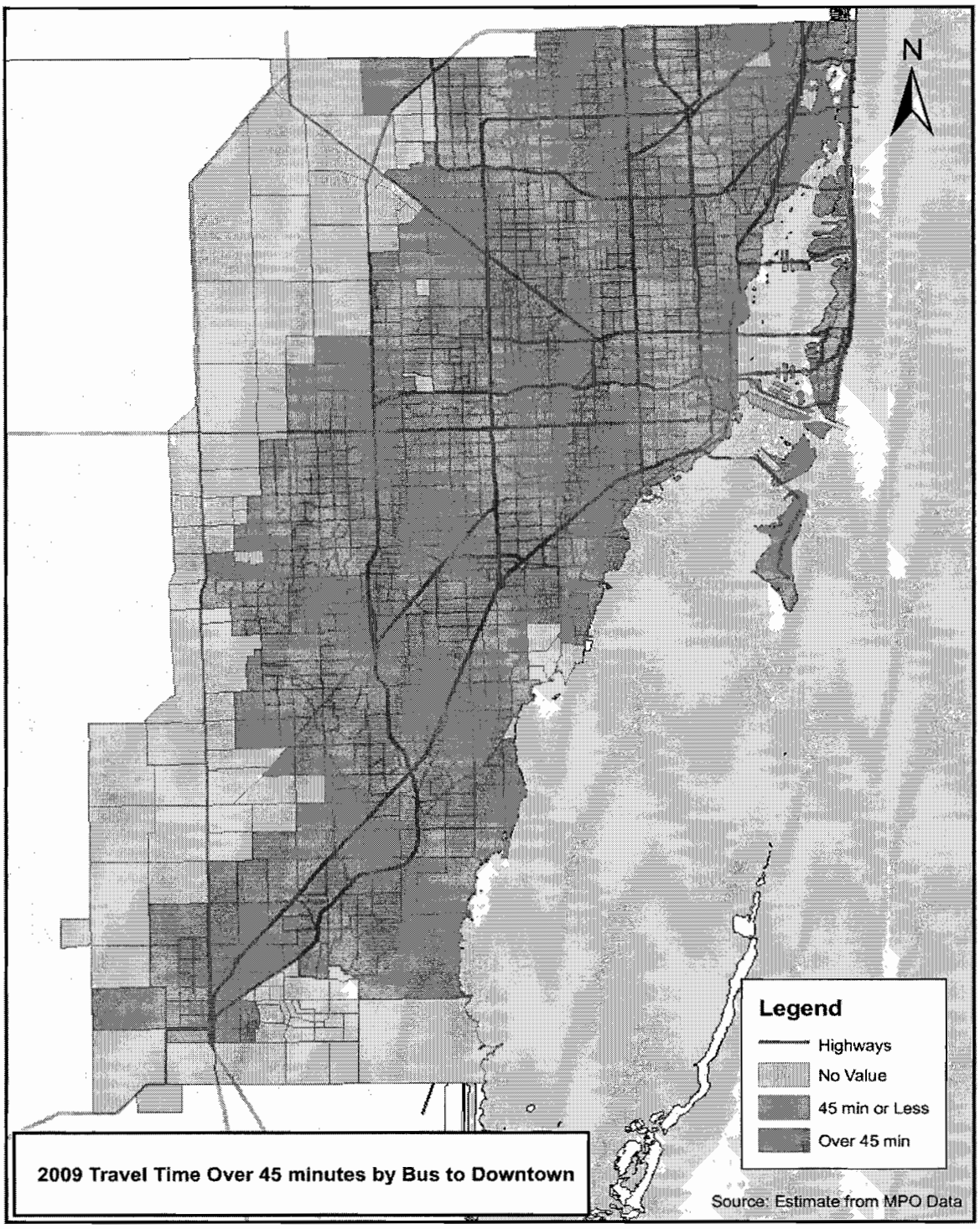
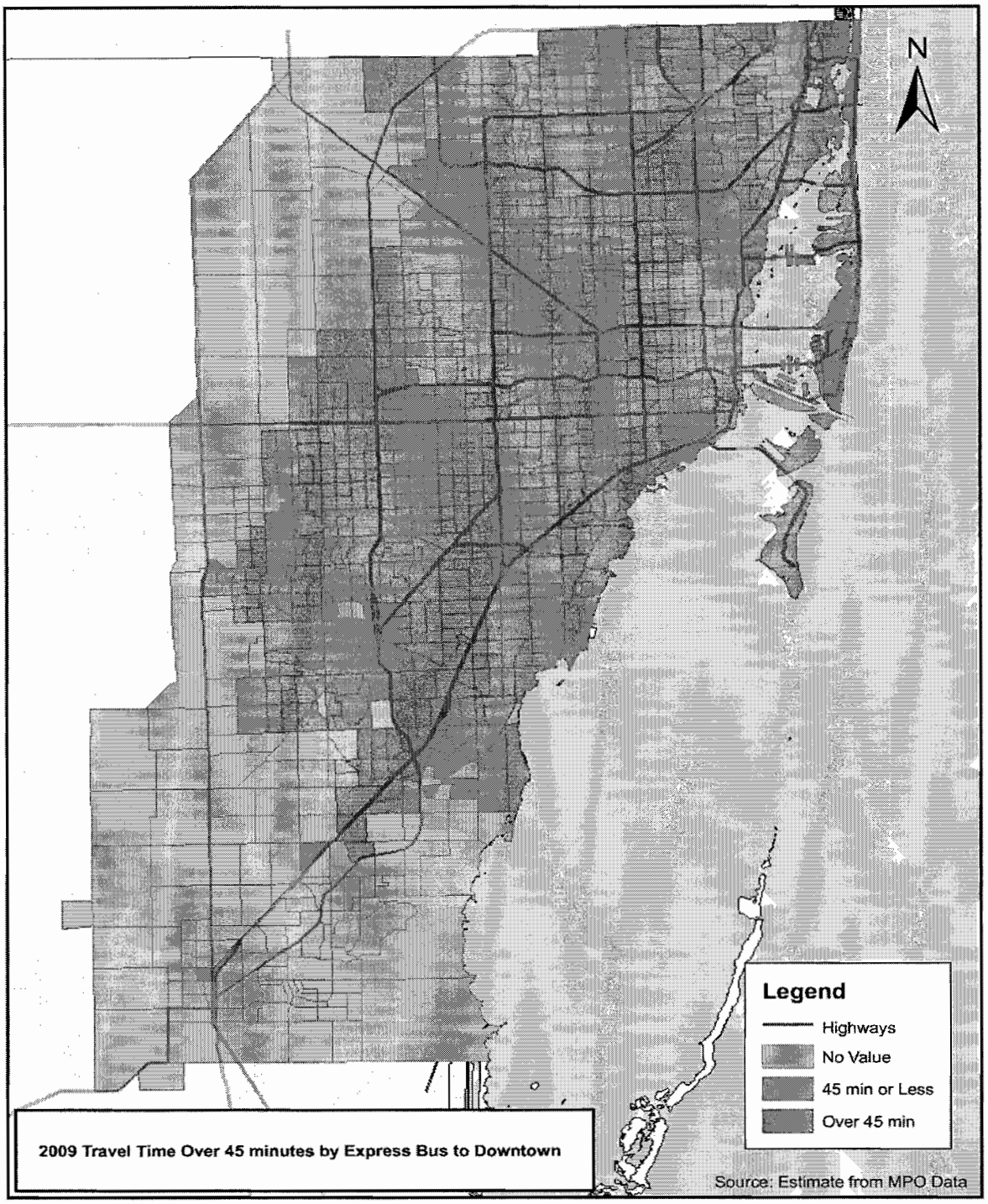


Figure 8-14: 2009 Bus Travel Time to Downtown Miami



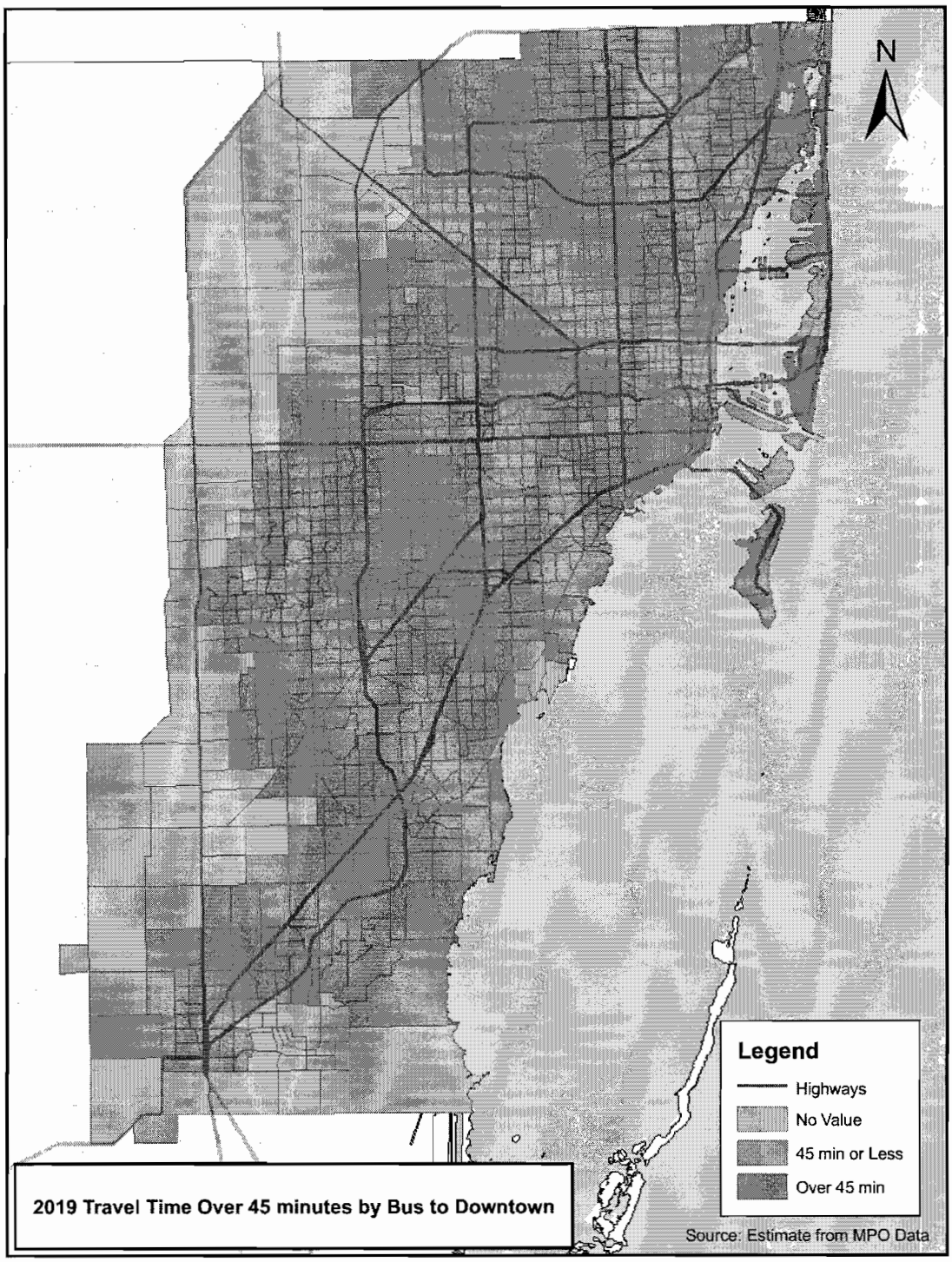
Source: Miami-Dade Transit, 2009

Figure 8-15: 2009 Express Bus Travel Time to Downtown Miami



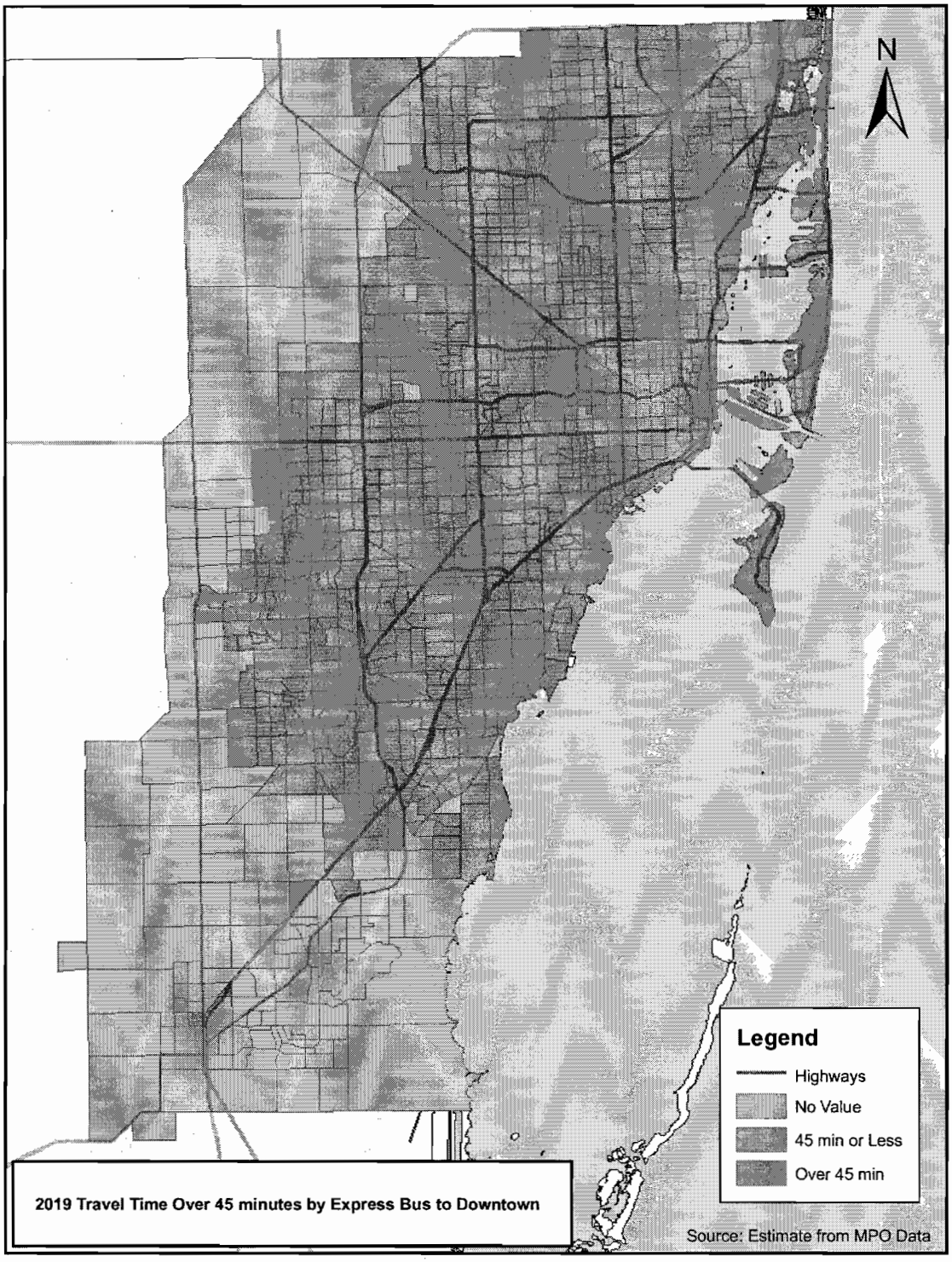
Source: Miami-Dade Transit, 2009

Figure 8-16: 2019 Bus Travel Time to Downtown Miami



Source: Dade-Broward Model, 2009

Figure 8-17: 2019 Express Bus Travel Time to Downtown Miami



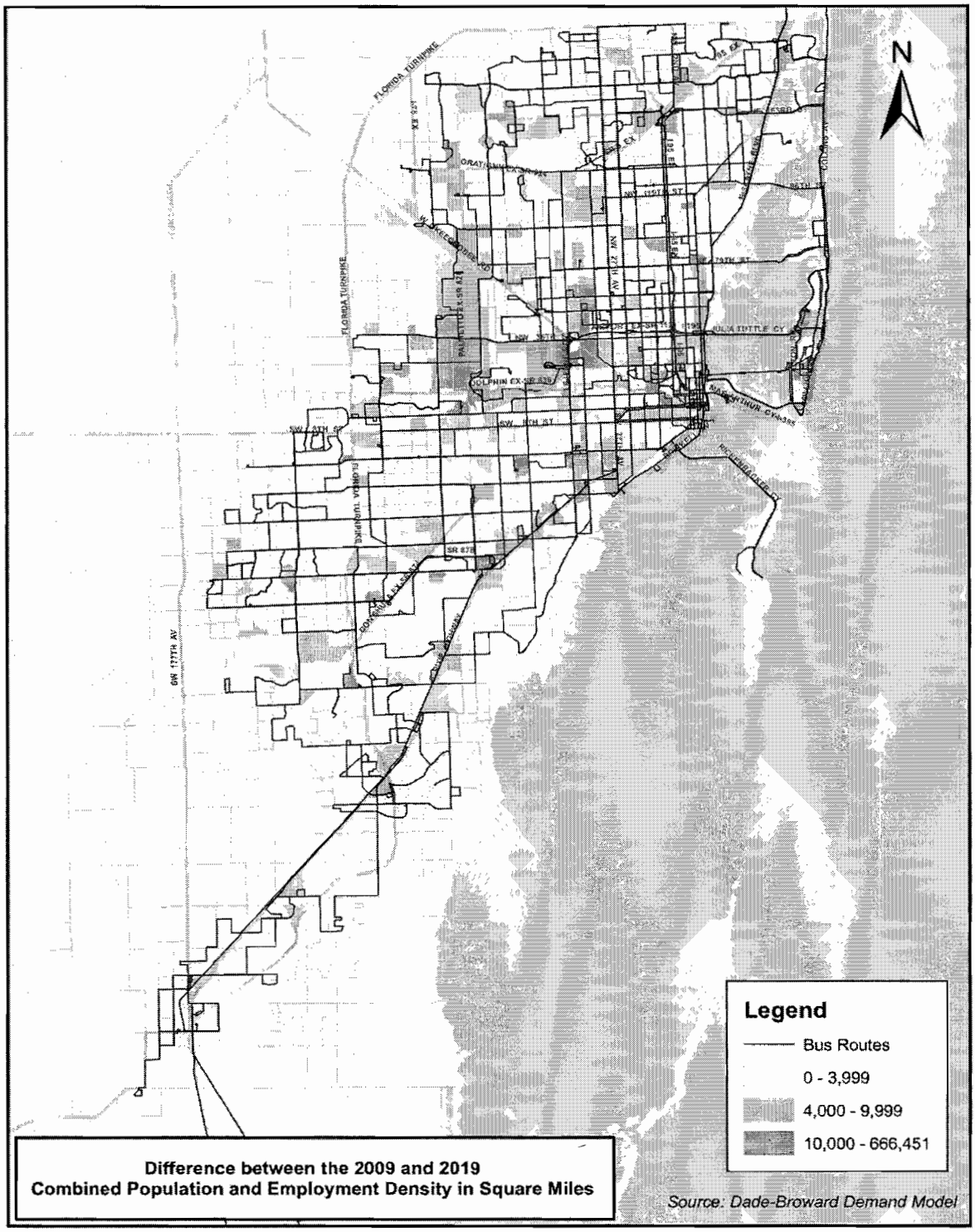
Source: Dade-Broward Model, 2009

8.7.2 Population and Employment Density

Analysis of population and employment was based on estimated 2009 and 2019 figures based on interpolation of 2000 and 2030 socio-economic data. The map in Figure 8-18 shows the projected difference in combined population and employment density, expressed as persons plus employees per square mile within a TAZ, between 2009 and 2019. The analysis of population and employment in the area indicates that no areas will decline in terms of population and employment density between 2009 and 2019. The yellow colored areas are those that will grow by 4,000 to 10,000 persons plus workers per square mile, while the brown areas will grow by 10,000 or more persons plus workers per square mile.

An overlay of the current transit service shows that MDT is currently serving all of the areas of the county where significant growth is anticipated. Most of the areas that are showing higher growth are already served by Metrorail or by high frequency bus service on multiple bus routes. The area around the Miami International Airport, which is expected to grow significantly in population and employment between 2009 and 2019, will be served by the Metrorail East-West extension. Other corridors targeted for bus improvements in this report, includes West Flagler Street, SW 8th Street, Biscayne Boulevard, and Kendall Drive (SW 88th Street) which include pockets where significant growth is anticipated between 2009 and 2019.

Figure 8-18: Difference between Population and Employment Density (2009 – 2019)



Source: Miami-Dade Transit, 2009

8.8 Identifying Unmet Transit Needs

Based on the results of the existing transit conditions, the transit propensity analysis, traffic conditions and other considerations, the following corridors warrant consideration as priority transit corridors:

- US 1 (Biscayne Boulevard) from Downtown Miami to the County line
- NE 167th/163rd/Sunny Isles Boulevard from Golden Glades Tri-Rail Station to Collins Avenue
- NW 135th Street from NW 12th Avenue to US 1
- NW 36th Street/Julia Tuttle Causeway from Tri-Rail Hialeah Market Station to Collins Avenue
- West 12th Avenue from Okeechobee Metrorail Station to NW 186th Street
- SW 107th Avenue from SW 40th Street to NW 25th Street
- West Flagler Street from SW 107th Avenue to Downtown Miami
- SW 8th Street from SW 107th Avenue to Downtown Miami
- SW 72nd Street from 117th Avenue to US 1/Busway
- Kendall Drive from 137th Avenue to US 1/Busway
- Coral Reef Drive from 137th Avenue to US 1/Busway

These corridors are shown in the map in Figure 8-19. Table 8-6 on the next page shows the existing (2008) MDT ridership on routes that use portions of each of these corridors, and the average roadway level of service for each of the corridors.

All of these corridors serve areas with pockets of high transit propensity (as indicated in Figure 8-10) and experience high peak period traffic congestion based on 2015 roadway level of service (LOS) (as indicated in the map in Figure 8-13). Several, including US 1, Flagler Street, and SW 8th Street support high ridership existing bus routes. In addition, four of these corridors (Biscayne, Flagler, Kendall, Miami Gardens) are included among the corridors that were examined by the Miami-Dade MPO in their Short-Term Transit Improvement Options. Further analysis is required to clearly prioritize these corridors for further analysis. This additional analysis could come in the form of a corridor improvement planning study or an Alternatives Analysis to enter into the FTA's Section 5309 New Starts process. Most of the corridors are potentially eligible for capital funding under the FTA's "Small Starts" or "Very Small Starts" programs.

High-ridership transit corridors include north of NW 27th Avenue and Collins Avenue in Miami Beach experience significant traffic congestion, but are the sites of planned capital improvements as mentioned previously as listed in the 2030 LRTP (the North Corridor Metrorail Extension and the Bay Link LRT line). However, should these projects not go forward as rail transit projects, these corridors should be considered for high capacity bus corridor improvements.

In addition, most of the major north-south and east-west streets in downtown Miami and in Little Havana (12th, 17th, 22nd and 27th Avenues) support relatively high transit ridership, experience significant traffic congestion, and lie in an area of high transit propensity. Improvements could be concentrated on one or two streets, or distributed across several streets to improve transit operating conditions in these areas.

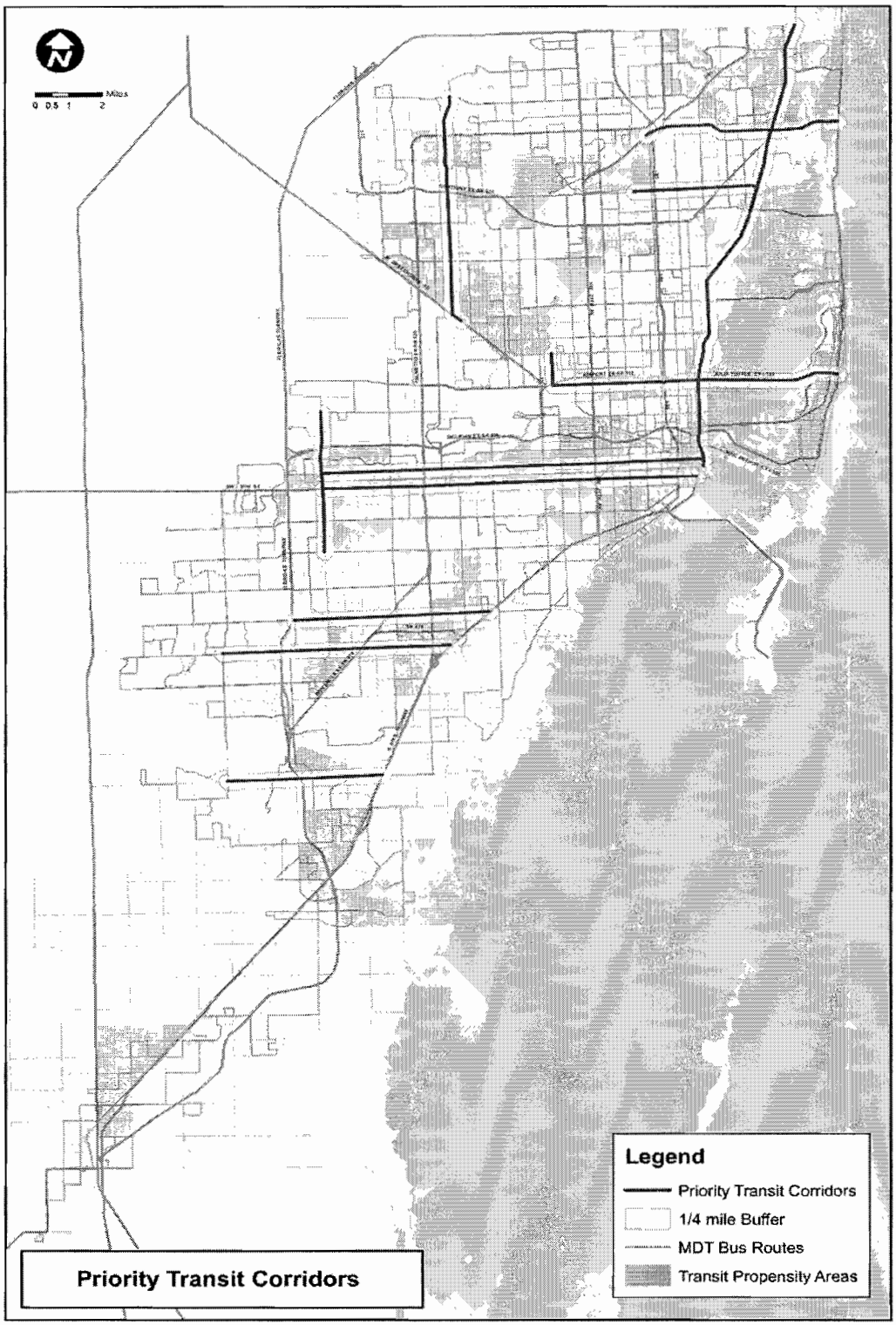
Table 8-6: Proposed Priority Corridor Transit Routes

Potential Recommended Corridor Improvements					
Alignment	**From (South/West)**	**To (North/East)**	**Routes Served**	**MDT Ridership**	**Roadway LOS (2019)**
US 1	Downtown Miami	Hallandale Beach Boulevard	C	3,956	E/F
			J	5,709	
			S	12,380	
			3	8,123	
			16	4,275	
			28	1,471	
			33	2,226	
			36	3,220	
			51	4,637	
			62	4,973	
			93	3,406	
			95	1,803	
				56,180	
NE 167th/163rd/Sunny Isles Blvd	Golden Glades	Collins Avenue	E	12,380	F
			H	219	
			2	1,471	
			3	1,178	
			22	2,624	
			83	737	
			95	1,283	
			246	1	
				19,893	
NW 135th Street	NW 12th Avenue	Biscayne Blvd. US 1	E	12,380	A-F
			28	289	
				12,669	
NW 36th St./Julia Tuttle Causeway	Tri-Rail Hialeah Market	Collins Avenue	C	493	C-F
			J	688	
			M	3,320	
			36	4,973	
			62	1,803	
			120	4,932	
				16,209	

Table 8-6: Proposed Priority Corridor Transit Routes (continued)

Potential Recommended Corridor Improvements					
Alignment	**From (South/West)**	**To (North/East)**	**Routes Served**	**MDT Ridership**	**Roadway LOS**
West 12th Avenue	Okeechobee Metrorail Station	NW 186th Street	73	2,478	C-F
			83	4,185	
			267	494	
				7,156	
SW 107th Avenue/ SW 112th Avenue	SW 40th Street	NW 25th Street	7	4,605	D-F
			8	7,768	
			11	14,121	
			36	3,220	
			71	1,372	
			137	2,144	
			212	1,283	
			238	666	
				35,178	
Flagler Street	107th Avenue	Downtown Miami	6	940	D-F
			7	4,605	
			11	14,121	
			51	4,637	
			208	1,912	
				26,215	
SW 8th Street	107th Avenue	Downtown Miami	7	4,605	F
			8	7,768	
			11	14,121	
			51	4,637	
			207	1,842	
				32,973	
SW 72nd Street	117th Avenue	US 1/Busway	56	958	E/F
			72	1,059	
			272	1,095	
				3,113	
Kendall Drive	137th Avenue	US 1/Busway	88	3,060	E/F
			288	808	
				3,867	
Coral Reef Drive	137th Avenue	US 1/Busway	36	3,220	F
			52	2,002	
			252	1,336	
				6,558	

Figure 8-19: Priority Transit Corridors



The consideration of the following infrastructure and systems improvements would result in travel time savings include the implementation in these corridors of:

- Bus signal priority or pre-emption
- Bus pull-outs
- Queue jumps
- Peak period or all day bus lane restrictions
- Dedicated (separated) bus lanes

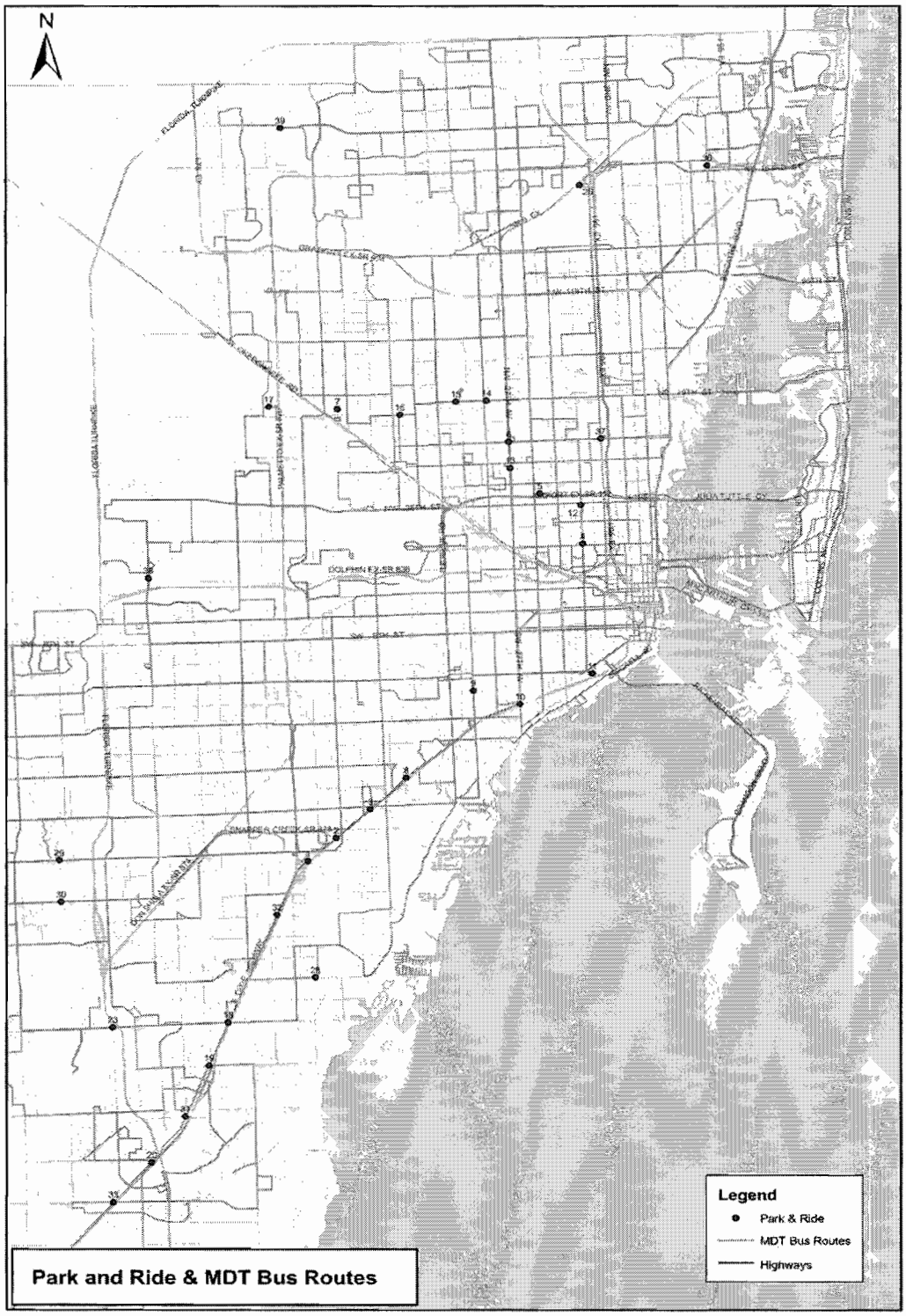
Should travel demand in the corridors be sufficient, full bus rapid transit (BRT) or light rail transit (LRT) could be considered. The implementation of time savings improvements would require a detailed analysis of the traffic issues in the corridors, the availability of right-of-way, environmental and social impacts and other factors in each of the corridors.

In addition, transit passenger comfort amenities such as shelters, benches, bus stop pads, next bus technology and improved lighting in these corridors would improve the passenger's experience and likely would generate additional ridership.

The map in Figure 8-20 shows locations of park-and-ride and hub locations throughout the county. Coverage for park-and-ride lots, particularly for lots oriented to downtown running bus, Metrorail and Tri-Rail service, is excellent throughout most of Miami Dade County. Potential for improved park-and-ride access exists in three locations:

- West Flagler Street/SW 8th Street Corridor
- NW 27th Avenue near Broward County Line
- Kendall Drive from 137th Avenue to US 1/Busway
- Intersection of Palmetto Expressway (SR 826) and Gratigny Expressway (SR 924)

Figure 8-20: Park and Ride Areas



Source: Miami-Dade Transit, 2009

8.8.1 Alignment with TDP Major Update Goals and Objectives

The development of the goals and objectives for this TDP Major Update also creates the establishment of corresponding measures that will allow MDT to evaluate future performance in subsequent TDP updates. These measures also provide MDT the ability to assess how effective existing procedures and processes are performing as well as potentially facilitate the refinement or development of new ways for the MDT to further enhance the operation and delivery of MDT transit services system wide. Comparison of these results with future years will allow MDT to monitor and set goals for continuous improvement of its systems. Where applicable, the analysis used performance standards developed by MTA in its Service Standards document (August 6, 2009)

The following section provides quantifiable data and documentation for many of the goals, objectives and corresponding measures which will form the baseline of information for future evaluation by MDT.

8.8.1.1 Goal 1 Improve the Quality of Transit Services

Objective 1.1: Improve the accessibility to Major health care, recreation, education, employment cultural and social services facilities

Measure: Transit service route miles within 1/4 mile of major health facilities, recreation, education, employment, cultural and social services facilities

For purposes of this TDP Major Update the transit service miles providing connections to major medical and educational facilities were evaluated. In the future this measure will also evaluate recreation, employment, cultural and social service facilities. Approximately 64 transit service route miles operate within a ¼ mile of major medical facilities while more than 130 transit service miles operate within ¼ mile of all colleges and universities within Miami-Dade County.

Objective 1.2: Enhance mobility for people through improved transit connectivity

Measure: Average travel time, transfer time

Table 8-7 presents model outputs showing the total average travel time of 67 minutes during the peak travel periods for passengers on the entire MDT transit system. As presented, the peak travel time for those passengers who exclusively walk to and take Metrobus is on average about 76 minutes per work trip. Analysis of drive access trips shows an average travel time of 58 minutes per work trip for people who drive and exclusively ride Metrobus whereas they would typically walk to their final destination. The Metrobus mode is being used for this analysis since it has higher mode passenger share when compared with Metrorail and is also more susceptible to route adjustments compared to a fixed system such as Metrorail and Metromover.

Table 8-7: Average Peak Transit Travel Time

Average Peak Time	Minutes
Walk Access (HBW)	76.35
Drive Access (HBW)	58.53
Total Average Travel Time	67.44

Source: Dade-Broward Model, 2009

Objective 1.3: Improve transit level of service on major roadway corridors and between major origins and destinations

Measure: Headway and service span, average transit time savings

Table 8-8 shows estimates average travel time (including average wait time and transfer time, if required) for transit service between the traffic analysis zones of key origins and destinations in Miami-Dade County. This information was developed based on the travel times from the Dade-Broward model which is based on the latest June 2009 transit service. Peak hour travel times were based on home-based work estimated travel time. Selected traffic analysis zones (TAZ) were selected representing the areas shown on Table 8-8. As the table shows, due to traffic congestion, which causes slower travel speeds, as well as longer headways and transfers, and other factors, travel times can be quite long even for trips that are a relatively short distance.

For example, travel time between downtown Miami and Miami International Airport—a trip of only ten miles, which would take less than 20 minutes by car under uncongested conditions—averages around 70 minutes using public transit. From the Airport to Miami Beach, a relatively short trip of only 11 miles, can average around 80 minutes. A trip from Florida City to downtown, a trip that takes only 50 minutes by car, takes an average of 150 minutes using transit, in spite of the existence of both the Busway and Metrorail lines operating in the corridor. Providing benefits to the transit riders including making travel time for transit users similar to travel time for drivers, is a key element of encouraging transit use, and should be a key goal of the agency and a metric to be continuously measured.

Continuing analysis of these metrics should point MDT in the direction of improving travel speeds through corridor improvements as well as increasing headways and improving transfer coordination of transit services connecting key county origins and destinations.

Table 8-8: Estimated Peak Travel Times (minutes)

Areas	TAZ	Airport 743	Aventura 85	Coral Gables 1036	Cutler Bay 1340	Dadeland 1002	Doral 708	Downtown Miami 544	Florida City 1455	Hialeah 346	Miami Beach 618	Miami Lakes 163
Airport	**743**	-	100	50	120	70	90	70	150	50	80	70
Aventura	**85**	100	-	100	-	140	90	50	-	60	50	60
Coral Gables	**1036**	50	100	-	100	50	80	50	130	60	90	90
Cutler Bay	**1340**	125	-	100	-	50	120	130	60	-	-	-
Dadeland	**1002**	90	140	50	50	-	70	80	80	90	120	90
Doral	**708**	110	90	70	120	60	-	100	140	50	100	40
Downtown Miami	**544**	70	60	40	130	80	110		160	50	40	70
Florida City	**1455**	150	-	120	60	80	140	160	-	180	200	-
Hialeah	**346**	50	60	60	-	100	40	50	180		60	20
Miami Beach	**618**	80	50	90	-	120	90	40	200	60		80
Miami Lakes	**163**	80	60	80	-	90	40	80	-	20	80	

Source: Dade-Broward Model, 2009

Objective 1.4 Maximize service reliability and efficiency

Measure: On time performance, frequency of service:

The on-time performance for the various MDT transit modes are provided in Table 8-9. Metrorail has excellent on-time performance, which is aided by the fact the line is running on an exclusive guideway system. Excellent on-time performance also indicates that elements of the operation are working well, from scheduling of the system to account for unbalanced passenger loads between the north and south of the system and throughout the day, to vehicle and track maintenance, which ensures that trains make pullout and operate without breakdowns or delays.

Metrobus operates at about 77 percent on-time performance, which is a good result given the congested traffic conditions under which most of the routes operate, in many corridors throughout the day, as well as the high load factors on many of the routes. Improving this result in the future will be the on-going challenge for the agency, as it seeks to make corridor signal and infrastructure improvements as well as continuing to improve vehicle maintenance (to ensure that pullouts are not missed or buses break down due to maintenance issues) and continuous refinement of bus route alignments and schedules to account for changing traffic conditions.

Table 8-9: MDT Annual On-Time Performance (2008)

On-Time Performance		
Metrorail	**Metrobus**	**Metromover**
99.90%	76.60%	N/A

Source: Miami-Dade Transit, 2009

Objective 1.5 Maximize multimodal travel options and provide travel choices

Measure: Transit service route miles by transit mode (Metrorail, Metromover, Express and Local Bus)

MDT, with its Metrorail and Metromover services, is among the few US transit agencies to offer heavy rail and people mover systems. These systems, constructed in the 1980s, offer high capacity, exclusive guideway transit on some of the system's busiest routes, offering customers a service that is qualitatively superior to bus service. The convenience of Metrorail will be further extended by the completion of the MIC-Earlington Heights Metrorail service, which will connect downtown Miami and the other locations along the Metrorail system with Miami International Airport and the vibrant employment center that surrounds the airport. MDT's challenge is to maintain the high quality of service on the Metrorail system while further extending the heavy rail system on lines where it is warranted.

More recently, MDT has developed a successful busway along US 1, extending south from the Dadeland Metrorail station and providing what is in effect a busway extension of the Metrorail system. Bus Rapid Transit (BRT) offers a potentially more cost-effective and more flexible means to extending the benefits of high capacity transit service to congested travel corridors, offering further transit choices to travelers in the county.

Table 8-10: Number of Transit Service Route Miles by Transit Mode

Transit Mode	Route Miles
Metrorail	23.02
Metromover	5.15
Metrobus Routes	2,371.60

Source: Miami-Dade Transit, 2009

Objective 1.6: Fill transit service coverage gaps

Measure: Service coverage in transit supportive areas completed in a regional level

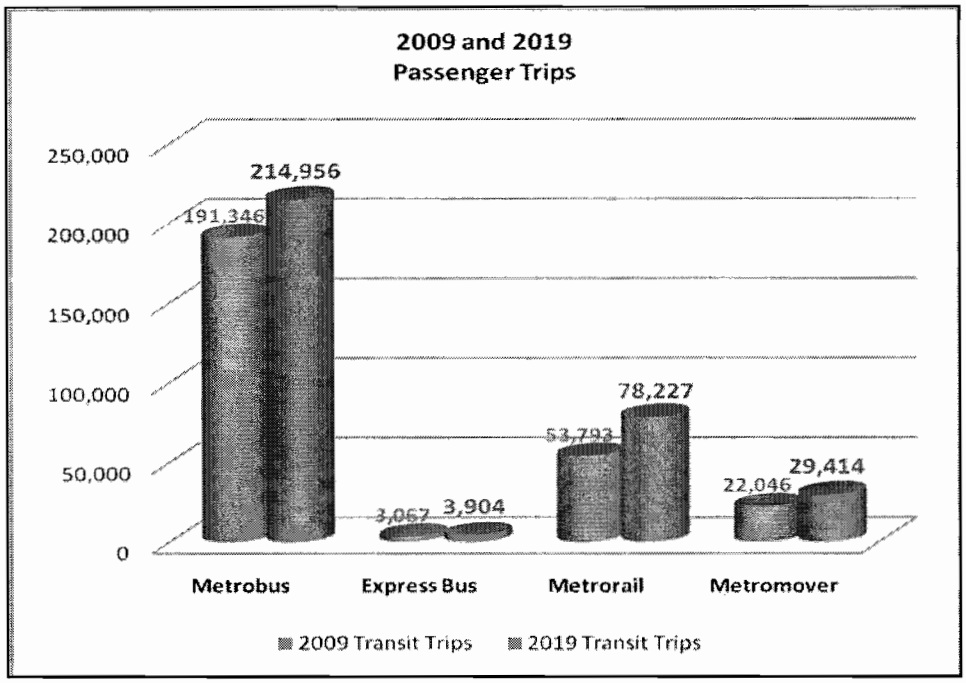
The number of miles of MDT bus routes within the transit transit-supportive service areas in 2009 is 716 miles. This will serve as a baseline for the measurement of future performance when evaluating service coverage.

Objective 1.7: Promote transit reliability

Measure: Increase in ridership

Travel demand estimation results were prepared for the TDP Major Update using the Dade-Broward travel demand model for 2009 and 2019 projections. Between 2009 and 2019 a 23 percent increase in the total number of transit trips is projected. MDT will be able to further improve upon existing ridership through the provision of efficient transit service that improves transit travel time and on-time performance.

Figure 8-21: Difference in 2009 and Projected 2009 Passenger Trips



Source: Dade-Broward Mode, 2009

Objective 1.8: Improve transportation facilities' and services' regional connectivity

Measure: Transit service route miles in corridors of regional significance

Table 8-11 shows the number of transit service miles (including miles of overlapping bus service) in each of more than a dozen key regional corridors. As the table indicates, MDT provides multiple bus routes operating segments of all of these corridors, with high concentrations of service on South Dixie Highway (the busway), A1A, Biscayne Boulevard and Flagler Street.

Table 8-11: Transit Service Miles in Corridors of Regional Significance

Corridors of Regional Significance	Transit Service Route Miles in Corridor
South Dixie Highway	195
A1A	187
I-95	127
Biscayne Boulevard	120
Flagler Street	95
NW 27th Avenue	81
Palmetto Expressway (SR 826)	74
Florida's Turnpike	72
Kendall Drive (88th Street)	66

Coral Way	64
SR 112	57
8th Street	50
Dolphin Expressway (SR 836)	33

Source: Miami-Dade County GIS files, 2009

Measure: Number and location of shelters, stations, transit centers relative to service standards

MDT's system offers stations along the Metrorail and Metromover system, and bus stops, shelters and benches along Metrobus routes. As Table 8-12 shows, station spacing on MDT's systems are about average for the industry, if slightly below the agency's standards for the bus system. MDT's standard calls for stops every 300-1,200 feet in higher density areas, every 500-1,200 feet in medium and 600-2,500 feet in lower density areas. This would indicate a slightly more frequent spacing of stops, on average, than five stops per mile (about one stop every 1,050 feet). More detailed analysis would be required to identify whether specific additional stops along routes would be warranted, and to determine where those stops would be physically placed along the route.

Table 8-12: Number of Station Stops Per Route Mile

	Number of Stations/Stops	Total Route Miles	Stations/Stops per Route Mile
Metrorail	22	23.02	0.96
Metromover	21	5.15	4.08
Metrobus	11,691	2,371.60	4.93

Source:

Objective 1.9: Include provisions for non-motorized modes in new projects and in reconstructions

Measure: Non-motorized infrastructure on transit improvements

Provisions that support non-motorized modes of transportation are included land use and transportation elements of the Miami-Dade County CDMP. Specifically, a pedestrian friendly environment that promotes walking, bicycling and transit is encouraged through design and land use considerations. One example of existing non-motorized infrastructure adjacent to transit is the bike path that stretches the length of the South Miami-Dade busway. Future capital improvements shall also seek to integrate non-motorized infrastructure upon the implementation of new transit services.

Objective 1-10: Increase reverse commute opportunities for disadvantaged communities

Measure: Transit service routes miles from urban centers to suburban employment areas in the AM Peak period

This objective and measures will be assessed in future TDP updates.

Objective 1-11: Promote transportation improvements that provide for the needs of the elderly and disabled

Measure: Average transit travel time to/from TAZs with a high proportion of elderly and disabled population

The following tables show travel time (including average wait and transfer time) by bus between six districts in Miami-Dade County where the population of elderly exceeds 20% of the total population. The high percentage of elderly in these districts also serves as a surrogate for the disabled population, since there is a high correlation between age and disability. These areas are primarily concentrated around downtown Miami, Little Havana, Hialeah and various areas along the coast (Figure 8-22). While travel between some of these districts is not particularly strong, travel time between the districts is indicative of the challenges facing people using transit in these districts to travel to other areas of the city and region.

As the tables below show, travel between even adjacent districts can be time consuming. For example, travel between downtown and the Airport takes on average more than an hour, while travel from Hialeah downtown can average nearly two hours by bus (those fortunate to be within walking distance of Metrorail Station would have a much faster trip).

Comparison of Table 8-13 through Table 8-16, shows, travel times are anticipated to remain the same or grow longer between 2009 and 2019, due primarily to traffic congestion and higher passenger loads, which will degrade travel time. For example, local bus trips between Districts 1 and 2 are expected to stay the same between 2009 and 2019 at 71-77 minutes. However, travel time between districts five (5) and six (6) is expected to grow from under 120 to more than 130 minutes.

Comparison of these tables allows a comparison between travel times using local and express bus service. As a comparison of those tables show, express bus in many cases is not particularly faster (and in fact, can be slightly slower) than local bus in spite of the skip-stop character of the express service. For example, the tables indicate that travel between districts 5 and 6 takes about 120 minutes in 2009 using local bus, and is about the same using express (the express is slightly slower, with the analysis indicating a travel time of 118-119 minutes using local bus, and 120-121 minutes using express).

The results of this analysis is further evidence for the need for bus priority treatments to allow buses to bypass congested conditions, if MDT is to avoid experiencing even longer travel times between key destinations in the future. This is particularly important in serving areas frequented by elderly, disabled and lower income people, since these groups are the most dependent on transit and form large markets for transit service.

Table 8-13: Travel Time by Bus (2009)

O/D	District 1	District 2	District 3	District 4	District 5	District 6
District 1	0	77	68	136	123	170
District 2	71	0	68	117	96	137
District 3	69	66	0	79	100	113
District 4	136	113	79	0	105	61
District 5	120	90	101	106	0	118
District 6	176	139	110	63	119	0

Source: Dade-Broward model, 2009

Table 8-14: Travel Time by Bus (2019)

O/D	District 1	District 2	District 3	District 4	District 5	District 6
District 1	0	72	82	140	126	169
District 2	72	0	71	129	101	147
District 3	75	66	0	87	106	116
District 4	150	122	87	0	113	68
District 5	127	93	104	117	0	131
District 6	187	145	127	70	127	0

Source: Dade-Broward model, 2009

Table 8-15: Travel Time by Express Bus (2009)

O/D	District 1	District 2	District 3	District 4	District 5	District 6
District 1	0	66	69	138	124	166
District 2	71	0	68	112	97	138
District 3	69	67	0	80	101	111
District 4	124	94	65	0	106	62
District 5	120	91	102	107	0	120
District 6	116	86	58	64	121	0

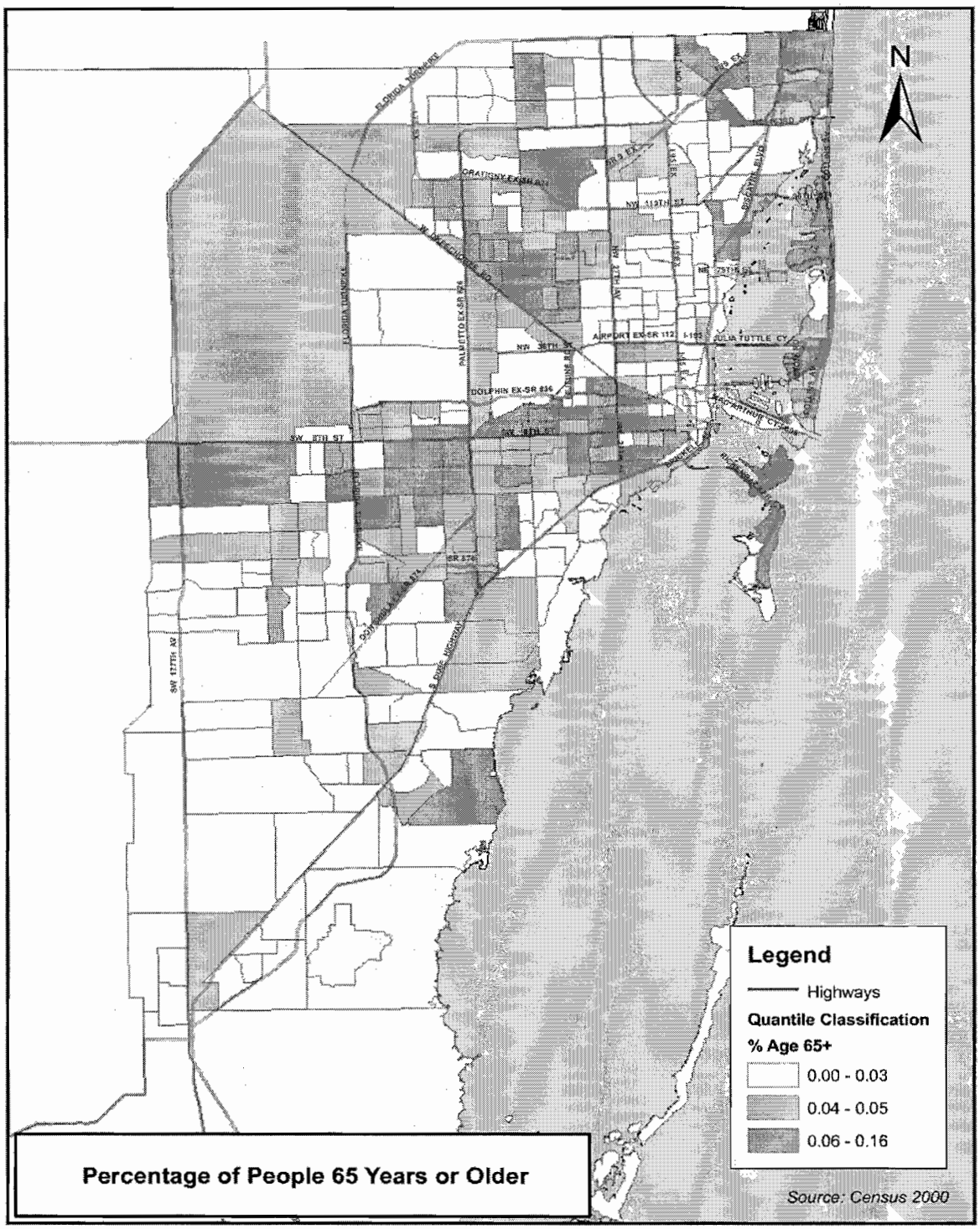
Source: Dade-Broward model, 2009

Table 8-16: Travel Time by Express Bus (2019)

O/D	District 1	District 2	District 3	District 4	District 5	District 6
District 1	0	72	82	141	126	170
District 2	72	0	71	124	101	149
District 3	75	67	0	88	108	117
District 4	136	99	72	0	114	70
District 5	126	93	106	117	0	132
District 6	0	87	58	70	128	0

Source: Dade-Broward model, 2009

Figure 8-22: TAZ Districts of Population 65 and Older



Source: Miami-Dade Transit, 2009

8.8.1.2 Goal 2: Improve Customer Convenience, Comfort and Safety on Transit Service and within Facilities

Objective 2-1: Improve safety on vehicle service operations

Measure: Level of investment in safety projects/Audit of System Safety Program Plan.

MDT will continue to regularly assess operational safety for workers and passengers according to level of investment and compliance of regularly updated safety plan. As part of MDT's Infrastructure Renewal Program safety projects are evaluated and prioritized for implementation on an annual basis.

Objective 2-2: Reduce roadway and multi-modal crashes

Measure: Number of accidents involving transit vehicles, Number of accidents/incidents per 100,000 miles

For 2008, MDT reported 3.15 accidents per 100,000 miles of transit service. This will serve as the baseline for future evaluation of performance for this measure.

Objective 2-3: Enhance outreach opportunities to educate the community on transportation issues and highlight transit service benefits such as service reliability, passenger cost savings, and environmental benefits

Measure: Develop speaker's bureau to inform public about transit benefits

Measure: Work with MPO, Transportation Management Organizations, major employers to promote transit service

Measure: Recruit community leaders to advise on promoting transit services

This objective and measures will be assessed in future TDP updates since no existing information is available.

Objective 2.4: Maintain convenient, clean, safe transit passenger facilities and vehicles

Measure: Reduction of passenger complaints regarding safety and cleanliness of vehicles and facilities

Miami-Dade Transit reported 7,447 passenger complaints for 2008. This will serve as the baseline for future evaluation of performance for this measure.

Measure: Completion of bi-annual safety and inspection audits of Metrorail and Metromover stations.

This objective and measures will be assessed in future TDP updates.

Measure: Number of safety related accidents and incidents on-board and in stations/transit facilities.

Miami-Dade Transit recorded 1,191 safety related accidents and incidents for 2008. This will serve as the baseline for future evaluation of performance for this measure.

8.8.1.3 Goal 3: Increase the Security of Transit Vehicles and Facilities

Objective 3-1: Ensure transit vehicles and facilities provide a secure environment for customers

Measure: Percent of functioning video cameras

The total number of active video cameras systemwide is 540. By October 2009, 590 active cameras will be operational. Upon the completion of future projects the MDT video surveillance system will consist of 684 active cameras. A future performance evaluation will determine the percent of these cameras are fully functional

Measure: Security personnel capabilities

Measure: Ensure 100 percent compliance with security contract

Measure: Reduction of security related incidents

Each of the previous three measures will be assessed for performance in future TDP updates.

Objective 3-2: Increase security at transit stops and intermodal stations and connections

Measure: Number of criminal incidents on-board transit and in stations/transit facilities.

The number of criminal incidents on-board transit was 113 incidents for 2008. The number of crimes reported at MDT facilities was 325 for 2008. The total number of criminal incidents recorded by MDT in 2008 is 438. This will serve as the baseline for future evaluation of performance for this measure.

8.8.1.4 Goal 4: Support Economic Vitality

Objective 4-1: Provide transit access to urban centers at a minimum of 30-minutes during the peak

Measure: Transit service within 1/4 mile of urban centers as identified by MDT.

Table 8-17 lists the three urban centers, as identified in the CDMP Land Use Element were evaluated to determine the amount of transit service within 1/4 mile. Downtown Miami has the highest concentration of transit service as evident from the operation of Metrorail, Metromover and Metrobus providing service coverage throughout the downtown area. Dadeland has a more focused center of activity with direct connections from Metrorail and the South Miami-Dade Busway. Additional urban centers should be identified and evaluated to determine whether adequate service is being provided.

Table 8-17: Transit Service Route Miles within ¼ mile of Urban Centers

Identified Urban Centers	Transit Service Route Miles within 1/4 mile
Downtown Miami CBD	53.5
Dadeland	36.5
NW 107 Avenue and NW 12 Street	8.9

Source: Miami-Dade GIS, 2009

Measure: Average home based trips to work (HBW) travel times on transit route providing access to urban centers.

Table 8-18 shows the average bus travel time during the peak periods for work trips to the three urban centers identified (Dadeland, Doral, and downtown Miami). Some of the work trips listed below result in lengthy travel times during the peak period. This can be attributed to multiple bus transfers, which results in an increase in wait time.

Table 8-18: Average Travel Time to Urban Centers for work Trips (Minutes)

		Dadeland	Doral	Downtown Miami
(AM Bus skims)	**TAZ**	**1002**	**708**	**544**
Aventura	**85**	170	141	62
Coral Gables	**1036**	84	119	66
Cutler Bay	**1340**	90	174	182
Hialeah	**346**	135	90	77
Miami Lakes	**163**	138	150	127
Pinecrest	**1162**	33	116	125
Kendall	**1237**	58	139	152

Source: Dade-Broward Model, 2009

Objective 4-2: Enhance major tourist travel and access opportunities within the Urban Growth Boundary.

Measure: Transit service route miles within 1/4 mile of tourist attractions.

Table 8-19 shows the number of miles of transit service that operates within close proximity to various tourist attractions in Miami-Dade County. As the table indicates, most of the attractions have transit service, with only relatively isolated locations such as Biscayne National Park and Everglades Safari Park lying beyond walking distance of MDT bus or rail service. However, a number of locations have relatively little service, including such diverse attractions as the Deering Estate, the Venetian Pool, Barnacle Historic State Park and Monkey Jungle.

In many cases, the locations of these attractions in outlying areas of the county do not lend themselves to extensive transit connections, and most are located along one or two routes that operate on an adjacent arterial street, rather than being in the center of a hub of transit service (such as in downtown Miami or Miami Beach). MDT should work closely with tourist attractions, particularly those that rely heavily on transit service for their clientele, to improve transit service to their locations.

Table 8-19: Transit Service Route Miles within 1.4 Mile of Tourist Attractions

Tourist Attractions	Route Miles
Miami Art Museum	15.6
Miami Childrens Museum	4.4
Vizcaya Museum and Gardens	1.7
Ancient Spanish Monastery	2.5
Barnacle Historic State Park	0.8
Bass Museum of Art	4.3
Bayside Marketplace	8.1
Biscayne National Park	NA
Coral Castle	2.5
Coral Gables Merrick House	1.0
Deering Estate at Cutler	0.0
Everglades Safari Park	NA
Fairchild Tropical Botanic Garden	0.5
Jungle Island	3.7
Metro Zoo	1.7
Miami Beach	167.8
Miami Science Museum	2.4
Miami Seaquarium	0.9
Monkey Jungle	0.0
The Wolfsonian Museum	4.0
Venetian Pool	0.6

Source: : Miami-Dade GIS, 2009

Objective 4-3: Increase and improve transit access to Miami International Airport and the Port of Miami

Measure: Transit service route miles within 1/4 mile of MIA and Port of Miami

The transit service route miles within a 1/4 mile of MIA and the Port of Miami are presented in Table 8-20. This analysis can be deceiving since, unlike many other attractions, the airport and seaport are large sites, but can only be accessed at a single point. Metrobus routes J, 7, 37, 42, 57, 133 connect directly to the airport terminal, in addition to the Tri-Rail commuter rail service which stops nearby.

The construction of the MIC and the MIC-Earlington Heights extension of Metrorail will greatly enhance transit service to the airport terminal over-and-above the already excellent Metrobus service to the terminal.

Metrobus route 243, the Seaport Connection, connects the Port of Miami to downtown Miami and to MDT's Metrobus and Metrorail systems.

Table 8-20: Transit Service Route Miles within ¼ mile of MIA and Port of Miami

Facility	Transit Service Route Miles within 1/4 mile
Miami International Airport	70.0
Port of Miami	17.5

Source: Miami-Dade GIS, 2009

Measure: Service hours on transit routes operating within 1/4 mile of MIA and Port of Miami.

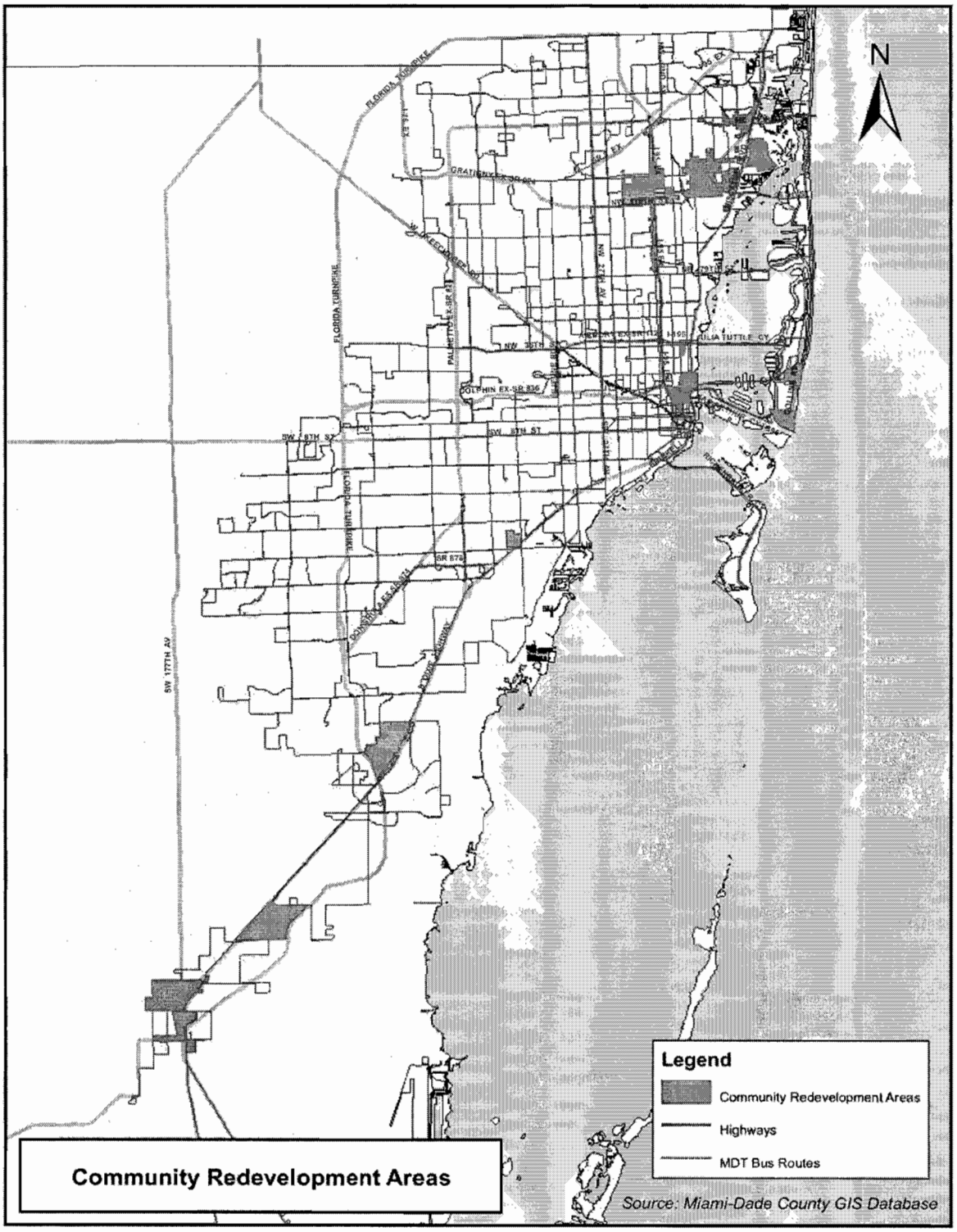
This measure will be assessed in future TDP updates.

Objective 4-4: Implement projects that support economic development and redevelopment areas

Measure: Transit service route miles within 1/4 mile of redevelopment areas.

A number of corridors in the county were identified by Miami-Dade County as potential redevelopment areas based on their older development and infrastructure. As the following table shows, MDT provides service on multiple routes to most of these corridors. The redevelopment areas are also illustrated in Figure 8-23.

Figure 8-23: Economic Development and Redevelopment Areas



Source: Miami-Dade County, 2009

Table 8-21: Transit Service Route Miles within ¼ mile of Redevelopment Areas

Redevelopment Areas*	Transit Service Route Miles within 1/4 mile
North Miami	61.6
East Overtown	58.4
North Miami Beach	52.7
City of Miami - OMNI	28.3
Florida City	26.9
Miami Beach	26.0
West Perrine	21.6
Naranja Lakes	17.1
7 Avenue Corridor	16.9
Homestead	13.9
South Beach (Former CRA)	13.0
Midtown Miami	12.3
South Miami	10.6
Biscayne Corridor	1.6

Source: * Information taken from the Miami-Dade County's GIS webpage.
Layer was last updated on 03/07/2008

Measure: Service hours on routes operating within 1/4 mile of redevelopment areas.

This measure will be assessed in future TDP updates.

Objective 4.5: Apply transportation and land use planning techniques, such as transit-oriented development (TOD), that support intermodal connections and coordination

Measure: Promote modification of permitted land use to encourage mixed-use and TOD

Measure: Encourage use of transit overlay districts to simplify implementation of transit-friendly land use in areas of high transit service or around transit station facilities.

This objective and measures will be assessed in future TDP updates. However, policy initiatives do exist within the CDMP Land Use element and Transportation Element related to development and population density.

8.8.1.5 Goal 5: Preserve the Environment and Promote Energy Conservation

Objective 5-1: Minimize and mitigate air quality impacts of transportation facilities, services, and operations

Measure: Tons per day of emissions (No_X, CO, VOC) generated by the region's transportation system

The total vehicle miles traveled (VMT) and vehicle hours traveled (VHT) was referenced for 2005 and estimated for 2030 based on the output of the Dade-Broward model. Emissions track very closely with VHT and VMT, and therefore this transportation data will serve as surrogate for the level of pollutants that affect air quality. As the data shows, projections indicate that regional VMT is expected to grow by more than 10% over the time period, while regional VHT will grow by more than 20%. Unless more of these trips can be diverted to transit or automobiles can be made less polluting than they are today, these increases in regional travel will have a significant impact on air quality in the region.

Table 8-22: Total Vehicle Miles Traveled / Vehicle Hours Traveled (2005 and 2030)

	2005	2030
TOTAL VMT	77,529,968	87,748,232
TOTAL VHT	3,466,268	4,177,409

Source: Dade-Broward Model, 2009

Objective 5.2: Reduce fossil fuels consumption through the consideration of alternative fuel vehicle technology

Measure: Number of gallons of bio-diesel fuel consumed.

The diesel fuel purchased and consumed by MDT contains an "alternate fuel" of 5% (B5) biodiesel blend. The number of gallons of biodiesel fuel consumed is not readily available.

Measure: Ratio of bio-diesel to standard clean diesel fuel consumed.

This measure is not applicable since the existing bus fleet is not using bio-diesel.

Measure: Number of hybrid technology buses in MDT fleet.

The existing bus fleet consists of no hybrid vehicles. However, there are plans by MDT for the procurement of nineteen diesel-electric hybrid vehicles to be placed into service by 2010 for operation within the I-95 Managed Lanes and the Kendall enhanced bus service.

Measure: Average miles per gallon of bus fleet.

The existing average mile per gallon for the bus fleet is 3.5 miles, which is around the average for diesel bus fleets operating in other cities. Changes to the bus fleet (to add

hybrid vehicles) and the use of bus priority treatments in congested roadway corridors would be required to significantly improve bus fuel economy.

Objective 5.3: Promote transit service projects that support urban infill and densification

Measure: Transit service route miles within the Urban Infill Area

The transit service route miles operated by MDT within the Urban Infill Area are more than 1,400 miles. As the map in Figure 8-24 shows, most of the transit system operates in the urban infill area, and there are few significant areas of the infill area where transit service is not available. In many of these areas, development still has not fully occupied the area; MDT would consider further service to those areas as development plans progress or additional development occurs in those areas.

Table 8-23: Transit Service Route Miles Within ¼ mile of Urban Infill Area

	Transit Service Route Miles within 1/4 mile
Urban Infill Area (UIA) Boundary	1,418

Source: Miami-Dade GIS, 2009

Measure: Service hours on routes serving the Urban Infill Area

This measure will be assessed in future TDP updates.

Objective 5.4: Minimize adverse impacts to established neighborhoods

Measure: Minimize impacts to established neighborhoods

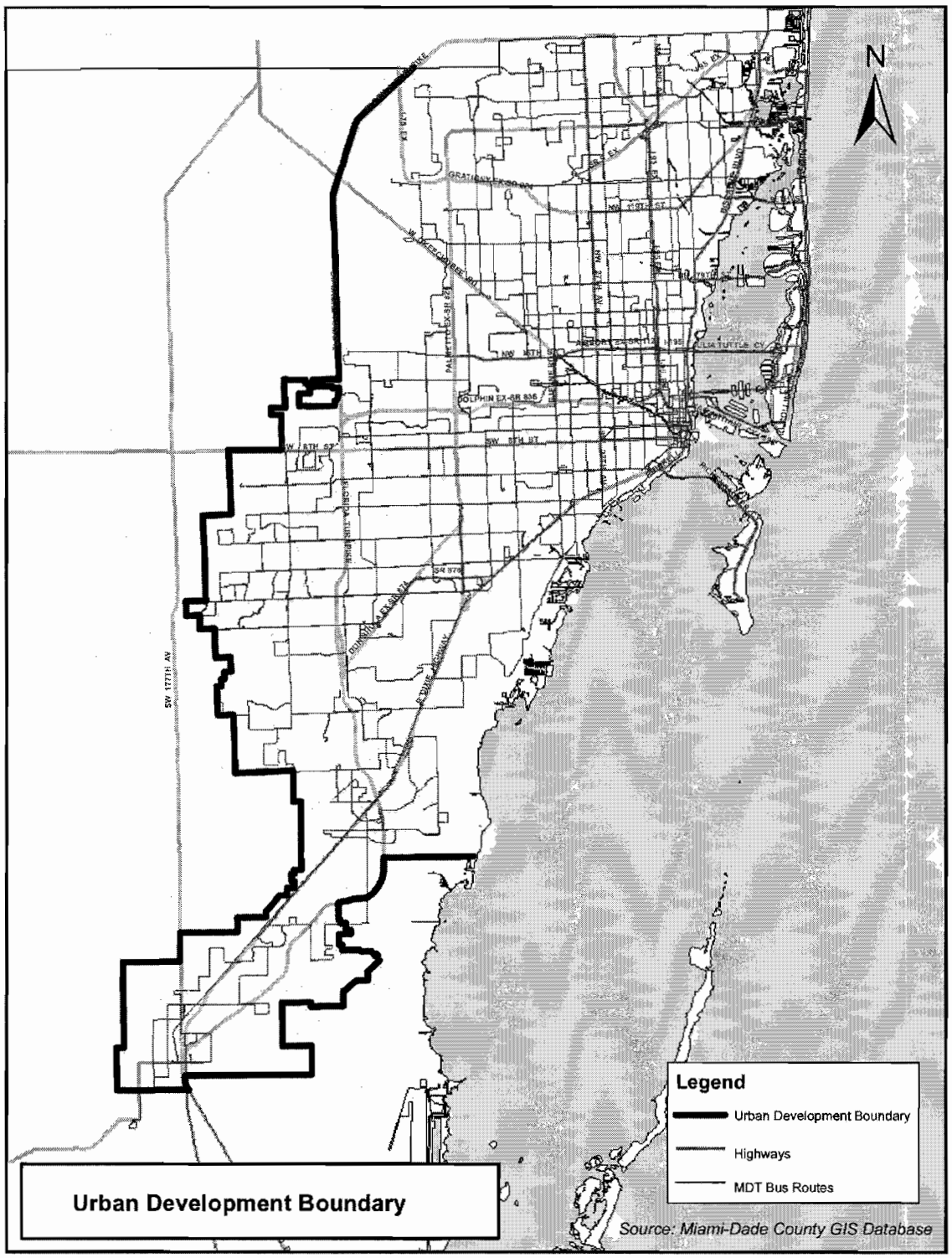
This objective and measure will be assessed in future TDP updates.

Objective 5.5: Promote transportation improvements that are consistent with adopted comprehensive development master plans

Measure: Consistent with adopted comprehensive development master plans

This objective and measures will be assessed in future TDP updates.

Figure 8-24: Urban Infill Area with Transit System Overlay



8.8.1.6 Goal 6: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes and Transit Providers, for People and Freight

Objective 6.1: Provide multi-modal options consistent with the local government

Measure: Consistency with adopted comprehensive development master plans

This objective and measure for new multi-model options will be assessed in future TDP updates

Objective 6.2: Facilitate connections between transportation modes

Measure: Multimodal connections (bus-rail, transit-taxi etc.)

Measure: On-time performance

Measure: Transfer time

Measure: Transfer policies

This objective and measure will be assessed in future TDP updates.

Objective 6.3: Ensure transportation options are available during emergency evacuations for the elderly and persons with disabilities

Measure: Transit service route miles within 1/4 mile of TAZs with a high proportion (20% or higher) of elderly and the disabled population

The number of transit service route miles within 1/4 mile of TAZ's with a high proportion (20% or higher) of elderly is 648 miles. This indicates that areas with a high concentration of elderly are well served by transit service and have full access to the Metrobus system, with some areas also well served by Metrorail.

Objective 6.4: Increase coordination between regional and local transportation providers

Measure: Provide better Multimodal connections: Tri-Rail-bus, bus-rail, municipal services-MDT, transit-taxi, jitney etc

This objective and measure will be assessed in future TDP updates.

8.8.1.7 Goal 7: Optimize Sound Investment Strategies for System Improvement and Management/Operation

Objective 7.1: Optimize benefits of capital expenditures

Measure: Capital expenditure

This objective and measure will be assessed in future TDP updates.

Objective 7.2: Optimize operations and maintenance expenses

Measure: Reduce cost per revenue mile

The cost per revenue mile of MDT's Metrobus service is $10.77 (gross allocated cost)

The cost per revenue mile of MDT's Metrorail service is $14.92 (gross allocated cost)

Measure: Decrease cost per revenue hour

The cost per revenue hour of MDT's Metrobus service is $130.28 (gross allocated cost).

Cost per revenue mile and hour are measures of efficiency. Cost per revenue mile and hour for MDT Metrobus service is relatively high compared to peer agencies. Improving operating speeds on congested corridors are among the ways to improve cost efficiency.

The cost per revenue hour of MDT's Metrorail service is $424.18 (gross allocated cost)

This again is slightly high for Metrorail systems but within the normal range for peer agencies. Efforts to reduce costs on the Metrorail system is similar to those that apply to the bus system

Objective 7.3: Optimize applications of People's Transportation Plan funding

Measure: PTP expenditure

This measure will be assessed in future TDP updates.

Measure: Consistency of PTP funding being used with commitments made in PTP

This measure will be assessed in future TDP updates.

Objective 7.4: Identify Public, Private Partnership opportunities

Measure: Number of private sector funded transit projects

Measure: Dollar amount of private sector funding

Currently there at least two projects that are identified to include a public private partnership. The first project includes a 260 space parking garage at the intersection of NW 107th Avenue and NW 12th Street to serve as a park and ride lot. The proposed project will be a turn-key operation including MDT owning the land, once the garage is completed. The estimated cost by the owner is $14 million. The second project is a bus station and surface park and ride lot with 45 parking spaces at the Kendall Town Center. There is an existing commitment in place as a result of the Development of Regional Impact (DRI) process to meet transit concurrency.

Measure: Ratio of public to private sector funding for operating funds and capital improvements

This objective and measure will be assessed in future TDP updates.

Objective 7.5: Align MDT priorities and deliverables with available funding and resources

Measure: Availability of additional funding from new sources tied to specific projects or programs

Measure: Projects completed within budget and on-time

This measure will be assessed in future TDP updates.

8.8.1.8 Goal 8: Maximize and Preserve the Existing Transportation System

Objective 8.1: Continue to examine the provision and utilization of special-use lanes on the existing system for transit use

Measure: Lane miles of special use/managed lanes used by transit services.

The existing special use lanes used by MDT is the South Miami-Dade Busway which is approximately 20 miles in length. In 2010, additional managed lanes usage will increase resulting from the operation of I-95 express service along I-95 between the Golden Glades interchange and downtown Miami. Furthermore, MDT is also considering implementation of special use lanes through buses operating on the shoulders of existing highways during morning and afternoon peak periods. In 2007, the buses running on shoulders pilot program was implemented with service on KAT routes for SR 874 Don Shula Expressway and SR 878 Snapper Creek Expressway.

Measure: Dollar amount of planned right-of-way acquisition for transit facilities

Miami-Dade Transit proposes to acquire up to $47.5 million in right–of-way for incremental and affordable transit projects along NW 27th Avenue that would support premium transit service. The acquisition and related projects will be separate and

distinct from the North Corridor Metrorail Extension project. Furthermore, the estimated dollar amount for planned right-of-way acquisition for the MIC is $67.2 million. For a the new Transit Village at NW 7th Avenue and NW 62 Street, there is a contract amount for acquiring 2.4 acres for $3.9 million.

Objective 8.2: Identify and implement the best available technologies and innovations to improve the reliability and efficiency of the transportation system

Measure: Operation of new technologies and innovations in transportation improvements

Miami-Dade Transit continuously works to assess ITS needs through an organization of prioritized ITS projects for deployment that conform to regional ITS architecture while reflecting the local needs and preferences for the operation of transit. MDT routinely reports to FTA to effectively demonstrate its commitment to deploy an inter-operative and fully integrated system of ITS technologies.

Objective 8.3: Upgrade and maintain existing transit infrastructure and facilities in a state of good repair

Measure: Capital expenditure on existing transit infrastructure is in line with identified needs (IRP)

Miami-Dade Transit has developed a procedure for identifying, evaluating, prioritizing, and programming capital improvement projects that will upgrade and maintain the existing transit infrastructure and facilities. This Infrastructure Renewal Program (IRP) is updated annually to assure the existing transit system and facilities remain in a state of good repair. For FY 2010, MDT has committed to spend $10.1 million on infrastructure and facility improvement projects.

Objective 8.4: Maintain the operational functionality of transit vehicles to maximize reliability

Measure: Number/percentage of missed pullouts, failures

The measures for Goal 8 present information for future evaluation of service reliability for the system. Generally, MDT's service reliability statistics are good, although there is always room for improvement. MDT experienced only 204 missed pullouts in 2008, or fewer than one missed pullout per operating day. While even a single missed pullout can mean inconvenience and discomfort for hundreds of passengers, an average of less than one missed pullout per day is very good performance for a transit system the size of MDT.

Measure: Adherence to preventative maintenance programs

For 2009, MDT is experiencing excellent adherence to their preventative maintenance program as compared to MDT's stated goals as presented in Table 8-24. As the statistics regarding adherence to preventive maintenance programs shows, all of the systems adhere to their respective programs virtually at all times. However, the rail system claims a slightly higher compliance rate than bus, and, at 96.25%, the record for the Metromover is measurably lower than for the other services, and shows room for improvement. The following table lists the percentage of adherence for each of the three transit modes in operation.

Table 8-24: Percent of Adherence to Preventative Maintenance Program by Mode

	Metrobus	Metrorail	Metromover
FY08/09	99%	99.90%	96.25%
Goal	90%	90%	90%

Source: Miami-Dade Transit, 2009

Measure: Mean distance between service disruptions on Metrorail, Metromover and bus. A service disruption is defined as an interruption of service between five minutes or greater for Metrobus; three minutes or greater for Metrorail; and two minutes of greater for Metromover.

As the current 2008 statistics show, the rail system operates more than ten times as many miles between breakdowns as the bus system, while the Metromover operates about 4,500 miles between breakdowns. The agency goal for this measure is also provided within the table for comparison. Analysis of similar statistics at peer agencies should be conducted to create a norm for these statistics, and data should be collected and analyzed with each future TDP to insure that the agency continues improving in the area of service reliability.

Table 8-25: Average distance between Service Disruption by Mode

	Metrobus	Metrorail	Metromover
FY08/09	3,744	54,245	4,530
Goal	4,000	39,000	6,000

Source: Miami-Dade Transit, 2009

8.9 Service Standards

In addition to the goals, objectives and measures developed for the TDP Major Update, MDT has also undertaken a separate initiative to establish specific transit service standards to assess the level of operational performance. The two primary applications of these service standards include:

1. The use of standards to evaluate the performance of existing services, and
2. Use of standards to evaluate proposals for new services

The service planning process considers four major divisions within MDT: Metrobus, Metrorail, Metromover, and Special Transportation Services (STS). Metrobus standards include information on the design and redesign of routes and schedules, and a process for route performance evaluation. For Metrorail, service schedule design standards are the only guiding factors since the system operates within an exclusive fixed alignment. The operating plan of Metromover forms the basis of service standards for this mode. Finally, for STS standards include performance and productivity of Demand-Response.

The numerical values of these service standards will undergo an annual evaluation by MDT yearly, using the most recent twelve-month period for which data is available. The evaluation will compare the current values of productivity standards versus those from the previous year. Operating cost data for the previous year will be examined to account for system-wide increases or decreases in expenditures.

The entire MDT service standard document is referenced in the appendix of this report.

Section 9

Ten Year Implementation Plan

MIAMI-DADE COUNTY

9.0 TEN YEAR IMPLEMENTATION PLAN

This section presents the various transit improvement projects that are proposed for the MDT transit system over the planning horizon of the FY 2010- 2019 TDP Major Update. The committed transit improvement initiatives are provided for capital, service, and infrastructure. This is then followed by the 2019 Recommended Service Plan which provides the proposed transit system improvements, modification and new services as well as additional capital needs projects that are partially funded or unfunded altogether.

9.1 Capital Improvement Plan -- Committed Transit Improvement Initiatives

On an annual basis MDT prepares a proposed FY 2009 – 2010 capital budget and multi-year Capital Plan that outlays specific projects related to the expansion and improvement of MDT existing services (Table 9-1). Each selected project corresponds to a committed funding source and is consistent with the Miami-Dade MPO's FY 2010 – 2014 Transportation Improvement Program (TIP) (see Appendix). A brief overview of the committed projects that are funded from PTP funds is also included.

The following funded projects are expected to be implemented within the next ten years for the Metrorail and Metrobus system. There are no planned service extensions or expansion of the existing Metromover system under consideration at this time or within the planning horizon of this TDP Major Update.

9.2 Proposed Corridor Projects and Related Projects (Committed)

9.2.1 Orange Line Phase 1 MIC-Earlington Heights Connector

The 2.4-mile Miami Intermodal Center (MIC)/Earlington Heights proposed extension is set to extend from the MIC to the existing Earlington Heights Metrorail Station. Included in the project is a new Metrorail Station located at the MIC to serve as a multimodal transfer hub for Metrobus, Metrorail, Tri-Rail, future expansion of Amtrak, and other chartered services such as intercity bus line. This project also proposes to bring together rental car agencies at the MIC under one roof. Connection to Miami International Airport (MIA) will be made possible from the MIC with the MIC-MIA Connector-People Mover Project. This project will allow access to the airport using Metrorail. This project is currently under construction and is anticipated to open for service in May 2012. The estimated project cost is $526.5 million.

9.2.2 Metrorail Station Graphics and Signage Upgrade

Throughout the Metrorail system all signage at each Metrorail station will be replaced and upgraded to include a modern support post and improved signage. Project completion will occur by the first quarter of 2012 with a total project cost of $7.6 million.

Table 9-1: MDT FY 2009 – 2010 Proposed Capital Budget and Multi-Year Capital Plan

Project Name	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY18-19	FY 19-20	YOE Total
PROPOSED CORRIDOR PROJECTS & RELATED PROJECTS:												
Orange Line Phase 1, MIC-EHT Connector Project	$121,092,750	$136,526,912	$87,654,434	$17,137,205								$526,529,000
Orange Line Phase 1: MIC-EHT Connector (FDOT MIC Components - West Concourse, Vestibule, & Bus Plaza Rway)	$6,600,000	$6,285,000	$6,185,000	$150,000								$19,306,368
Orange Line Phase 1: MIC-EHT Connector (FDOT MIC Component-Bus Plaza)	$2,495,000	$2,075,000	$2,075,000	$80,000								$6,768,324
Orange Line Phase 2, North Corridor Metrorail Extension	$20,000,000											$83,382,007
Metrorail Central Control Upgrade	$13,931,400	$12,719,322	$2,792,369									$32,399,091
Existing Metrorail Station (Phase 1) - Graphics & Signage Upgrade	$3,910,570	$3,076,391	$222,713									$7,623,474
Subtotal	**$ 168,029,720**	**$ 160,682,625**	**$ 98,929,516**	**$ 17,367,205**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 696,195,264**
VEHICLE PROCUREMENT & RELATED PROJECTS:												
Lehman Yard Rehabilitation & Expansion Phase 1 (5 storage and 2 MOW tracks)	$ 1,605,093	$ 4,086,525	$ 1,380,610									$ 7,072,228
Rail New Vehicle Procurement (136 cars)	$ 37,260,539	$ 22,759,557	$ 64,530,341	$ 45,709,162	$ 90,166,642	$ 93,003,142	$ 20,189,463	$ 462,200	$ 477,453			$ 401,457,541
Lehman Center Test Track	$ 7,308,000	$ 7,790,475	$ 2,133,931									$ 18,067,781
Palmetto Station Traction Power Sub-Station	$ 13,020,000	$ 2,523,675										$ 16,344,925
Mover Original 12 Phase 1 Vehicle Replacement	$ 50,000											$ 32,920,914
Mover 17 Phase 2 Vehicle Replacement	$ 11,072,185	$ 15,593,788	$ 679,768									$ 42,445,813
Secure Funding for Bus Procurement to Support I95 Manage Lanes	$ 13,845,000											$ 13,845,000
Subtotal	**$ 84,160,817**	**$ 52,754,020**	**$ 68,724,650**	**$ 45,709,162**	**$ 90,166,642**	**$ 93,003,142**	**$ 20,189,463**	**$ 462,200**	**$ 477,453**	**$ -**	**$ -**	**$ 532,154,202**
FARE COLLECTION	$ 22,875,244		$ 839,995									$ 80,000,000
Subtotal	**$ 22,875,244**	**$ -**	**$ 839,995**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 80,000,000**

Table 9-1: MDT FY 2009 – 2010 Proposed Capital Budget and Multi-Year Capital Plan (continued)

Project Name	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY18-19	FY 19-20	YOE Total
OTHER PROJECTS:												
Track & Guideway Rehabilitation Subset	$ 6,414,333	$ 7,412,531	$ 6,868,333	$ 5,917,333	$ 3,899,333	$ 1,159,000						$ 46,786,000
Existing Metrorail Stations Repair to Stair Railings (Part 1)	$ 49,077											$ 402,337
Dadeland South Parking Lot Expansion	$ 109,196											$ 991,654
Park and Ride Facility at NW 186 St. & NW 73 Ave	$ 1,201,516											$ 1,900,000
Park and Ride Facility at SW 344 Street and Busway	$ 3,025,821	$ 198,058	$ 3,152,770									$ 9,744,707
Park and Ride Facility at Kendall Drive and SW 127 Avenue	$ 1,989,680	$ 474,857										$ 4,150,377
Douglas Road Metrorail Station Parking Lot Facility Under Guideway	$ 68,775											$ 259,201
Coral Way Maintenance Facility - Employee Access to Parking												$ 256,322
Dadeland South Metrorail Station Comfort Station	$ 370,156											$ 400,427
NW 7th Avenue Transit Village	$ 2,241,000	$ 951,000										$ 10,036,000
Electronic Signage Information System (ESIS)												$ 1,000,000
AMAG \ Proximity Access Control	$ 11,025	$ 11,521	$ 11,982	$ 16,827								$ 159,339
Install Digital Recording System at Metrorail Tail - Track Video												$ -
Metromover Tools & Equipment	$ 53,550	$ 55,947	$ 58,191	$ 60,231	$ 19,081							$ 298,000
Metromover Phase II Vehicle Facelift HVAC System Replacement												$ -
Metrorail HVAC System Replacement	$ 536,908											$ 3,650,974
Metromover Phase II Vehicle Facelift Door System Overhaul												$ 986,724
Northeast Passenger Activity Center	$ 1,316,000	$ 1,454,000	$ 1,786,000	$ 1,786,000	$ 1,786,000							$ 8,499,000
Transit Operating System Replacement Project	$ 4,651,280	$ 1,152,124										$ 5,803,404
Sub Total	**$ 22,038,317**	**$ 11,710,038**	**$ 11,877,276**	**$ 7,780,391**	**$ 5,704,414**	**$ 1,159,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 96,624,466**
Total	**$ 297,104,098**	**$ 225,146,683**	**$ 180,371,437**	**$ 70,856,758**	**$ 95,871,056**	**$ 94,162,142**	**$ 20,189,463**	**$ 462,200**	**$ 477,453**	**$ -**	**$ -**	**$ 1,404,973,932**

9.3 Vehicle Procurement (Committed)

Miami-Dade Transit continues the procurement of new vehicles for each mode of transit to replace vehicles that have reached the end of their useful life. Metrobus vehicles are being procured for purposes of new service with the opening of the I-95 Express lanes as well as the planned Kendall Enhanced Bus Service corridor.

9.3.1 Metrorail New Vehicle Replacement

Miami-Dade County made the decision to pursue the procurement of new Metrorail and Metromover rail cars as opposed to rehabilitation of the existing 136 rail car fleet. The Board of County Commissioners has approved procurement of 136 new Metrorail vehicles at a cost of $401.4 million. The new Metrorail vehicles will include more passenger inspired comfort interior features and a self-diagnostic system for early identification of mechanical issues. The replacement of the entire Metrorail fleet will occur over the next nine years when the project is expected to be complete by the end of FY 2018.

9.3.2 Metromover New Vehicle Replacement

In January 2006, following the Board of Commissioners approval, MDT secured a contract with Bombardier for the procurement of 29 new Metromover vehicles at a cost of $26.7 million. As of 2008, 12 new Metromover cars have been placed in service and an additional 17 cars are set for purchase at a cost of $42.4 million. The remaining 17 cars are scheduled to be put into service by mid FY 2012.

9.3.3 Metrobus New Vehicle Procurement

Miami-Dade Transit is currently pursuing the procurement of eighteen 40-foot diesel-electric hybrid buses and twenty-five 60-foot diesel-electric hybrid buses for use on the newly installed 95 Express Lanes and Kendall Enhanced Bus Service. Funding for replacement and rehabilitation of these MDT buses is provided through funds available from the People's Transportation Plan. Funds from Congestion Mitigation and Air Quality (CMAQ) Federal monies are also being contributed through the State of Florida. The cost to purchase the sixteen hybrid buses for operation within the I-95 Express corridor is $13.8 million fully funded by FTA. MDT anticipates these new buses to begin service on I-95 in 2010.

9.3.4 Fare Collection

Miami-Dade Transit has received approval from the Board of County Commissioners on a contract with Cubic in the amount of $42 million (not to exceed $80 million) for new state-of-the-art Automated Fare Collection System equipment. The new Automated Fare Collection System (EASY Card) uses advanced technology that provides a reusable, reloadable fare card with an embedded computer chip. The EASY Card allows for passengers to apply desired amounts of money for transit fare on Metrorail and Metrobus. The EASY Card also assists in reducing the amount of fare evasion experienced on MDT system. Installation of MDT equipment is currently underway and set for completion in fall 2009.

9.4 Other Projects (Committed)

The following projects include park and ride facility expansion, infrastructure rehabilitation, ITS, and other capital improvement projects for the MDT transit system and operational support facilities.

9.4.1 NW 7th Avenue Transit Village

The NW 7th Street Transit Village is a mixed use development project that will be located on the southeast corner of NW 7th Avenue and NW 62nd Street. The proposed development consists of a mixed-use complex comprised of housing, retail, parking, and transit facilities. This facility will provide a transit connection for MDT buses and private jitneys. These transit facilities include bus bays and 25 parking spaces for transit users. The total estimated cost for this project is $20 million and is scheduled to be advertised for development in 2010.

9.4.2 Park and Ride Facilities

Dadeland South Metrorail Station Parking Lot Expansion

This project will include additional surface parking to an existing surface lot located on Dadeland Boulevard and Kendall Drive (facing US-1). Project construction is scheduled to complete in the summer of 2010.

NW 186 Street/ 73rd Avenue

This future park and ride location has approximately 125 parking spaces on a two (2) acre site located at NW 186 Street/ 73rd Avenue. Designs for the park and ride have already been completed and construction is anticipated to be completed by the end of 2010.

Kendall Drive/ SW 127th Avenue

Future park and ride location set on a 2.5 acre lot on southeast corner of SW 88th Street (Kendall Drive) and SW 127th Avenue. This site will have a total of 181 parking spaces and is anticipated for opening August 2012 with the beginning of the Kendall Enhanced Bus Service.

9.4.3 Additional Minor Park and Ride locations

The following park and ride locations are proposed and in various stages of planning and implementation.

Table 9-2: Proposed Parking Lots/Park and Ride/Garages under Negotiation

Park and Ride	Location		Number of Spaces
Dolphin Station	NW 12th Street/ NW 107th Avenue		260
Northeast Passenger Activities Center	NE 15th Avenue/ NW 165th Street		25
Douglas Road Station	Under Guideway		50
Kendall Town Center	Kendall Drive/SW 162nd Avenue		45
Quail Roost	SW 186th Street/Busway		
Busway/ SW 216th Street			150
SW 127th Avenue/ SW 104th Street (Killian Drive)			100
SW 127th Avenue/ SW 80th Street (Soccer Park)			200
SW 136th Court/ SW 72nd Street (Sunset Drive)			100

Source: FY 2010-2014 Transportation Improvement Program

9.4.4 Transit Operating System Replacement Project

Miami-Dade Transit will be replacing the existing Transit Operating System (TOS) platform to bring the existing antiquated system in line with state-of-the art technology. The total estimated cost is $5.8 million and is anticipated to be implemented by FY 2012.

9.5 2008 TDP Operational Service Commitments

Prior to presenting the committed bus service improvements it is necessary to first assess the commitments that were developed as part of the 2008 TDP update as submitted.

9.5.1 Assessment of Implemented Bus Service Improvements and Adjustments (2008)

For the 2008 MDT TDP a listing of committed bus service improvements for implementation were included. A consistency analysis of these improvements was performed for the TDP Major Update to measure MDT's adherence for implementation.

From January to December 2008, a total of 104 service changes were implemented by MDT which includes 50 additional changes from what was programmed to occur as stated in the 2008 MDT TDP. The 2008 TDP had programmed 55 committed bus service improvements and adjustments, and 54 were accomplished. This results in a

98 percent level of consistency when comparing the 2008 TDP committed service changes with what was actually implemented during this time frame. The results of the consistency analysis for improvements implemented between January and December 2008 is presented in the following table.

Each of the service changes are identified according to whether the service change was a programmed commitment of the 2008 TDP as indicated with a check mark or an additional service change that was not included in the 2008 TDP as marked by an asterisk.

Table 9-3: 2008 TDP Consistency Analysis Summary

JANUARY to DECEMBER 2008				
Route	**Description**	**Improvement / Adjustment**	**Start Date**	**2008 TDP Consistency**
√ Implemented service changes committed to in previous TDP * Implemented service change not included in previous TDP				
A	Miami Beach to Omni Terminal via Venetian Causeway	Adjust weekend service before 6 p.m. from 40 to 45 minutes	November 16, 2008	*
B	Key Biscayne to CBD via Rickenbacker Causeway	Discontinue segment from the Brickell Metrorail/Metromover station to downtown Miami	June 15, 2008	√
C	Miami Beach to CBD via Collins Avenue, Washington Avenue, and MacArthur Causeway	Weekday and Saturday schedule adjustments in both directions to improve schedule reliability	June 15, 2008	*
C	Miami Beach to CBD via Collins Avenue, Washington Avenue, and MacArthur Causeway	Realign the alignment into the CBD Terminal	November 16, 2008	*
J	Coral Gables to Miami Beach via LeJeune Road, 36 Street and Collins Avenue	Discontinue overnight service	June 15, 2008	√
K	Diplomat Mall to CBD via Collins Avenue and MacArthur Causeway	Discontinue segment from the Omni Bus Terminal to CBD	June 15, 2008	√
L	Miami Beach to Hialeah via Collins Avenue, 79 Street Causeway and 79 St	Extend last weekday and Saturday westbound trips from the Northside station to the Hialeah station	June 15, 2008	√

Table 9-3: 2008 TDP Consistency Analysis Summary (continued)

JANUARY to DECEMBER 2008				
Route	**Description**	**Improvement / Adjustment**	**Start Date**	**2008 TDP Consistency**
√ Implemented service changes committed to in previous TDP * Implemented service change not included in previous TDP				
L	Miami Beach to Hialeah via Collins Avenue, 79 Street Causeway and 79 St	Schedule an earlier weekday eastbound trip from the Hialeah station to depart at 4:52 a.m.	November 16, 2008	*
R	Surfside to south Miami Beach	Extend service from 85 Street to 88 Street and adjust weekday headway from 30 to 45 minutes	June 15, 2008	√
S	Aventura Mall to CBD via Miami Beach	Saturday schedule adjustments in both directions to improve schedule reliability and Sunday early evening southbound schedule will be improved to reduce overcrowding	June 15, 2008	*
S	Aventura Mall to CBD via Miami Beach	Realign the alignment into the CBD Terminal	November 16, 2008	*
R	Surfside to south Miami Beach	Extend service from 85 Street to 88 Street and adjust weekday headway from 30 to 45 minutes	June 15, 2008	√
V	Diplomat Mall to Golden Glades via Miami Beach and North Miami Beach	Discontinue entire route	June 15, 2008	√
1	South Miami Heights to Dadeland South Station via Busway	Adjust weekday peak headway from 24 to 30 minutes	June 15, 2008	√
3	Diplomat Mall to CBD via 163 Street Mall and Biscayne Boulevard	Realign the alignment into the CBD Terminal	November 16, 2008	*
6	Allapattah to Coconut Grove via Little Havana and Downtown Miami	Adjust weekday headway from 30 minutes during the peak and 45 minutes in the midday to every 60 minutes daily	June 15, 2008	√
10	163 Street Mall to CBD via NE 2 Avenue	Truncate route at Omni Bus Terminal instead of at the CBD Terminal	June 15, 2008	√
16	163 Street Mall to CBD via North Miami Beach and Biscayne Boulevard	Realign the alignment into the CBD Terminal	November 16, 2008	*

Table 9-3: 2008 TDP Consistency Analysis Summary (continued)

24	Westchester to CBD via Coral Way and Brickell Avenue	Adjust weekday peak headway from 15 to 20 minutes	June 15, 2008	√
32	Carol City to Omni via Opa-Locka, Northside, Liberty City and Civic Center	Adjust peak headway from 20 to 24 minutes, Saturday headway from 30 to 40 minutes and Sunday headway from 30 to 60 minutes	June 15, 2008	√
33	Hialeah Gardens to Miami Shores via 103rd Street (49 St) and 95th Street	Realign from NE 10 Avenue to Biscayne Boulevard between NE 79 Street and NE 96 Street.	June 15, 2008	√
Route 34 (Busway Flyer)	Dadeland South Station to Florida City via Busway and US-1	Improve peak headway from 12 minutes to 10 minutes and to 7½ minutes during the busiest part of the peak period. Several stops on the Busway to be discontinued for faster service	June 15, 2008	√
Route 34 (Busway Flyer)	Dadeland South Station to Florida City via Busway and US-1	Minor weekday morning schedule adjustments to improve reliability	November 16, 2008	√
Route 38 (Busway MAX)	Dadeland South Station to Florida City via Busway	Improve Saturday headway from 20 15 minutes and the Sunday headway from 24 to 20 minutes	June 15, 2008	*
Route 38 (Busway MAX)	Dadeland South Station to Florida City via Busway	Add two early morning Saturday trips to reduce overcrowding.	November 16, 2008	√
40	West Miami-Dade to Coral Gables via Bird Road	Adjust midday headway from 20 to 30 minutes	June 15, 2008	√
41	Allapattah station to Miami International and Dolphin Malls via NW 36/41 Street and NW 107 Avenue	Discontinue segment from NW 87 Avenue to Allapattah station. Discontinue weekend service	June 15, 2008	√
42	Golden Glades to Coconut Grove via LeJeune Road	Realign from Ponce de Leon Boulevard to LeJeune Road between West Flagler Street and Coral Way. Adjust midday headway from 40 to 60 minutes and Sunday headway from 45 to 60 minutes	June 15, 2008	√
48	Civic Center to South Miami via Overtown, CBD and Coral Gables	Discontinue segment from the Brickell Metrorail/Metromover station to downtown Miami. Adjust peak headway from 30 to 40 minutes and midday headway from 45 to 60 minutes	June 15, 2008	√

Table 9-3: 2008 TDP Consistency Analysis Summary (continued)

Route 51 (Flagler MAX)	Miami Beach to West Miami-Dade via MacArthur Causeway and West Flagler Street	Discontinue segment from the Omni Bus Terminal to south Miami Beach	June 15, 2008	√
Route 51 (Flagler MAX)	Miami Beach to West Miami-Dade via MacArthur Causeway and West Flagler Street	Realign the alignment into the CBD Terminal	November 16, 2008	*
52	South Miami station to Cutler Bay via South Miami, Busway, Perrine and Richmond Heights	Adjust weekend headway from 40 to 60 minutes	June 15, 2008	√
52	South Miami station to Cutler Bay via South Miami, Busway, Perrine and Richmond Heights	Extend six weekday trips to SW 127 Avenue in Goulds to replace the Route 216 which was discontinued	June 15, 2008	*
54	Hialeah to Liberty City via 54th Street	Change weekday afternoon trips to the High Schools to serve them later	November 16, 2008	*
57	Miami International Airport to Pinecrest	Adjust peak headway from 30 to 40 minutes	June 15, 2008	√
62	Hialeah to Omni via NW/NE 62 Street and Biscayne Boulevard	Adjust weekend evening headway from 20 to 24 minutes after 8 p.m. and from 20 to 30 minutes after 10 p.m.	June 15, 2008	*
Route 68 (Gratigny Connection)	Hialeah Gardens City Hall to MDC North Campus via NW 122 St (West 68 Street)	Discontinue entire route	June 15, 2008	√
73	Miami Lakes to Dadeland South Station via Milam Dairy road and Ludlam Road	Adjust Sunday Headway from 40 to 60 minutes	June 15, 2008	√
77	Norwood to CBD via NW 7 Avenue	Discontinue overnight service	June 15, 2008	√
82	Coral Way to Bird Road via SW 82 Avenue	Discontinue entire route	June 15, 2008	√
Route 93 (Biscayne MAX)	Aventura Mall to CBD via Biscayne Boulevard	Realign the alignment into the CBD Terminal	November 16, 2008	*

Table 9-3: 2008 TDP Consistency Analysis Summary (continued)

95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Discontinue midday service to downtown Miami and the Civic Center	June 15, 2008	√
95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Realign the alignment into the CBD Terminal	November 16, 2008	*
104	Dadeland North Station to Kendall via SW 104 Street	Extend weekend trips ending at Hammocks Boulevard to MDC Kendall Campus	June 15, 2008	*
Route 120 (Beach MAX)	Bal Harbour to CBD via Miami Beach and Omni Terminal	Change the current Route T into a full limited-stop route between Haulover Park and downtown Miami	June 15, 2008	√
Route 132 (Tri-Rail Doral Shuttle)	Tri-Rail station to Koger via NW 36 Street	Add an earlier westbound trip departing the Hialeah Marketplace station	June 15, 2008	*
147	Dolphin Mall to Hammocks via SW 147 Avenue	Discontinue entire route	June 15, 2008	√
Route 183 (183 Street MAX)	Golden Glades Park/Ride Lot to Central Miami via NW 7 Avenue	Daily schedule adjustments to improve on-time performance	June 15, 2008	√
Route 212 (Sweetwater Circulator)	Sweetwater	Adjust weekday and Saturday headway from 15/20 minutes to 30 minutes	June 15, 2008	√
Route 216 (Goulds Connection)	West Goulds to Cutler Ridge Terminal	Discontinue entire route	June 15, 2008	√
Route 240 (Bird Road MAX)	Dadeland North station to West Miami-Dade via Bird Road	Discontinue three low ridership eastbound trips	June 15, 2008	√
Route 241 (North Dade Connection)	California Club to Miami Lakes via Uleta and Opa-Locka	Discontinue entire route	June 15, 2008	√
Route 242 (Doral Connection)	Okeechobee Station to Dolphin Mall via Koger, Doral and Airport West	Discontinue entire route	June 15, 2008	√
Route 243 (Seaport Connection)	CBD to Port of Miami	Discontinue midday service	June 15, 2008	√

Table 9-3: 2008 TDP Consistency Analysis Summary (continued)

Route 245 (Okeechobee Connection)	Okeechobee Metrorail station to Hialeah Gardens via Okeechobee/Frontage Roads and Medley Industrial Parks	Discontinue entire route	June 15, 2008	√
Route 246 (Night Owl)	Downtown Miami, Miami Beach, North Miami Beach, Opa-locka, Civic Center	Realign the alignment into the CBD Terminal	November 16, 2008	*
Route 249 (Coconut Grove Circulator)	Coconut Grove station to Douglas Road station via SW 27 Avenue, Grand Avenue and SW 37 Avenue	Adjust weekend evening headway from 15 to 20 minutes from 7 to 9 p.m. and from 15 to 30 minutes after 9 p.m.	June 15, 2008	√
Route 252 (Coral Reef MAX)	Dadeland South Station to Country Walk via Coral Reef Drive	Adjust peak headway from 15 to 20 minutes and Saturday headway from 40 to 60 minutes	June 15, 2008	√
Route 252 (Coral Reef MAX)	Dadeland South Station to Country Walk via Coral Reef Drive	Weekday southbound schedule from the Dadeland South station between 5 p.m. and 6 p.m. will be improved to every 15 minutes to reduce overcrowding	November 16, 2008	*
Route 272 (Sunset KAT)	Kendall to Dadeland North Metrorail station via Sunset Drive	Add a later morning eastbound trip to allow 10 minute frequency to continue later	June 15, 2008	√
Route 272 (Sunset KAT)	Kendall to Dadeland North Metrorail station via Sunset Drive	Adjust evening westbound trips after 6:30 p.m. to better match Metrorail service	November 16, 2008	*
Route 278 (Flagami Connection)	Flagami/West Miami area between Tamiami Boulevard and NW/SW 57 Avenue	Discontinue entire route	June 15, 2008	√
Route 282 (Hialeah Gardens Connection)	Miami Lakes to Hialeah Gardens to Palmetto Metrorail station via NW 82 and NW 87 Avenues	Adjust peak headway from 30 to 40 minutes	June 15, 2008	√
Route 287 (Saga Bay MAX)	Dadeland South Station to Saga Bay via Busway and SW 87 Avenue	Minor weekday schedule adjustments in both directions to improve schedule reliability	June 15, 2008	*

Table 9-3: 2008 TDP Consistency Analysis Summary (continued)

Route 288 (Kendall KAT)	West Kendall to Dadeland North Metrorail station via Kendall Drive	Add a 9 a.m. eastbound trip which extends the morning peak period service span	June 15, 2008	√
Route 288 (Kendall KAT)	West Kendall to Dadeland North Metrorail station via Kendall Drive	Discontinue the portion of the route on SW 88 Street west of SW 157 Avenue	November 16, 2008	*

Source: Miami-Dade Transit, 2009

9.6 Committed Bus Service Improvements and Adjustments (2009)

MDT's goal is to restructure the existing bus route network to better meet the transportation needs of the Miami-Dade County. The revised bus route system should reduce duplicate routes, improve service on major corridors, and increase ridership with new routes and greater market penetration while maintaining the departmental budget.

The following committed service adjustments will effectively match the service capacity to ridership demand resulting in a more efficient system. A listing of the committed bus service improvements and adjustments that are planned to occur between the January to December 2009 timeframe is presented in the following table.

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments

Route	Description	Improvement / Adjustment
A	Miami Beach to Omni Terminal via Venetian Causeway	Adjust evening headway from 20 to 40 minutes seven days a week
B	Key Biscayne to CBD via Rickenbacker Causeway	Truncate all trips at Brickell station
E	Miami Lakes to Aventura Mall via Opa-Locka, North Miami Beach, Sunny Isles and Lehman Causeway	Adjust weekend headway from 45 to 60 minutes
E	Golden Glades to Hallandale Beach via Aventura Mall	Extend from Aventura Mall to Turnberry & Hallandale Beach
E	Golden Glades to Hallandale Beach via Aventura Mall	Discontinue west end segment and merge with Route 28 into a new 135 Street Crosstown route.
G	Opa-locka to Miami Beach via NW 22 Avenue, NW 125 Street, Broad Causeway and Collins Avenue	Adjust weekend headway from 30 to 40 minutes
G	Opa-locka to Surfside via NW 22 Avenue, NW 125 Street and Broad Causeway	Discontinue segment south of Collins Avenue & 96 Street and extend western alignment to serve the North Dade Health Center
H	North Miami Beach to Miami Beach via 163 Street and Collins Avenue	Discontinue southbound loop around 163 Street Mall
H	North Miami Beach to Miami Beach via 163 Street and Collins Avenue	Adjust Saturday headway from 20 to 30 minutes
H	North Miami Beach to Miami Beach via 163 Street and Collins Avenue	Discontinue segment south of Collins Avenue & 72 Street
H	North Miami Beach to Miami Beach via 163 Street and Collins Avenue	Adjust peak headway from 20 to 24 minutes
H	North Miami Beach to Miami Beach via 163 Street and Collins Avenue	Adjust midday headway from 20 to 24 minutes
H	North Miami Beach to Miami Beach via 163 Street and Collins Avenue	Realign to NE 19 Avenue between 164 and 171 Street

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
J	Coral Gables to Miami Beach via LeJeune Road and 36 Street	Adjust Saturday headway from 20 to 30 minutes
J	Miami International Airport to Miami Beach via 36 Street and 41 Street on the Beach	Discontinue segment from 41st Street to 72nd Street on the beach and the segment from the Airport to Coconut Grove
J	Miami International Airport to Miami Beach via 36 Street and 41 Street on the Beach	Adjust peak headway from 15 to 20 minutes
K	Diplomat Mall to CBD via Collins Avenue and MacArthur Causeway	Adjust weekend headway from 20 to 30 minutes-June
K	Diplomat Mall to CBD via Collins Avenue and MacArthur Causeway	Discontinue entire route and merge into other beach routes including the mid-North Beach Connection
L	Miami Beach to Hialeah via Collins Avenue, 79 Street Causeway and 79 Street	Adjust weekday running times to improve schedule reliability
L	Miami Beach to Hialeah via Collins Avenue, 79 Street Causeway and 79 Street	Adjust peak headway from 10 to 12 minutes
M	Civic Center to Miami Beach via Omni Terminal and MacArthur Causeway	Discontinue loop south of 5th Street on Miami Beach-June
M	Civic Center to Miami Beach via Omni Terminal and MacArthur Causeway	Adjust peak headway from 30 to 45 minutes-June
M	Civic Center to Miami Beach via Omni Terminal and MacArthur Causeway	Adjust midday headway from 45 to 60 minutes
M	Civic Center to Miami Beach via Omni Terminal and MacArthur Causeway	Re-implement loop south of 5th Street on Miami Beach-December
M	Civic Center to Miami Beach via Omni Terminal and MacArthur Causeway	Adjust peak headway from 45 to 60 minutes-December
R	Surfside to south Miami Beach	Discontinue last round trip-June
R	Surfside to south Miami Beach	Discontinue entire route and merge into other beach routes including the mid-North Beach Connection
S	Aventura Mall to CBD via Miami Beach	Improve Sunday headway from 20 to 15 minutes
1	South Miami Heights to Dadeland South Station via Busway	Adjust peak headway from 30 to 40 minutes - June
1	South Miami Heights to Dadeland South Station via Busway	Adjust weekend headway from 40 to 60 minutes - June
1	South Miami Heights to Busway/SW 168 Street Station	Discontinue segment on Busway and provide feeder service only.
1	South Miami Heights to Busway/SW 168 Street Station	Improve peak headway from 40 to 30 minutes-December
1	South Miami Heights to Busway/SW 168 Street Station	Improve midday headway from 40 to 30 minutes- December
1	South Miami Heights to Busway/SW 168 Street Station	Improve Saturday headway from 60 to 40 minutes – December

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
1	South Miami Heights to Busway/SW 168 Street Station	Improve Sunday headway from 60 to 40 minutes - December
3	Diplomat Mall to CBD via 163 Street Mall and Biscayne Boulevard	Terminate weekend evening northbound trips arriving at 12:30/1:30 a.m. at Aventura Mall-June
3	Aventura Mall to CBD via 163 Street Mall and Biscayne Boulevard	Discontinue Aventura Mall to Hallandale segment-December
3	Aventura Mall to CBD via 163 Street Mall and Biscayne Boulevard	Improve Saturday headway from 20 to 15 minutes
3	Aventura Mall to CBD via 163 Street Mall and Biscayne Boulevard	Improve Sunday headway from 24 to 20 minutes
7	Dolphin Mall to CBD via Miami International Mall, Fontainbleau, NW 7 Street and Little Havana	Discontinue Miami International Airport/Miami Springs branch
9	Aventura Mall to CBD via 163 Street Mall and NE 2 Avenue	Add an additional Sunday evening roundtrip to the schedule
10	Skylake to CBD via NE 15 Avenue and NE 2 Avenue	Discontinue segment on Miami Avenue and extend to Skylake via NE 15 Avenue
12	Northside Station to Mercy Hospital via Liberty City, Allapattah, Civic Center, Little Havana and Coconut Grove	Adjust weekend headway from 30 to 40 minutes
16	163 Street Mall to Omni Terminal via North Miami Beach and Biscayne Boulevard	Discontinue segment from Omni Terminal to the CBD
16	163 Street Mall to Omni Terminal via North Miami Beach and Biscayne Boulevard	Improve peak headway from 20 to 18 minutes
16	163 Street Mall to Omni Terminal via North Miami Beach and Biscayne Boulevard	Adjust midday headway from 20 to 24 minutes
16	163 Street Mall to Omni Terminal via North Miami Beach and Biscayne Boulevard	Improve Saturday headway from 30 to 24 minutes
17	Norwood to Vizcaya Station via NW 17 Avenue	Discontinue low ridership trips
21	Opa-Locka to CBD via Northside, Liberty City, Allapattah, Civic Center and Overtown	Discontinue NW 79 Street to NW 167 Street segment
21	Opa-Locka to CBD via Northside, Liberty City, Allapattah, Civic Center and Overtown	Adjust weekend headway from 30 to 40 minutes
22	163 Street Mall to Douglas Road station via Golden Glades, NW 22 Avenue and Coconut Grove	Last two Saturday night trips ending at Golden Glades will be extended to the 167 Street Terminal. Add late evening Sunday trips to/from Coconut Grove
22	163 Street Mall to Douglas Road station via Golden Glades, NW 22 Avenue and Coconut Grove	Discontinue Civic Center segment
24	Westchester to CBD via Coral Way and Brickell Avenue	Discontinue weekend alternate trips at SW 24 Street/88 Avenue

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
24	CBD to West Dade via Coral Way	Merge with Route 224 (Coral Way MAX)
27	Carol City to Coconut Grove via 27th Avenue	Improve Sunday headway from 30 to 20 minutes
28	FIU Biscayne Bay Campus to Hialeah Station via 135th Street and East 4th Avenue	Adjust midday headway from 40 to 60 minutes
28	FIU Biscayne Bay Campus to Hialeah Station and Miami Lakes via 135th Street, East 4th Avenue and NW 60 Avenue	Combine route with Route E west end for new 135 Street Crosstown Route
29	Miami Lakes to Hialeah	Adjust peak headway from 30 to 45 minutes
Route 31 (Busway Local)	Dadeland South Station to South Dade Government Center via Busway	Adjust peak headway from 15 to 20 minutes - June
Route 31 (Busway Local)	Dadeland South Station to South Dade Government Center via Busway	Improve peak headway from 20 to 15 minutes – Dec
32	Carol City to Omni via Opa-Locka, Northside, Liberty City and Civic Center	Discontinue low ridership trips
33	Hialeah Gardens to Miami Shores via 103rd Street (49 St) and 95th Street	Adjust midday headway from 30 to 35 minutes
33	Hialeah Gardens to Miami Shores via 103rd Street (49 St) and 95th Street	Adjust Sunday headway from 30 to 45 minutes prior to 9 a.m.
35	MDC Kendall Campus to Florida City via Busway, US-1	Adjust weekend headway to 30 to 60 minutes
36	Dolphin Mall to Biscayne Boulevard via NW 36/41 Streets and Koger Office Park and Miami Springs	Restructure Route 36 and 41 into one route and discontinue segment to Omni via Biscayne Boulevard
37	Hialeah to South Miami via Palm Avenue and Douglas Road	Discontinue last two weekday southbound trips ending at MIA Terminal
Route 38 (Busway MAX)	Dadeland South Station to Florida City via Busway	Adjust running times seven days a week
Route 38 (Busway MAX)	Dadeland South Station to Florida City via Busway	Improve peak headway from 15 to 12 minutes
40	West Miami-Dade to Coral Gables via Bird Road	Adjust peak headway from 20 to 24 minutes- June
40	West Miami-Dade to Coral Gables via Bird Road	Discontinue eastbound service after 10 p.m. and westbound service after 11 p.m. seven days a week
40	West Miami-Dade to Coral Gables via Bird Road	Adjust weekend headway from 30 to 60 minutes. Discontinue University Lakes branch on weekends
40	West Miami-Dade to Coral Gables via Bird Road	Merge with Route 240 (Bird Road MAX) and assume EOL loop from MAX route

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
40	West Miami-Dade to Coral Gables via Bird Road	Improve peak headway from 24 to 15 minutes – Dec
42	Golden Glades to Coconut Grove via LeJeune Road	Adjust Saturday headway from 40 to 60 minutes- June
42	Opa-Locka Tri-Rail to Douglas Road Station	Discontinue segment from Douglas Road Station to Coconut Grove Station and segment from Opa-Locka Tri-Rail Station to Golden Glades
42	Opa-Locka Tri-Rail to Douglas Road Station	Improve peak headway from 30 to 15 minutes
42	Opa-Locka Tri-Rail to Douglas Road Station	Improve midday from 60 to 30 minutes
42	Opa-Locka Tri-Rail to Douglas Road Station	Improve Saturday headway from 60 to 30 minutes-December
42	Opa-Locka Tri-Rail to Douglas Road Station	Improve Sunday headway from 60 to 30 minutes
Route 46 (Liberty City Connection)	Caleb Center to NW 7 Avenue/NW 62 Street via NW 46 Street, NW 54 Street and NW 10 Avenue	Adjust peak headway from 30 to 40 minutes
48	Brickell station to University station via Brickell Avenue, Bayshore Drive and Coral Gables	Adjust peak headway from 40 to 60 minutes
Route 51 (Flagler MAX)	CBD to west Miami-Dade via West Flagler Street	Discontinue segment from CBD to Omni Terminal
52	Dadeland South station to Cutler Bay via Busway, Perrine and Richmond Heights	Discontinue segment from Dadeland South Station to South Miami Station
52	Dadeland South station to Cutler Bay via Busway, Perrine and Richmond Heights	Adjust midday headway from 40 to 45 minutes
54	Hialeah to Liberty City via 54th Street	Adjust peak headway from 20 to 24 minutes
54	Hialeah to Liberty City via 54th Street	Discontinue several Sunday trips resulting in a 60 minute headway in the early a.m. and will start the evening 60 minute headway earlier
54	Hialeah to Liberty City via 54th Street	Truncate alternate trips at West 60 Street. Merge with Route 282
56	Coral Gables to Lakes of the Meadow/MDC Kendall Campus via Miller Road and SW 107/177 Avenues	Adjust midday headway from 30 to 60 minutes and discontinue midday servcie on the MDC Kendall Campus branch
56	Coral Gables to Lakes of the Meadow/MDC Kendall Campus via Miller Road and SW 107/177 Avenues	Discontinue last eastbound trip of the night which operates from MDC Kendall Campus to Miami Children's Hospital
57	Miami International Airport to Pinecrest	Discontinue 1st AM northbound trip and 2nd to last PM southbound trip
62	Hialeah to Omni via 62nd Street and Biscayne Boulevard	Adjust Sunday headway from 20 to 30 minutes

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
62	Hialeah to Omni via 62nd Street and Biscayne Boulevard	Discontinue segment along Biscayne Boulevard
62	Hialeah to Omni via 62nd Street and Biscayne Boulevard	Reduce Miami Beach trips to four per peak
62	Hialeah to Omni via 62nd Street and Biscayne Boulevard	Improve Sunday headway from 30 to 24 minutes
65	Coconut Grove to Pinecrest via Busway and Old Cutler Road	Adjust peak headway from 30 to 45 minutes - June
65	Coconut Grove to Pinecrest via Busway and Old Cutler Road	Merge with Route 136
70	Cutler Ridge to Florida City via Naranja, Goulds, Princeton and Homestead	Adjust midday headway from 30 to 60 minutes
71	Dolphin Mall to MDC Kendall Campus via 107th Avenue	Adjust midday headway from 40 to 60 minutes
71	Dolphin Mall to MDC Kendall Campus via 107th Avenue	Adjust Saturday headway from 40 to 60 minutes
71	Dolphin Mall to MDC Kendall Campus via 107th Avenue and Sweetwater	Absorb Route 212 (Sweetwater Circulator) segment
72	Coral Gables to Kendall via SW 57 Avenue and Sunset Drive	Adjust weekend headway from 30 to 45 minutes
73	Miami Lakes to Dadeland South Station via Milam Dairy Road and Ludlam Road	Adjust midday headway from 30 to 40 minutes
73	Miami Lakes to Dadeland South Station via Milam Dairy Road and Ludlam Road	Adjust Saturday headway from 40 to 60 minutes - June
73	Miami Gardens Drive to Dadeland South Station via Ludlam Road and Milam Dairy Road	Combine with Route 267 MAX on northern segment
73	Miami Gardens Drive to Dadeland South Station via Ludlam Road and Milam Dairy Road	Discontinue segment to Miami Lakes Tech
73	Miami Gardens Drive to Dadeland South Station via Ludlam Road and Milam Dairy Road	Improve peak headway from 30 to 20 minutes
73	Miami Gardens Drive to Dadeland South Station via Ludlam Road and Milam Dairy Road	Improve Saturday headway from 60 to 40 minutes - Dec
75	Miami Lakes Tech to MDC North Campus via 175 Street, Miami Gardens Drive, West Dixie Highway and 119 Street	Discontinue Sunday service after 7 p.m.
75 North	Miami Lakes Tech to MDC North Campus via 175 Street, Miami Gardens Drive, West Dixie Highway and 119 Street	Split existing Route 75 into two routes. Extend northern route to FIU and existing segments of Route 83 being discontinued

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
77	Norwood to CBD via NW 7th Avenue	Truncate alternate trips at Golden Glades. Service to Norwood would be every other trip.
Route 79 (79 Street MAX)	Miami Beach to Northside Metrorail station via 79th Street, JFK Causeway and 71st Street	New limited-stop service operating during the weekday peak periods only every 24 minutes
83	Miami Lakes to 163 Street Mall via Miami Gardens Drive	Restructure Route 83 and 183 into one route and discontinue segments along NW 67 Avenue, NW 177 Street, NE 191 Street, NE 6 Avenue and FIU
83	Miami Lakes to 163 Street Mall via Miami Gardens Drive	Improve peak headway from 15 to 12 minutes
83	Miami Lakes to 163 Street Mall via Miami Gardens Drive	Improve midday headway from 30 to 20 minutes
83	Miami Lakes to 163 Street Mall via Miami Gardens Drive	Improve Saturday headway from 30 to 20 minutes
83	Miami Lakes to 163 Street Mall via Miami Gardens Drive	Improve Sunday headway from 30 to 24 minutes
87	Okeechobee station to Dadeland North station via 87th Avenue	Adjust Sunday headway from 40 to 60 minutes
87	Okeechobee station to Dadeland North station via 87th Avenue	Adjust weekday headway to 32 minutes
88	Dadeland North station to Kendall via SW 88 Street	Discontinue service after midnight seven days a week
88	Dadeland North station to Kendall via SW 88 Street	Adjust Saturday headway from 20 to 24 minutes
91	Miami Lakes to 163 Street Mall via Carol City, California Club and North Miami Beach	Adjust peak headway from 30 to 45 minutes - June
91	Miami Lakes to 163 Street Mall via Carol City, California Club and North Miami Beach	Combine with Route 99
91	Miami Lakes to 163 Street Mall via Carol City, California Club and North Miami Beach	Improve peak headway from 45 to 24 minutes - Dec
91	Miami Lakes to 163 Street Mall via Carol City, California Club and North Miami Beach	Improve midday headway from 60 to 30 minutes
91	Miami Lakes to 163 Street Mall via Carol City, California Club and North Miami Beach	Improve Saturday headway from 60 to 40 minutes
91	Miami Lakes to 163 Street Mall via Carol City, California Club and North Miami Beach	Improve Sunday headway from 60 to 40 minutes
93 (Biscayne MAX)	Aventura Mall to CBD via Biscayne Boulevard	Adjust peak headway from 15 to 18 minutes
95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Discontinue 6 low ridership trips
95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Discontinue feeder segment of the Miami Avenue (Norwood) trips

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
95 Express	Downtown Miami, Golden Glades, Civic Center, Carol City, Aventura, West Dade	Restructure feeder segments into separate routes
Route 97 (27 Avenue MAX)	Carol City to Dr. Martin Luther King, Jr. Station via NW 27 Avenue	Adjust midday headway from 30 to 40 minutes
99	Miami Gardens to Aventura Mall via Carol City, California Club and North Miami Beach	Adjust midday headway from 30 to 60 minutes
99	Miami Gardens to Aventura Mall via Carol City, California Club and North Miami Beach	Discontinue route and merge with Route 91
104	Dadeland North Station to Kendall via SW 104 Street	Adjust midday headway from 30 to 60 minutes
104	Dadeland North Station to Kendall via SW 104 Street	Adjust weekend headway from 30 to 60 minutes
Route 120 (Beach MAX)	Aventura Mall to CBD via Collins Avenue, Washington Avenue and MacArthur Causeway	Extend route to Aventura Mall on the north end. Realign south of 41 Street onto Collins Avenue, Washington Avenue south of 17th Street and MacAurthur Causeay
Route 120 (Beach MAX)	Aventura Mall to CBD via Collins Avenue, Washington Avenue and MacArthur Causeway	Improve peak headway from 24 to 12 minutes
Route 120 (Beach MAX)	Aventura Mall to CBD via Collins Avenue, Washington Avenue and MacArthur Causeway	Improve midday headway from 30 to 12 minutes
Route 120 (Beach MAX)	Aventura Mall to CBD via Collins Avenue, Washington Avenue and MacArthur Causeway	Improve Saturday headway from 30 to 15 minutes
Route 123 (South Beach Local)	Miami Beach	Realign and extend service to Belle Isle and Collins Park
Route 123 (South Beach Local)	Miami Beach	Revise loop alignments
135 (135 Street Crosstown)	FIU Biscayne Bay Campus to Hialeah Station and Miami Lakes via 135th Street, East 4th Avenue and NW 60 Avenue	Restructure Route 28 and Route E into new Route 135 Street Crosstown with two branches (Miami Lakes and Hialeah Station)
136	SW 137 Avenue to Dadeland South via SW 120th/136th Street	Extend route on west end to serve the INS center on SW 147 Avenue
136	SW 137 Avenue to Dadeland South via SW 120th/136th Street	Merge with Route 65
136	SW 137 Avenue to Dadeland South via SW 120th/136th Street	Adjust peak headway from 30 to 45 minutes
Route 137 (West Dade Connection)	Dolphin Mall to Cutler Ridge via SW 137 Avenue	Adjust midday headway from 30 to 45 minutes

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
Route 137 (West Dade Connection)	Dolphin Mall to Cutler Ridge via SW 137 Avenue	Discontinue low ridership trip
Route 183 (183 Street MAX)	Golden Glades Park/Ride Lot to Central Miami via NW 7 Avenue	Discontinue segment from Aventura to FIU.
Route 183 (183 Street MAX)	Golden Glades Park/Ride Lot to Central Miami via NW 7 Avenue	Merge with Route 83 into single route.
Route 183 (183 Street MAX)	Golden Glades Park/Ride Lot to Central Miami via NW 7 Avenue	Discontinue service after 7 p.m.
Route 202 (Little Haiti Circulator)	INS Office to NW 36 Street via 79 Street and NE 2 Avenue	Adjust peak headway from 30 to 40 minutes
Route 202 (Little Haiti Circulator)	INS Office to NW 36 Street via 79 Street and NE 2 Avenue	Discontinue service after 7 p.m.
Route 202 (Little Haiti Circulator)	INS Office to NW 36 Street via 79 Street and NE 2 Avenue	Discontinue entire route and merge with Routes 2, 9, 10, and L
Route 212 (Sweetwater Circulator)	Sweetwater	Discontinue route and merge into Route 71
Route 224 (Coral Way MAX)	Douglas Road Station to West Dade via Coral Way	Discontinue route and merge with Route 24
Route 238 (East-West Connection)	Earlington Heights Station to Dolphin Mall via Miami International Airport, Blue Lagoon, Airport West and Miami International Mall	Adjust peak headway from 30 to 45 minutes
Route 238 (East-West Connection)	Earlington Heights Station to Dolphin Mall via Miami International Airport, Blue Lagoon, Airport West and Miami International Mall	Realign to serve the Airport Corporate Center
Route 238 (East-West Connection)	Earlington Heights Station to Dolphin Mall via Miami International Airport, Blue Lagoon, Airport West and Miami International Mall	Discontinue low ridership trips
Route 243 (Seaport Connection)	CBD to Port of Miami	Adjust peak headway from 20 to 30 minutes
Route 243 (Seaport Connection)	CBD to Port of Miami	Realign to Overtown station from CBD

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
Route 246 (Night Owl)	Downtown Miami, Miami Beach, North Miami Beach, Opa-Locka, Civic Center	Restructure route to only operate between the CBD and 163 Street Mall via the mainline and discontinue the beach portion
Route 248 (Brickell Key Shuttle)	Brickell Avenue to Brickell Key Island	Adjust peak headway from 15 to 20 minutes
Route 249 (Coconut Grove Circulator)	Coconut Grove Metrorail station to Douglas Road Metrorail via SW 27 Avenue, Grand Avenue, SW 37 Avenue	Discontinue alignment spur west of Douglas Road
Route 249 (Coconut Grove Circulator)	Coconut Grove Metrorail station to Douglas Road Metrorail via SW 27 Avenue, Grand Avenue, SW 37 Avenue	Adjust daily headway from 15 to 18 minutes
Route 249 (Coconut Grove Circulator)	Coconut Grove Metrorail station to Douglas Road Metrorail via SW 27 Avenue, Grand Avenue, SW 37 Avenue	Discontinue last weekday roundtrip
Route 252 (Coral Reef MAX)	Dadeland South Station to Country Walk via Coral Reef Drive	Adjust midday headway from 30 to 60 minutes
Route 252 (Coral Reef MAX)	Dadeland South Station to Country Walk via Coral Reef Drive	Discontinue segment to Deerwood Industrial Park
Route 254 (Brownsville Circulator)	Brownsville station to Caleb Center	Discontinue last trip at 3 p.m.
Route 267 (Ludlam MAX)	Golf Club of Miami to Okeechobee Station via Ludlam Road/West 12 Avenue	Adjust peak headway from 20 to 30 minutes- June
Route 267 (Ludlam MAX)	Golf Club of Miami to Okeechobee Station via Ludlam Road/West 12 Avenue	Discontinue route and combine with Route 73- December
Route 272 (Sunset KAT)	Kendall to Dadeland North Metrorail station via Sunset Drive	Adjust peak headway from 9 to 10 minutes
Route 277 (7 Avenue MAX)	Golden Glades to CBD via NW 7th Avenue	Discontinue 4 northbound and 4 southbound trips
Route 282 (Hialeah Gardens Connection)	Miami Lakes to Hialeah Gardens to Palmetto Metrorail station via NW 82 and NW 87 Avenues	Reduce peak period service span by one hour for each peak period- June
Route 282 (Hialeah Gardens Connection)	Miami Lakes to Hialeah Gardens to Palmetto Metrorail station via NW 82 and NW 87 Avenues	Discontinue route and combine with Route 54- December

Table 9-4: 2009 Committed Bus Service Improvements/Adjustments (continued)

Route	Description	Improvement / Adjustment
Route 287 (Saga Bay MAX)	Dadeland South Station to Saga Bay via Busway and SW 87 Avenue	Discontinue low ridership trips
Route 288 (Kendall KAT)	Dadeland North Station to West Kendall via Kendall Drive	Discontinue low ridership trips
344	MDC Homestead Campus to Florida City City Hall via Krome Avenue, and East/West Palm Drive	Adjust peak headway from 30 to 60 minutes
Northeast Lifeline	Serving Skylake, California Club area, and 163rd Street Mall	Contracted route to be discontinued in December
Dade-Monroe Express	Florida City to Key Large, Islamorada, and Marathon	Contracted route- Discontinue one early AM and evening trip

Source: Miami-Dade Transit, 2009

9.6.1 Urban Corridor Development

As part of the State's Transit Corridor Program FDOT Funds are available and will result in the continuation of several MDT Metrobus routes. These routes include the Flagler MAX (Route 51) service from west Miami-Dade to the CBD, the Busway MAX (Route 38) which provides service from the Dadeland South Metrorail station to Florida City and the future I-95 Managed Lanes Express bus service scheduled to begin service in January 2010. In addition several other South Miami-Dade Busway routes that will continue to benefit from this program include: the Busway Local (Route 31) with service from Dadeland South Metrorail station to Cutler Bay and the Coral Reef MAX (Route 252) via Coral Reef Drive from Dadeland South; and the Saga Bay MAX (Route 287) from Sage Bay to Dadeland South Metrorail Station.

9.7 Infrastructure Renewal Program – Committed Projects

The following section lists those committed projects that are proposed to be implemented during the FY 2009 – 2010 timeframe. These project commitments are based on an Infrastructure Renewal Program (IRP) evaluation and prioritization process that is further explained in the next section.

9.7.1 IRP Project Prioritization and Budget Approval Process Procedure

Miami-Dade Transit has developed an updated procedure for identifying, evaluating, prioritizing, and programming capital improvement projects. This process is illustrated in Figure 9-1, with the detailed procedure included in the Appendix.

The project development process begins by capital project requests coming from either external sources (i.e. the general public, other Miami-Dade County Departments, State Legislature) or internal (MDT Divisions or individuals). The applicable MDT Division then appoints a Project Originator (individual that processes the paperwork associated with obtaining project approval, prioritization, and programming), and the Project Manager.

A completed Project Prioritization and Budget Approval Form (PPBA) is submitted to the MDT Office of Strategic Planning and Performance Measurement (OSPPM), which coordinates the review of the project request with the Planning Advisory Board. The Planning Advisory Board consists of nine MDT staff members:

- Assistant Director, Rail Services
- Assistant Director, Bus Services
- Senior Chief, Information Technology
- Chief, Infrastructure, Engineering and Maintenance
- Chief, Strategic Planning and Performance Management (Co-Chair)
- Chief, Office of Safety and Security
- Chief, Design and Engineering
- Chief, Quality Assurance
- Chief, Budget and Performance Reporting (Co-Chair)

The Planning Advisory Board holds one or more meetings to discuss and prioritize the submitted project request. Each project is assigned into one of five categories:

1. Existing project in TIP (Transportation Improvement Program), IRP (Infrastructure Renewal Program), OSP (Operational Support Project), or CIP (Capital Improvement Program) for implementation with local, state, and federal sources.
2. New project approved for implementation. Add the project to the TIP, IRP, OSP, or CIP.
3. Project to be placed on hold for next year's funding cycle.
4. Project to be placed on hold for next planning cycle (project does not exist in TIP, IRP, OSP, or CIP), or
5. Rejected.

The Planning Advisory Board then discusses the project recommendations with the planning Approval Board and finalizes the list of projects. The Approval Board consists of four MDT staff members:

- MDT Director
- Deputy Director, Operations
- Assistant Director, Engineering, Planning and Development
- Assistant Director, Finance

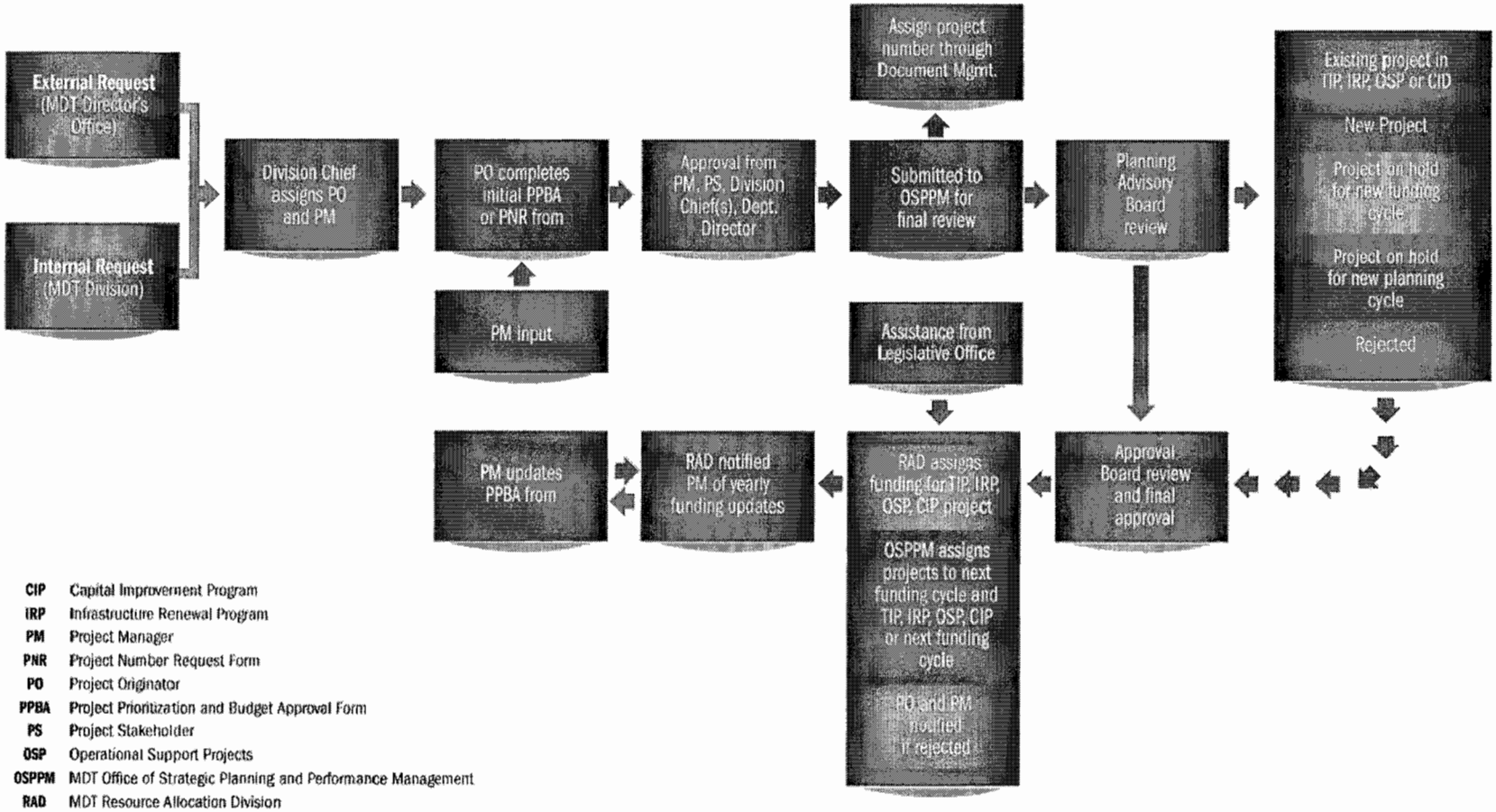
If the project is approved for state and/or federal funding, the PPBA form is forwarded to the MDT Resource Allocation Division and/or Legislative Office for action. If the project is approved but to be re-evaluated the next planning cycle, the PPBA form is

returned to the OSPPM, to be placed on the on-hold list of projects for the next planning cycle.

If there becomes a need to re-program capital project funds, the MDT Director must approve any re-programming through a separate PPBA form. In deciding which projects are candidates for re-programming, the MDT Resource Allocation Division will evaluate encumbered funds for candidate projects, and present the projects to the Planning Advisory Board and Approval Board for final consideration.

The projects identified for the FY 2009 – 2010 for budget approval are presented in Table 9-5. A brief description is included to provide an overview of the type of project improvement being proposed.

Figure 9-1: Infrastructure Renewal Program Prioritization Process



CIP	Capital Improvement Program
IRP	Infrastructure Renewal Program
PM	Project Manager
PNR	Project Number Request Form
PO	Project Originator
PPBA	Project Prioritization and Budget Approval Form
PS	Project Stakeholder
OSP	Operational Support Projects
OSPPM	MDT Office of Strategic Planning and Performance Management
RAD	MDT Resource Allocation Division
TIP	Transportation Improvement Program

Table 9-5: FY 2009 – 2010 Prioritized New IRP Projects for Budget Approval (2009$)

Classification	Project Name	Estimate Total Project Cost FY 09-10	Total Project Amount	Total funding Allocated	Type of Grant	2009	2010	2011
Safety & Security	Parking Garages - Fire Suppression	$ 975,000	$ 975,000	1,249.820 earmarked FY'10	5309 formula	$ -	$ 975,000	$ -
Maintenance Facilities	40 Year Building Re-Certification 3311 NW 31 St.	$ 159,923	$ 228,558	210K earmarked FY'10	5309 Formula	$ 18,000	$ 159,923	$ -
Maintenance Facilities	Coral Way Garage Hurricane Panels	$ 100,000	$ 100,000	100K earmarked FY'10	5309 Formula	$ 100,000	$ -	$ -
Systems	Bus Garages Plumbing			300K earmarked FY'10	5309 Formula	$ -	$ 300,000	$ -
Passenger Facilities	Concrete Repairs at Omni Bus Terminal	$ 198,786	$ 809,047	810,000 earmarked FY '10	5309 Formula	$ -	$ 198,786	$ 610,261
Maintenance Facilities	Metrobus: A/C Replacement, and A/C & Chiller Unit Replacement	$ 293,100	$ 1,590,410	300K earmarked FY'10	5309 Formula	$ 293,100	$ 245,700	$ 178,450
Maintenance Facilities	Bus Garages: Roofs	$ 297,320	$ 2,879,193	300K earmarked FY'10	5309 Formula	$ -	$ 297,320	$ -
Passenger Facilities	Concrete Repairs and Asphalt repaving at Hialeah Station and Parking Lot	$ 286,125	$ 286,125	330K earmarked FY'10	5309 Formula	$ -	$ 286,125	$ -
Maintenance Facilities	Secondary Guide Rails for Bus Washes	$ 90,000	$ 90,000	90,000 earmarked FY' 10		$ -	$ 90,000	$ -
Maintenance Facilities	Replace air compressors at all bus locations	$ 380,546	$ 1,170,180	400,000 earmarked FY' 10	5309	$ -	380,456,25	$ 417,459
Systems	Tools and Equipment	$ 298,000		298,000.00 FY '10	5309 Fixed Guideway	$ -	$ 298,000	$ -
TOTALS:						**$ 411,100**	**$ 2,850,854**	**$ 1,206,170**

9.7.2 Maintenance Facilities – Committed Projects

40 Year Building Recertification

A 40 year building recertification is required at the Central Bus Facility as per Miami-Dade County Code Compliance and an estimated $230,000 is needed to complete necessary building repairs. The project budget includes design, inspections, construction administration and County administration.

Coral Way Garage Hurricane Panels

Miami-Dade Transit has committed to furnish and install a total of 58 perforated stainless steel hurricane barriers and five foot (5') high performance accordion shutters at the Coral Way Bus Transportation and Maintenance Facilities and other buildings in the property. The estimated project cost is $100,000.

Metrobus: Air Conditioning (A/C) Replacement, and A/C & Chiller Unit Replacement

The installation of eight (8) rooftop A/C units and replacement of roof curbs at the Coral Way facility is proposed. MDT has also proposed to furnish and install nine (9) roof top A/C units and replace roof curbs at the Coral Way Bus Garage and Offices. An estimated $293,000 is funded for this project.

Bus Garages: Roofs

Miami-Dade Transit will furnish and install new roofing at the Central Bus Garage and Offices. The A/C and fan roof curbs are set to be resealed and insulated during this project. In addition, some roof ventilators and curbs may be replaced as necessary. This project has been funded for $300,000.

Secondary Guide Rails for Bus Washes

The installation of secondary guide rails in the bus washers is needed at the Central, Northeast and Coral Way Bus Facilities at an estimated cost of $90,000. The secondary guide rail is necessary to protect wash system components at the Central, Northeast, and Coral Way Facilities.

Replace Air Compressors at All Bus Locations

The replacement of air compressors at all MDT Bus Garages is proposed at an estimated project cost of $381,000. The replacement project includes the purchase and installation of new air compressor, air dryers, receiver tanks, and piping. Current air compressors are beyond the equipment useful life and replacement is necessary to prevent total failure.

Concrete Repairs at Omni Bus Terminal

Concrete repairs have been committed for the Omni Bus Terminal at an estimated cost of $199,000. The concrete pavement surrounding catch basins located along the center line of the road at the facility are sinking. An evaluation of sinking pavement as a result of soil conditions and/or heavy bus traffic must also be completed. The

existing conditions at the terminal require a field engineering evaluation, set of drawings and technical specifications in order to complete this project.

Concrete Repairs and Asphalt Repaving at Hialeah Station and Parking Lot

Concrete repair and asphalt repaving is proposed for the Hialeah Station and parking lot. The station parking lot has undergone severe asphalt damage as a result of tree root overgrowth in the lot. MDT proposes a full rehabilitation of the parking lot to include repair and renovation. The project is estimated to cost $286,000.

9.7.3 Systems – Committed Projects

Bus Garages Plumbing

The overhaul of existing plumbing of MDT restroom facilities at the following locations have been approved for reconstruction: Central Bus Facilities Procurement Office, Materials Management, Facilities, Fuel Island, and the Warranty Administration Office. Approximately $300,000 has been funded to complete this project.

Tools and Equipment/Replacement

The Metromover system has been prioritized for tool and equipment replacement used for Metromover related repairs. The estimated cost for this project is $298,000.

9.7.4 Safety and Security – Committed Projects

Parking Garages - Fire Suppression

An upgrade and replacement of fire suppression systems at six (6) original parking garages built with the Metrorail System is proposed. The parking garages include the Okeechobee, Dadeland South, Earlington Heights, Santa Clara, South Miami, and Dadeland North stations. The upgrade and replacement of fire suppression systems consist of the following parts: piping, sprinkler heads, jockey and fire pumps, and flow and tamper switches at an estimated cost of $975.000.

9.8 2019 Recommended Service Plan

A Recommended Service Plan (RSP) has been developed for the TDP Major Update and serves as the needs plan for the MDT system. The 2019 RSP has been updated from the previous RSP that was listed in the 2008 MDT TDP Update. The improvements and adjustments provided within the RSP are proposed to occur within the planning horizon of the FY 2010-2019 TDP Major Update. Any future project recommended in this section for implementation is contingent upon Miami-Dade County receiving the appropriate federal, state and local funding for its implementation.

Some of the improvements and adjustments reflected in the 2019 RSP are identified under the PTP one-half percent sales surtax approved by voters on November 5, 2002. Most of the improvements listed in the RSP beyond 2010 were not included in the original PTP improvements list, but may be funded with future PTP surtax funds. These improvements were deemed to be the most pressing or requested by the community after the original PTP list was completed. This section addresses the four modes of transit as operated by MDT to include Metrobus, Metrorail, Metromover and Special Transportation Services (STS).

9.8.1 Recommended Service Plan – Metrobus

A RSP for FY 2010- 2019 is presented on the following pages to include system needs according to existing Metrobus routes as well as identified new bus service to include additional operational improvements within existing corridors that warrant more services as a result of increasing passenger travel demands. Clearly, MDT is committed to provide the level of transit service that will provide efficient services to passengers throughout the Miami-Dade County service area. This provision of service is continuously considered while the Department seeks to properly address critical issues of generating revenue, managing operational budgets, and prioritizing capital expansion programs.

Since the TDP Major Update comprises part of MDT's operational foundation for the future, it is imperative that the importance of "rightsizing" the RSP cannot be over emphasized. Therefore, this portion of the TDP Major Update details the both improvements and adjustments to achieve MDT's long term objectives.

2019 Recommended Service Plan – Existing Transit Routes

The following table provides a description of the needed bus service improvements for existing transit routes. This table includes a summarized description of bus service improvements, annual operating cost per improvement, impact of additional buses on the peak vehicle requirements (PVR); programming of transit improvements by fiscal years; and corresponding funding needs by fiscal year.

The system needs that are proposed throughout the FY 2010 – 2019 RSP include an estimated total cost for all improvements to existing transit service over this ten year planning horizon. The estimated total cost for the improvements included in the following table is $38.8 million. These adjustments to existing transit routes began with a base amount of 30.5 million annual miles, similar to what existed in June 2009.

Table 9-6: 2019 Recommended Service Plan Summary for Existing Transit Bus Routes (2009$)

Route	Change Description	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
A	No planned improvements.																				
B	No planned improvements.																				
C	No planned improvements.																				
E	No planned improvements.																				
G	No planned improvements.																				
H	No planned improvements.																				
J	No planned improvements.																				
L	No planned improvements.																				
M	No planned improvements.																				
S	No planned improvements.																				
1	No planned improvements.																				
2	Re-align northern terminus to future Golden Glades Intermodal Terminal.			$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
3	No planned improvements.																				
6	Extend route to serve the Miami Intermodal Center.					$221,623	0	$221,623	0	$221,623	0	$221,623	0	$221,623	0	$221,623	0	$221,623	0	$221,623	0
7	No planned improvements.																				
8	Extend service westward to SW 149 Avenue every 30 minutes and add weekend service to branch.			$886,539	1	$886,539	1	$886,539	1	$886,539	1	$886,539	1	$886,539	1	$886,539	1	$886,539	1	$886,539	1
9	No planned improvements.																				
10	No planned improvements.																				
11	No planned improvements.																				
12	Remove Civic Center loop; alignment will stay on NW 12 Ave. City of Miami to implement Health District Circulator.			-$173,190		-$173,190		-$173,190		-$173,190		-$173,190		-$173,190		-$173,190		-$173,190		-$173,190	
16	No planned improvements.																				
17	No planned improvements.																				

Table 9-6: 2019 Recommended Service Plan Summary for Existing Transit Bus Routes (2009$) (continued)

Route	Change Description	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
21	No planned improvements.																				
22	No planned improvements.																				
24	Provide limited-stop service east of Ponce de Leon Boulevard.			-$600,000	-2	-$600,000	-2	-$600,000	-2	-$600,000	-2	-$600,000	-2	-$600,000	-2	-$600,000	-2	-$600,000	-2	-$600,000	-2
27	No planned improvements.																				
28	No planned improvements.																				
29	No planned improvements.																				
31 (Busway Local)	Improve peak headway from 15 to 12 minutes.					$401,562	2	$401,562	2	$401,562	2	$401,562	2	$401,562	2	$401,562	2	$401,562	2	$401,562	2
31 (Busway Local)	Extend service to Florida City/Homestead along South Miami-Dade Busway Extension.					$2,411,848	5	$2,411,848	5	$2,411,848	5	$2,411,848	5	$2,411,848	5	$2,411,848	5	$2,411,848	5	$2,411,848	5
32	No planned improvements.																				
33	Improve peak headway from 30 to 20 minutes.															$395,453	3	$395,453	3	$395,453	3
34 (Busway Flyer)	No planned improvements.																				
35	No planned improvements.																				
36	No planned improvements.																				
37	Extend route to serve the Miami Intermodal Center.					$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
38 (Busway MAX)	Improve peak headway from 12 to 10 minutes.					$255,396	1	$255,396	1	$255,396	1	$255,396	1	$255,396	1	$255,396	1	$255,396	1	$255,396	1
40	No planned improvements.																				
42	Extend route to serve the Miami Intermodal Center.					$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
46 (Liberty City Connection)	No planned improvements.																				
48	No planned improvements.																				
51 (Flagler MAX)	Route to be transformed to Flagler Rapid Bus (see New Routes table).			$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
52	No planned improvements.																				

Table 9-6: 2019 Recommended Service Plan Summary for Existing Transit Bus Routes (2009$) (continued)

Route	Change Description	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
54	No planned improvements.																				
56	No planned improvements.																				
57	Extend route to serve the Miami Intermodal Center.					$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
62	No planned improvements.																				
70	No planned improvements.																				
71	No planned improvements.																				
72	Extend route westward to future West Kendall Terminal.							$207,000	1	$207,000	1	$207,000	1	$207,000	1	$207,000	1	$207,000	1	$207,000	1
73	No planned improvements.																				
75	No planned improvements.																				
77	No planned improvements.																				
79 (79 Street MAX)	No planned improvements.																				
83	No planned improvements.																				
87	No planned improvements.																				
88	Straighten route and extend westward to the West Kendall Terminal, eliminate the 142 Avenue branch.							$233,477	1	$233,477	1	$233,477	1	$233,477	1	$233,477	1	$233,477	1	$233,477	1
91	No planned improvements.																				
93 (Biscayne MAX)	Route to be transformed to Biscayne Rapid Bus (see New Routes table).			$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
95X	Increase the number of trips to downtown and Civic Center by 10%.	$192,780	0	$192,780	0	$192,780	0	$192,780	0	$192,780	0	$192,780	0	$192,780	0	$192,780	0	$192,780	0	$192,780	0
95X	Introduce weekend service.					$217,000	0	$217,000	0	$217,000	0	$217,000	0	$217,000	0	$217,000	0	$217,000	0	$217,000	0
97 (27Avenue MAX)	Route to be transformed to 27 Avenue Rapid Bus (see New Routes table).			$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
99	No planned improvements.																				

Table 9-6: 2019 Recommended Service Plan Summary for Existing Transit Bus Routes (2009$) (continued)

Route	Change Description	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
104	Extend route westward to future West Kendall Terminal.							$83,629	0	$83,629	0	$83,629	0	$83,629	0	$83,629	0	$83,629	0	$83,629	0
120 (Beach MAX)	No planned improvements.																				
123 (South Beach Local)	No planned improvements.																				
132 (Tri-Rail Doral Shuttle)	No planned improvements.																				
133 (Tri-Rail Airport Shuttle)	No planned improvements.																				
136	No planned improvements.																				
137 (West Dade Connection)	No planned improvements.																				
202 (Little Haiti Connection)	No planned improvements.																				
204 (Killian KAT)	Realign route to the future West Kendall Bus Terminal.							$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
207/208 (Little Havana Circulator)	No planned improvements.																				
211 (Overtown Circulator)	No planned improvements.																				
238 (East-West Connection)	Extend westward to Beacon Lakes.							$250,000	1	$250,000	1	$250,000	1	$250,000	1	$250,000	1	$250,000	1	$250,000	1
243 (Seaport Connection)	No planned improvements.																				
246 (Night Owl)	No planned improvements.																				

Table 9-6: 2019 Recommended Service Plan Summary for Existing Transit Bus Routes (2009$) (continued)

Route	Change Description	2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
248 (Brickell Key Shuttle)	No planned improvements.																				
249 (Coconut Grove Circulator)	No planned improvements.																				
252 (Coral Reef MAX)	Operate later evening service into the Metrozoo Entertainment complex.																	$81,004	1	$81,004	1
254 (Brownsville Circulator)	No planned improvements.																				
272 (Sunset KAT)	Realign route to the future West Kendall Bus Terminal.							$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
277 (7 Avenue MAX)	No planned improvements.																				
287 (Saga Bay MAX)	Improve peak headway from 30 to 20 minutes.							$153,213	1	$153,213	1	$153,213	1	$153,213	1	$153,213	1	$153,213	1	$153,213	1
288 (Kendall KAT)	Realign route to the future West Kendall Bus Terminal.							$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
288 (Kendall KAT)	Route to be transformed to Kendall Enhanced Bus project (see New Routes table).	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0
344	No planned improvements.																				
500 (Midnight Owl)	No planned improvements.																				
INCREMENTAL TOTALS		$192,780	0	$306,129	(1)	$3,813,558	8	$4,740,877	4	$4,740,877	0	$4,740,877	0	$4,740,877	0	$5,136,330	3	$5,217,334	1	$5,217,334	0
(MINI-BUSES)			0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)			0		-1		8		4		0		0		0		3		1		0
CUMULATIVE TOTALS		$192,780	0	$498,909	(1)	$4,312,467	7	$9,053,344	11	$13,794,221	11	$18,535,098	11	$23,275,975	11	$28,412,305	14	$33,629,639	15	$38,846,973	15
(MINI-BUSES)			0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)			0		-1		7		11		11		11		11		14		15		15

9.8.2 Transit Hubs and Feeder Routes for Existing Routes

The improvements to the existing transit routes also include the development of a regional transit hub system. The current bus system generally operates on a modified grid pattern to provide feeder services to Metrorail and Metromover stations.

The 2019 RSP provides a modified grid bus system. Under the modified grid, bus routes will continue to serve their respective corridors and Metrorail stations, but will also provide connections to various routes within the general service area at a single location or transit hub. Ten transit hubs are proposed throughout Miami-Dade County. Passenger amenities will be afforded at these locations such as the ability to for transit riders to purchases transit passes, obtain transit schedule information, benches, shelters with weather protection etc. Some of these proposed transit hubs already serve these functions (i.e., Dadeland stations) while other hubs continue to remain in the conceptual planning phase.

Table 9-7 provides a list of the transit hubs with corresponding route connections planned to serve them. In addition to those listed in

Table 9-7 there are many other areas that serve as transit hubs, for example, Golden Glades, Aventura Mall, Douglas Road Metrorail Station and other Metrorail stations, and the Omni. In addition, the City of Miami Beach has funding for a transit hub at 72nd Street and Collins/Harding Avenue.

Table 9-7: Transit Hub Locations and Feeder Routes for Existing Bus Routes

	ROUTES																				
TERMINALS	**A**	**B**	**C**	**E**	**G**	**H**	**J**	**K**	**L**	**M**	**R**	**S**	**T**	**1**	**2**	**3**	**6**	**7**	**8**	**9**	**10**
Flagler Marketplace		■	■					■				■	■		■	■		■	■	■	■
Dadeland Stations														■							
Miami Beach - Lincoln/Washington	■		■		■	■			■	■	■	■									
West Kendall																					
Northeast				■		■						■				■					
Miami Intermodal Center							■										■	■			
West Dade																		■			

	ROUTES																			
TERMINALS	**11**	**12**	**16**	**17**	**21**	**22**	**24**	**27**	**28**	**29**	**31***	**32**	**33**	**34***	**35**	**36**	**37**	**38***	**40**	**42**
Flagler Marketplace	■		■		■		■													
Dadeland Stations											■			■				■		
Miami Beach - Lincoln/Washington																				
West Kendall																				
Northeast			■						■											
Miami Intermodal Center																	■			■
West Dade																				

Table 9-7: Transit Hub Locations and Feeder Routes for Existing Bus Routes (continued)

	ROUTES																				
TERMINALS	46*	48	51*	52	54	56	57	62	65	70	71	72	73	75	77	83	87	88	91	93*	95X
Flagler Marketplace		■	■												■					■	■
Dadeland Stations				■					■				■				■	■			
Miami Beach - Lincoln/Washington																					
West Kendall												■						■			
Northeast														■		■			■	■	
Miami Intermodal Center							■														
West Dade																					

	ROUTES																
TERMINALS	97*	99	104	120	123*	132*	133*	136	137*	204*	207*	211*	238*	243*	246*	248*	249*
Flagler Marketplace				■							■			■	■		
Dadeland Stations			■					■		■							
Miami Beach - Lincoln/Washington					■										■		
West Kendall			■							■							
Northeast															■		
Miami Intermodal Center						■	■						■				
West Dade									■								

Table 9-7: Transit Hub Locations and Feeder Routes for Existing Bus Routes (continued)

	ROUTES							
TERMINALS	**252***	**254***	**272***	**277***	**287***	**288***	**344**	**500***
Flagler Marketplace				■				
Dadeland Stations	■		■		■	■		■
Miami Beach - Lincoln/Washington								
West Kendall			■			■		
Northeast				■				
Miami Intermodal Center								
West Dade								

Source: Miami-Dade Transit, 2009

*** Route Descriptions**

Route 31: Busway Local
Route 34: Busway Flyer
Route 38: Busway MAX
Route 46: Liberty City Connection
Route 51: Flagler MAX
Route 93: Biscayne MAX
Route 97: 27th Avenue MAX
Route 123: South Beach Local
Route 132: Tri-Rail Doral Shuttle
Route 133: Tri-Rail Airport Shuttle
Route 137: West Dade Connection
Route 120: Beach MAX

Route 204 Killian KAT
Route 207/208: Little Havana Circulator
Route 211: Overtown Circulator
Route 238: East West Connection
Route 243: Seaport Connection
Route 246: Night Owl
Route 248: Brickell Key Shuttle
Route 249: Coconut Grove Circulator
Route 252: Coral Reef MAX
Route 254: Brownsville Circulator
Route 272: Sunset KAT
Route 277: 7 Avenue MAX

Route 287: Saga Bay MAX
Route 288: Kendall KAT
Route 500: Midnight Owl

9.8.3 2019 Recommended Service Plan – New Transit Routes

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

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

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

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

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

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

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

New Route	Description	Headways			2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
		Peak	Mid Day	Week End	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
SR 836 Express	This route would provide limited-stop service between west Miami-Dade County and the MIC and/or downtown Miami via the Dolphin Expressway (SR836) during the morning and afternoon peak periods only every 15 minutes. To be operated as one of the special use lanes project routes. Possibly funded by FDOT.	15	N/S	N/S	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7	$1,640,000	7
SW 8 Street Rapid Bus	This route would provide limited-stop service along SW 8 Street between west Miami-Dade (approximately SW 147 Avenue) and downtown Miami.	6.5	10	N/S							$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8	$3,482,000	8
INCREMENTAL TOTALS					$7,580,000	33	$9,130,000	3	$12,230,000	9	$15,712,000	8	$15,712,000	0	$15,712,000	0	$15,712,000	0	$15,712,000	0	$15,712,000	0	$15,712,000	0
(MINI-BUSES)						0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)						33		3		9		8		0		0		0		0		0		0
CUMULATIVE TOTALS					$7,580,000	33	$16,710,000	36	$28,940,000	45	$44,652,000	53	$60,364,000	53	$76,076,000	53	$91,788,000	53	$107,500,000	53	$123,212,000	53	$138,924,000	53
(MINI-BUSES)						0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)						33		36		45		53		53		53		53		53		53		53

Table 9-9: Transit Hub Locations and Feeder Routes for New Routes

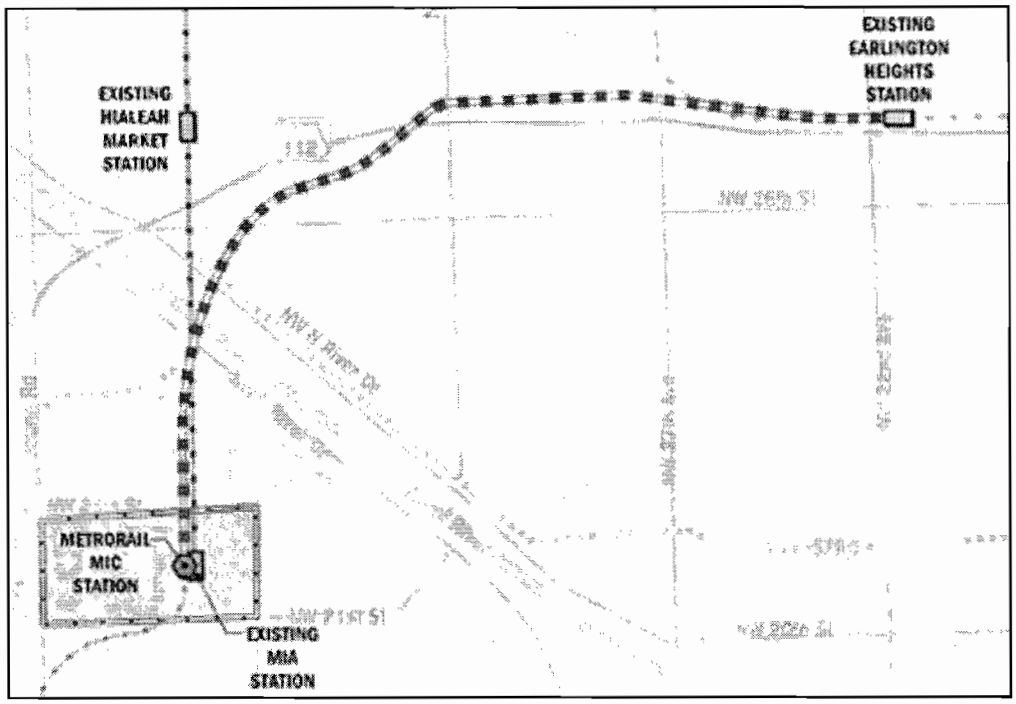
	ROUTES								
TERMINALS	**79 Street MAX**	**95 Dade/Broward Express**	**Beach MAX**	**Biscayne BRT**	**Civic Center Circulator**	**Flagler BRT**	**Kendall BRT**	**SoBe/MIA Connection**	**SR 836 Express**
Flagler Marketplace		■	■	■		■			■
Dadeland Stations							■		
Miami Beach									
West Kendall							■		
Northeast									
Miami Intermodal Center								■	
West Dade									■
NW 7th Avenue and 62nd Street									
Northeast PAC									
Homestead									

Source: Miami-Dade Transit, 2009

9.8.4 Recommended Service Plan – Metrorail

The Metrorail expansion program continues to progress based upon the opening of the Palmetto Metrorail Station and the implementation of the Orange Line Phase 1. In 2003, MDT opened the new Palmetto Station in Medley which included 710 parking spaces. The Orange Line Phase 1: Earlington Heights-Miami Intermodal Center (MIC) Connector is the next segment of Metrorail that is now under construction. The Orange Line Phase 1: Earlington Heights-MIC Connector is approximately a 2.4-mile elevated heavy rail extension from the existing Earlington Heights Metrorail Station at NW 22nd Avenue and NW 41st Street to the MIC at the Miami International Airport. The service will operate on the new section of elevated tracks being constructed between the MIC and Earlington Heights and share the existing elevated tracks currently used for the Stage 1 line from Palmetto to Dadeland South station on Stage 1 (Figure 9-2).

Figure 9-2: Earlington Heights – MIC Connector

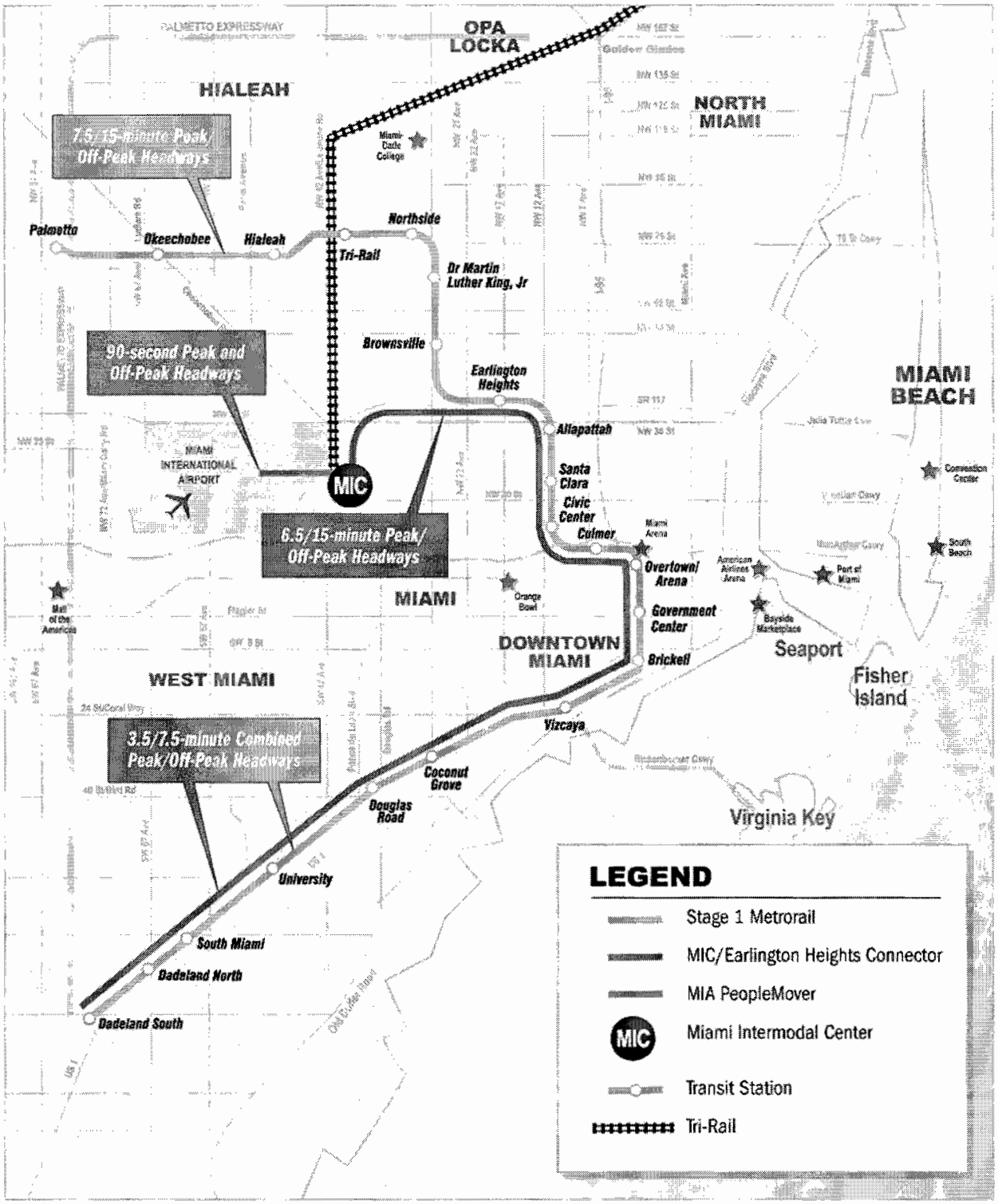


Source: Miami-Dade Transit, 2009

In FY 2012, construction is scheduled to be complete with the Earlington Heights-MIC Connector opening for passenger service. Once in service this Metrorail extension will provide a premium transit service connection to the MIC with a proposed 6.5-minute headway during the peak AM and PM travel times. The Earlington Heights-MIC Connector is will operate to provide direct service between the MIC and Dadeland stations. For those passengers boarding at the MIC a transfer will be required at the Earlington Heights station in order to reach the Palmetto station. The existing Stage 1 Metrorail will operate at 7.5 minute headways during the peak AM and PM travel times between the Palmetto station and Dadeland station. This new Metrorail service will also provide regional rail connection to the Miami International Airport via the MIA PeopleMover line that will provide service between the Airport and the MIC at 90-second headways (Figure 9-3). This service will be completed as a joint effort between Miami-Dade Expressway Authority and Miami-Dade Aviation Department.

Service improvements to the Metrorail System are linked to the expansion program and to the Metrorail Vehicle Replacement Program as previously discussed in the capital improvement plan committed section of this chapter.

Figure 9-3: Proposed Operating Plan with MIC-Earlington Heights Connector in Service



9.8.5 Recommended Service Plan – Metromover

No service improvements are committed for Metromover in the FY 2010-2019 RSP. There are no other planned extensions of the existing Metromover system. MDT is committed to continue improvement of service reliability during the 2009-2019 TDP period.

9.8.6 Special Transportation Services

No significant changes are programmed as part of the FY 2010-2019 RSP. MDT is committed to continue improvement of service reliability during the TDP 2009-2019 period.

9.9 Capital Needs

9.9.1 Transit Terminals

As identified in the 2019 RSP, the modified grid system requires the development of transit hubs throughout the region of service. Table 9-10 lists the capital needs identified for transit hub locations along with their respective status and funding needs.

9.9.2 Bus Fleet Expansion

All service improvements identified in the 2019 Recommended Service Plan (RSP) also reflected the peak vehicle requirements (PVR) impact of each improvement. The programming of services during the FY 2010 - 2019 period allows for the bus fleet requirements to be analyzed. A determination of bus fleet needs based on the 2019 RSP, which assumes a 20 percent (20%) spare ratio applied to the PVR. Based on the RSP, there will be no additional purchase needs of minibuses. However, 79 full size buses will be required for the expected improvements, including new route services.

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

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

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

Transit Hubs	Status	Unfunded Needs
NW 7th Avenue and 62nd Street	This facility will be developed as a multimodal Passenger Activity Center (PAC), and located on NW 7th Avenue and NW 62nd Street as proposed in the City of Miami's Transportation Corridor Study. This PAC will promote accessible public transportation and economic development throughout the City of Miami's Transportation Corridor (NW 7th Avenue between 54 Street and NW 95 Street) utilizing a "Transit Village Vision" concept. The center will provide much needed parking relief; promote the use of park-and-ride, and access to privately operated taxi and Jitney services.	$10,300,000 are committed improvements for ROW and construction for parcels 1-6. Additional $3.5M are needed.
West Dade	This facility is committed to be constructed by private developers. The location slated for the terminal is at NW 12 Street, west of NW 107th Avenue. The developer is building for MDT a park and ride garage with 260 spaces.	Committed Improvement

* These figures represent preliminary conceptual costs estimates and the cost figures are in constant dollars.

9.9.3 Priority Transit Corridor Needs

Eleven priority transit corridors have been identified as unfunded needs. Each of these corridors currently have existing Metrobus service but due to growing travel demands, traffic congestion, and estimated population and land use changes warrant consideration for new capital investment. The types of capital investment include additional infrastructure that would allow bus service to improve travel time. This would include priority signalization, stylized stations with shelters, passenger information systems at station stops, as well as the implementation of a branded bus service that would include new transit vehicles.

The capital cost for the proposed priority corridors is based on estimates for the BRT "Lite" corridors proposed for the East-West and North corridors. Conceptual engineering costs have been prepared for MDT on those two corridors in 2008 on a fully built up capital cost model including improvements to guideway, signal, intersections, and stations, and including factored costs for professional services and contingencies. The estimate for the East-West Corridor is at $84.7 million, which includes $21.8 million for vehicles. By subtracting the vehicle costs, the cost per mile for the 12.1 miles of operation on the East-West corridor calculates to an approximation of about $5.2 million per mile. The estimate for the North Corridor is $102.7 million, of which $15.9 million for vehicles. Dividing the $86.8 million for the non-vehicle portion of the North Corridor line by the 10.5 miles of the operation works out to an average of $8.27 million per mile. Adding the non-vehicle costs for both lines together and dividing by the total number of miles of operation for both lines produces a weighted average cost per mile of about $6.6 million per mile.

The following table presents the proposed priority corridors together with recommended timeframe for implementation as well as an opinion of the approximate costs for each corridor. As the differences between the estimated costs of the East-West and North corridors show, the differences in conditions between two corridors can produce significant differences even when the proposed improvements in the corridors are similar. Thus, additional planning and engineering analysis would be required to provide more precise cost estimates for each of the proposed corridors as presented.

Table 9-11: Priority Transit Corridors

Year of Implementation	Priority Transit Corridors	Type of Improvements	2009 Capital Cost (000's)
2011	US 1 (Biscayne Boulevard) from Downtown Miami to County line	Station upgrades, Queue jump lanes, traffic signal preference, off-bus fare collection system, passenger information systems	$97,000
2012	NE 167th/163rd/Sunny Isles Boulevard from Golden Glades Tri-Rail Station to Collins Avenue		$38,700
2013	NW 135th Street from NW 12th Avenue to US 1		$24,200
2014	NW 36th Street/Julia Tuttle Causeway from Tri-Rail Hialeah Market Station to Collins Avenue		$62,900
2015	West 12th Avenue from Okeechobee Metrorail Station to NW 186th Street		$48,100
2016	SW 107th Avenue from SW 40th Street to NW 25th Street		$29,400
2017	Flagler Street from SW 107th Avenue to Downtown		$74,800
2018	SW 8th Street from SW 107th Avenue to Downtown		$73,200
2018	SW 72nd Street from 117th Avenue to US 1/Busway		$38,100
2019	Kendall Drive from 137th Avenue to US 1/Busway		$44,600
2019	Coral Reef Drive from 137th Avenue to US 1/Busway		$30,300
Total			**$561,300**

9.9.4 Infrastructure Renewal Program Needs

The following table identifies a number of proposed projects that have been determined by MDT as necessary for the upkeep and maintenance of existing infrastructure to ensure the MDT transit system operates in a state of good repair. Projects are organized according to specific category to include: information technology, passenger amenities, passenger facilities, rolling stock, systems, maintenance facilities, safety and security, and track and guideway.

The proposed year of implementation is also presented for the FY 2010- 2019 planning horizon of the TDP Major Update (Table 9-12).

Table 9-12: Proposed Infrastructure Renewal Program Needs (2019)

Classification	Project Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Estimated Cost YOE
INFORMATION TECHNOLOGY												
Information Technology	MDT CAD/AVL System Upgrade/Enhancements	$ 2.60	$ 6.20	$ 3.37	-	-	-	-	-	-	-	$ 12.17
Information Technology	Uninterrupted Power Supply for Network Equipment	-	$ 0.44	$ 0.01	$ 0.01	$ 0.01	$ 0.08	$ 0.01	$ 0.01	$ 0.01	$ 0.10	$ 0.67
Information Technology	Mobile Technology Tools & Bus Driver Training System -Vigil	$ 0.04	$ 0.04	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.05	$ 0.46
Information Technology	Static Technology Tools	$ 0.17	$ 0.18	$ 0.19	$ 0.19	$ 0.20	$ 0.20	$ 0.21	$ 0.22	$ 0.23	$ 0.23	$ 2.01
Information Technology	Server Plan Upgrade/Strategy	$ 0.24	$ 0.29	$ 0.15	$ 0.15	$ 0.15	$ 0.15	$ 0.15	$ 0.16	$ 0.16	$ 0.16	$ 1.75
Information Technology	Multi-function Copier/Fax/Printer/Scanner Services	-	$ 0.62	$ 0.32	$ 0.34	$ 0.35	$ 0.36	$ 0.37	$ 0.38	$ 0.40	$ 0.41	$ 3.53
Information Technology	Data Center Modernization	-	-	-	-	-	-	-	$ 0.33	-	-	$ 0.33
Information Technology	MDT Network Upgrade/Enhancements	-	$ 0.53	$ 0.28	$ 0.29	$ 0.30	$ 0.31	-	$ 0.33	$ 0.34	$ 0.35	$ 2.71
Information Technology	Data Warehouse	-	-	-	-	$ 0.32	-	-	-	$ 0.36	-	$ 0.68
Information Technology	Voice / Data Communication	-	$ 0.25	$ 0.13	$ 0.14	$ 0.14	$ 0.14	-	$ 0.15	$ 0.16	$ 0.16	$ 1.27
Information Technology	Bus Accidents and Incidents System Replacement	-	-	-	-	-	-	-	-	-	$ 0.11	$ 0.11
Information Technology	Electronic Kiosks	$ 0.33	-	-	-	-	-	-	-	-	-	$ 0.33
Information Technology	Bus Diagnostic Systems	-	-	-	-	-	-	-	-	$ 0.08	-	$ 0.08
Information Technology	Financial Systems Replacement	-	-	-	-	-	$ 0.17	-	-	-	-	$ 0.17
Information Technology	Personal / Payroll Systems Replacement	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ -	$ -	$ -	$ -	$ 0.26
PASSENGER AMENITIES												
Passenger Amenities	Metromover Escalator Covers & Escalator Replacement and Government Center Canopy Extension	$ 0.02	$ 1.97	$ 2.06	$ 2.13	$ -	$ -	$ -	$ -	$ -	$ -	$ 6.17
Passenger Amenities	Map Cabinet Replacements	-			-	-	-	$ 0.06	$ 0.09	-	-	$ 0.15
Passenger Amenities	Trailblazer (Wayfinding) Sign Replacements	-			-	-	-	$ 0.06	$ 0.03	-	-	$ 0.09
Passenger Amenities	Corporate Identity Signage for Bus Terminals	-			-	-	-	$ 0.04	-	-	-	$ 0.04
Passenger Amenities	Map Cabinet Replacements	-			-	-	-	$ 0.06	-	-	-	$ 0.06
Passenger Amenities	Permanent Signage Replacements for "Overtown" Station	-			-	-	-	$ 0.07	-	-	-	$ 0.07

Table 9-12: Proposed Infrastructure Renewal Program Needs (2019) (continued)

Classification	Project Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Estimated Cost YOE
PASSENGER FACILITIES												
Passenger Facilities	Escalators Replacement/Elevators Refurbishment	-	$ 3.86	$ 2.03	$ 2.10	$ 2.18	$ 2.24	$ 2.32	$ 2.39	$ 2.48	$ 2.56	$ 22.15
Passenger Facilities	Metrorail Piers & Guideway Coating	-	-				-	$ 0.77	$ 0.81	$ 0.35	-	$ 1.93
Passenger Facilities	SouthMiami-Dade Busway 1/4 Mile Radius ADA Improvements Between SW 200 & 88 Street (ADA Accessibility on the Busway).			$ -	$ -	$ -	$ -	$ 0.30	$ 1.87	$ -	$ -	$ 2.17
Passenger Facilities	Request for Proposal (RFP) for Functional Assessment of STS Applicants	$ 0.90	$ 0.89	$ 0.89	$ 0.87	$ 0.86	$ 0.86	$ 0.85	$ 0.84	$ 0.83	$ 0.83	$ 8.61
Passenger Facilities	Metromover Relamping - Stations	-	$ 0.06	$ 0.06	$ 0.07	$ 0.07	$ 0.07	$ 0.07	$ 0.08	$ 0.08	$ 0.08	$ 0.62
Passenger Facilities	Parking Garages Relamping (Induction)	-	$ -	$ -	$ -			$ 0.41	$ 0.43	$ 0.44	$ 0.45	$ 1.73
Passenger Facilities	Metrorail Relampling -Stations	-	$ 0.09	$ 0.09	$ 0.10	$ 0.10	$ 0.11	$ 0.11	$ 0.11	$ 0.11	$ 0.12	$ 0.93
Passenger Facilities	Replace Elevator Machine Room & Cab Ventilation	-	$ 0.08	-	-	-	-	-	-	-	-	$ 0.08
Passenger Facilities	Metrorail Station Refurbishment / Door Replacement at Metromover	-	$ 0.84	$ 0.87	$ 0.84	$ 0.93	$ 0.96	$ 0.99	$ 1.03	$ 1.06	$ 1.10	$ 8.61
Passenger Facilities	Signage Replacement Project at Metrorail/Metrobus Facilities	$ 0.05	-	-	-	-	-	-	-	-	-	$ 0.05
Passenger Facilities	Metromover Escalator Covers & Escalator Replacement	$ 1.97	$ 0.02	$ 2.06	$ 2.13	-	-	-	-	-	-	$ 6.18
ROLLING STOCK *(Note: IRP assumes, for buses, mid-life overhaul intervals only.)*												
Rolling Stock	Phase 2 Vehicle Door System Facelift	-	-	-	-	-	-	-	-	-	1.06	$ 1.06
Rolling Stock	Mover F & G Inspections	-	$ 0.86	-	-	-	-	-	-	-	$ 0.39	$ 1.25
Rolling Stock	Phase 2 Vehicle HVAC Facelift	-	-	-	-	-	-	-	-	-	$ 1.00	$ 1.00
Rolling Stock	Bus Maintenance Component Replacemetn Plan	$ 3.64	$ 0.95	$ 3.14	$ 3.44	$ 2.68	$ 2.77	$ 2.86	$ 2.96	$ 3.05	$ 3.15	$ 28.63
Rolling Stock	Rail HVAC Overhaul		-	-	-	-	$ 0.41	-	-	-	-	$ 0.41
Rolling Stock	Purchase of Service & Support Vehicles	-	-	-	-	-	-	-	$ 0.88	-	-	$ 0.88

Table 9-12: Proposed Infrastructure Renewal Program Needs (2019) (continued)

Classification	Project Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Estimated Cost YOE
SYSTEMS												
Systems	Data Transmission System - Mover	-			-	-	$ 4.16	-	-	-	-	$ 4.16
Systems	Conduit Grounding Rebuild	-			-	-	$ 1.94	$ 0.97	-	-	-	$ 2.90
Systems	Multi-Channel Voice Recorder	$ 0.67	-	-	-	-	-	-	-	-	-	$ 0.67
Systems	Uninterrupted Power Supplies - Mover	-			-	-	-	$ 1.73	$ 1.75	-	$ 0.49	$ 3.96
Systems	Wayside Overhaul	-			-	-	-	$ 29.25	$ 15.00	-	-	$ 44.25
Systems	Switch Machine Cable- Mainline	-					-	$ 0.88	$ 0.91	$ 0.88	$ 0.89	$ 3.55
Systems	Rebuild Switch Machines (M-3) - Mainline	-					-	$ 0.40	$ 0.21	$ 0.21	-	$ 0.82
Systems	Tools and Equipment	$ 0.13		$ 0.05	$ 0.05	$ 0.08	$ 0.10	$ 0.05	$ 0.05	$ 0.05	$ 0.06	$ 0.60
Systems	Bus Garages Plumbing				$ 0.39	-	-	$ 0.25	$ 0.26	$ 0.50	$ 0.51	$ 1.90
Systems	Local/Supervisor Control Panel Replacement	$ 0.21		-	-	-	-	-	-	-	-	$ 0.21
Systems	Train Control DC Power Source	$ 0.61		-	-	-	-	-	-	-	-	$ 0.61
Systems	Uninterrupted Power Supply - Government Center	$ 0.20		-	-	-	-	-	$ 0.08	-	-	$ 0.29
Systems	CAD/AVL RF Vehicular Radio Replacement	-	-	-	-	-	-	-	-	$ 4.65	-	$ 4.65
Systems	Lehman and Mover Facility Plumbing	-	-	-	-	-	-	-	$ 0.86	-	-	$ 0.86
Systems	Replace Switch Machines - Yard	-	-	-	$ 0.20	$ 0.20	$ 0.20	$ 0.21	$ 0.22	$ 0.23	-	$ 1.25
Systems	Vehicle ATC Modules	$ 0.02		-	-	-	-	-	-	-	-	$ 0.02
Systems	AC Unit Substations	-	-	-	-	-	$ 2.94	$ 2.96	$ 3.02	$ 3.02	$ 3.16	$ 15.09
Systems	Running Surface	-	-	-	-	-	-	-	-	-	$ 3.01	$ 3.01
Systems	Traction Power Substation - Palmetto Yard	-	-	-	-	-	$ 1.23	$ 1.22	-	-	-	$ 2.45
Systems	AC Unit Substations - Palmetto Yard	-	-	-	-	-	$ 1.09	$ 1.10	-	-	-	$ 2.18
Systems	Train Control Systems Replacement	-	-	-	-	-	-	-	$ 14.33	$ 13.70	$ 12.86	$ 40.89
Systems	Traction Power Substations	-	-	-	-	-	$ 5.47	$ 5.38	$ 5.01	$ 4.76	$ 4.94	$ 25.55
Systems	Switch Machine Cable - Yard	-	-	-	-	-	$ 0.78	$ 0.81	$ 0.83	$ 0.86	$ 0.89	$ 4.18
Systems	Switch Logic Cabinet Overhaul (Metromover)	$ 2.21	-	-	-	-	-	-	-	-	-	$ 2.21

Table 9-12: Proposed Infrastructure Renewal Program Needs (2019) (continued)

Classification	Project Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Estimated Cost YOE
Systems	Replace Switch Machines - Mainline	$ -	$ -	$ -	$ -	$ -	$ 0.45	$ 0.46	$ 0.47	$ 0.42	$ -	$ 1.79
Systems	Traction Power Cabling	$ -	$ -	$ -	$ -	$ -	$ 3.68	$ 3.80	$ 4.12	$ 4.06	$ 4.19	$ 19.85
Systems	Traction Power Gap Ties	$ -	$ -	$ -	$ -	$ -	$ 0.92	$ 0.90	$ 0.93	$ -	$ -	$ 2.75
Systems	Uninterrupted Power Supply - Mainline (Metrorail)	$ -	$ -	$ -	$ -	$ 1.74	$ 1.80	$ -	$ -	$ -	$ -	$ 3.54
Systems	Traction Power Cable Requirement	$ 1.28						$ 1.24	$ -	$ -	$ -	$ 2.52
MAINTENANCE FACILITIES												
Maintenance Facilities	Lifts Replacement for Rail and Bus	$ -						$ 1.65	$ -	$ -	$ -	$ 1.65
Maintenance Facilities	Lehman Center Yard Tower Upgrade	$ -						$ 0.85	$ 2.99	$ 1.01	$ -	$ 4.84
Maintenance Facilities	Replace air compressors at all bus locations	$ -						$ 0.92	$ 0.60	$ -	$ -	$ 1.52
Maintenance Facilities	A/C & Chiller Unit Replacement	$ -						$ 2.42	$ 0.14	$ 0.14	$ 0.14	$ 2.84
Maintenance Facilities	Bus Garages: Roofs	$ -							$ 0.90	$ 0.63	$ 0.65	$ 2.18
Maintenance Facilities	Metrobus: A/C Replacement	$ 0.92		$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ 1.49
Maintenance Facilities	Central O & I Garage Shop Floor Leveling	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.97	$ -	$ -	$ -	$ 0.97
Maintenance Facilities	Secondary Guide Rails for Bus Washes	$ 0.07	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07
Maintenance Facilities	ETS - Telephone Cable Replacement - Rail	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.44	$ 0.23	$ 0.24	$ 0.25	$ 1.16
Maintenance Facilities	Emergency Backup Generators	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.94	$ -	$ -	$ -	$ 1.94
Maintenance Facilities	Flood mitigation at William Lehman Facility	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.06	$ -	$ -	$ -	$ 0.06
Maintenance Facilities	Tire Servicing Equipment Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.23	$ -	$ -	$ -	$ 0.23
Maintenance Facilities	Currency Counters	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ 0.08	$ -	$ -	$ -	$ 0.19
Maintenance Facilities	Mover and Lehman Facility - Water Main	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.32	$ -	$ -	$ -	$ 0.32
Maintenance Facilities	Rennovation of Drainfield	$ -		$ -	$ -	$ -	$ -	$ 0.15	$ -	$ -	$ -	$ 0.15
Maintenance Facilities	Bus Garages: Lot Resurfacing	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.72	$ 0.74	$ 0.77	$ -	$ 2.23
Maintenance Facilities	Lehman Facility Lot Resurfacing	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ -	$ -	$ -	$ 0.07
Maintenance Facilities	Mover Maintenance Facility - Lifts	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.10	$ -	$ -	$ -	$ 0.10
Maintenance Facilities	Bus Garages: Coral Way and Central	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.73	$ 1.73
Maintenance Facilities	Mover Maintenance Facility General Refurbishment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.82	$ -	$ 0.82

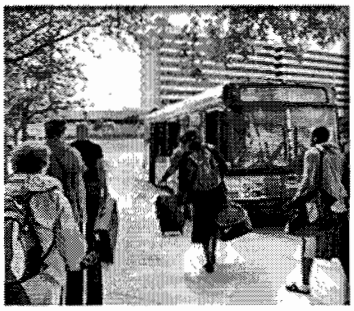
Table 9-12: Proposed Infrastructure Renewal Program Needs (2019) (continued)

Classification	Project Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Estimated Cost YOE
SAFETY & SECURITY												
Safety & Security	Lehman Facility - Fire Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.57	$ -	$ -	$ -	$ 1.57
Safety & Security	Metrorail: Fire Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.16	$ -	$ -	$ -	$ 1.16
Safety & Security	Parking Garages - Fire Suppression	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.95	$ -	$ -	$ -	$ 0.95
Safety & Security	Mover Maintenance Facility - Fire Systems	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.29	$ -	$ -	$ -	$ 0.29
Safety & Security	Existing Metrorail Stations Repair to Stair Railing (Part 2)	$ -	$ 0.20	$ 0.17	$ 0.41	$ 0.12	$ 0.30	$ -	$ -	$ -	$ -	$ 1.20
Safety & Security	Pedestrian Safety Improvements at Coconut Grove Metrorail Station	$ 0.25	$ 0.96	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.21
Safety & Security	Rail Fire Alarm and Halon Replacement Project	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.12	$ -	$ -	$ -	$ 2.12
Safety & Security	SMI and OKE Garages Fire Alarm Replacement Project	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.41	$ -	$ -	$ -	$ 0.41
Safety & Security	Mover Fire Alarm and Halon Replacement Project	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.39	$ -	$ -	$ -	$ 2.39
Safety & Security	SPCC Fire Alarm and Halon Replacement Project	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.60	$ -	$ -	$ -	$ 2.60
Safety & Security	Safety Walkway Sections for the Metromover Test Track	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.37	$ -	$ -	$ -	$ 0.37
Safety & Security	Bus Garages: Fire Suppression	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.84	$ -	$ 0.84
Safety & Security	Emergency Plumbing Fixtures	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.23	$ -	$ -	$ -	$ 0.23
Safety & Security	William Lehman Site Lighting	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.50	$ -	$ -	$ -	$ 0.50
Safety & Security	Metromover Bridge Navigational Lights	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ -	$ -	$ -	$ 0.04
Safety & Security	Metromover Public Address System Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.11	$ 3.11
Safety & Security	Rail Public Address System Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.81	$ 2.81
Safety & Security	Rebuild MLK Park-and-Ride Garage	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.42	$ -	$ -	$ -	$ 0.42

Table 9-12: Proposed Infrastructure Renewal Program Needs (2019) (continued)

Classification	Project Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Estimated Cost YOE
TRACK & GUIDEWAY												
Track & Guideway	Replacement Work Vehicles 10-15 Year Plan	$ 0.60		$ 0.81	$ 0.39	$ 0.36	$ 0.41	$ 0.31	$ 0.20	$ 0.20	$ 0.19	$ 3.47
Track & Guideway	Fastener Replacement Station Areas	$ -	$ -	$ -	$ -	$ -	$ 1.07	$ 1.05	$ 1.02	$ 1.03	$ 1.10	$ 5.26
Track & Guideway	Transition Area Frogs Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Track & Guideway	Metromover Brickell Extenson Guideway Painting	$ -	$ -	$ -	$ 5.17	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.17
Track & Guideway	Metromover Inner Loop Guideway Painting	$ -	$ -	$ -	$ -	$ -	$ 9.53	$ -	$ -	$ -	$ -	$ 9.53
Track & Guideway	Metromover Omni Extenson Guideway Painting	$ -	$ -	$ -	$ -	$ -	$ -	$ 7.26	$ -	$ -	$ -	$ 7.26
Track & Guideway	Metrorail Steel Box Girder Guideway Painting	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.22	$ 7.83	$ -	$ -	$ 13.05
Operating	Parts	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (7.00)	$ (70.00)
	TOTALS:	$ 10.11	$ 12.32	$ 9.70	$ 12.43	$ 3.79	$ 38.30	$ 92.68	$ 68.82	$ 42.15	$ 46.23	**$ 336.54**

PAGE INTENIONALLY LEFT BLANK



Section 9 Financial Plan

MIAMI-DADE COUNTY

10.0 FINANCIAL PLAN

10.1 Introduction

10.1.1 Purpose

The analyses described in the previous chapters were intended to identify critical transit needs in Miami-Dade County and were undertaken without consideration of cost. In this Financial Plan chapter, however, Miami-Dade Transit (MDT) must match its needed transit improvements with available financial resources. In the financial plan, the estimated costs of providing the agency's existing and planned new services are projected out over the ten-year horizon of the TDP, and the financial resources that will support those services are also identified and estimated. It is through the development of this financial plan that MDT has determined which service improvements can be realistically achieved and when those service improvements should be implemented.

10.1.2 Financial Challenges Facing MDT

Like many transit agencies in Florida, MDT is currently facing a very difficult environment for financial planning. The challenges include:

- Major cost increases in recent years for transit projects that were identified in previous TDP's, due to substantial increases in costs for right-of-way, labor, and construction commodities such as steel and concrete.
- A deep and sustained recession across the nation, with Florida being particularly hard-hit, and all transportation funding sources – gas taxes, property taxes, sales taxes, and more – experiencing significant declines from previously projected levels.
- The delay in the reauthorization of SAFETEA-LU, which holds the potential for substantial long-term changes in federal transportation policy and funding.

In short, the past five years have been challenging for MDT and its planned transportation investments, and the FY2010-2019 TDP Major Update will reflect these difficulties. The financial plan does include a section which presents information on potential new funding sources, and MDT hopes this can serve as the basis for future policy discussions for the County about its transportation future.

10.1.3 Methodology

In 2002, the voters of Miami-Dade County approved the *People's Transportation Plan* (PTP), a plan for transit and other transportation improvements in the County supported by a dedicated half-cent sales tax (the Charter County Transit Surtax). One requirement of the PTP was a regular accounting of the projected expenses and revenues of MDT and the uses of the PTP surtax revenues. The document that presents this accounting is known as the 'PTP Pro Forma' (or simply the Pro Forma), and it is produced regularly through the joint efforts of MDT and the County's Office of Strategic Business Management. The current Pro Forma projects MDT's expenses

and revenues for thirty years, through FY 2039. This TDP Major Update Financial Plan relies directly on the first ten years (FY 2010-2019) of Pro Forma projections.

In addition to the Pro Forma, two other sources of financial data were important in the creation of this plan. The first is the National Transit Database (NTD), the Federal Transit Administration's comprehensive database of annual operational and financial information for U.S. transit agencies. The NTD provided both the historical operating and capital funding data for MDT as well as information on funding sources for other Florida agencies and MDT's peer agencies. The second source is MDT's current O&M unit cost model. This model, which allocates operating costs for each mode by cost driver (e.g., vehicle miles, vehicle hours, peak vehicles, etc.), is used to project the cost of providing the proposed service improvements, and these unit costs are also a key component of the FDOT TDP financial model described in the final section.

10.2 Baseline Operating Expenses and Revenues

10.2.1 Operating Expenses

Current Operating Expenses

MDT is the largest transit operator in the State of Florida and the 12th largest transit provider in the United States. MDT's size is reflected in the agency's direct operating budget, which is projected at almost $460 million in FY 2010. The primary components of the direct operating expenses are shown in Table 10-1 below.

Table 10-1: MDT Projected FY2010 Direct Operating Expenses

Direct Operating Expense Category	Amount (000s)
Metrobus	$ 213,750
Metrorail	$ 57,466
Metromover	$ 9,449
STS/Paratransit	$ 47,463
Operational Support	$ 102,592
Customer Support	$ 6,290
Executive Support	$ 1,382
Engineering	$ 21,257
TOTAL	**$ 459,647**

(Source: 2009 PTP Pro Forma)

In addition to these direct expenses, MDT will support over $130 million of other operating expenses, debt service payments, and funding of reserves in FY 2010. These other expenses are detailed in Table 10-2 below.

In total, MDT will spend approximately $585 million in FY 2010 for the ongoing operation of the transit system and the support of MDT's other local and regional responsibilities. A brief explanation of each expense area is provided below.

Table 10-2: MDT Projected FY 2010 Other Operating Expenses

Other Operating Expense Category	Amount (000s)
Municipal Contribution	$ 33,940
CITT Staff	$ 2,514
SFRTA Contribution	$ 4,235
Deficit & Loan Repayment	$ 29,050
Public Works Support	$ 2,735
Debt Service	$ 41,129
Reserves	$ 17,425
TOTAL	**$ 131,028**

(Source: 2009 PTP Pro Forma)

Metrobus

The Metrobus division is the largest operating division of MDT. MDT provides bus service on 94 routes throughout Miami-Dade County with a peak vehicle requirement of 744 vehicles and over 30 million scheduled annual revenue vehicle miles. In FY 2010, the Metrobus division is projected to have 2,164 employees.

MDT is currently undertaking a major initiative to improve Metrobus service efficiency and restructure the Metrobus route system. This initiative is expected to reduce Metrobus operating costs by approximately $15 million compared to what costs would be if the current operating structure were retained. If successful, this reorganization will save the County significant funds over the life of the TDP while maintaining high-quality bus service for County residents. In addition, MDT has identified almost $20 million in savings on salary, health, and longevity payments for FY 2010. The primary components of the FY 2010 Metrobus operating costs are presented in Table 10-3 below.

Table 10-3: MDT Projected FY 2010 Metrobus Operating Expenses

Metrobus Operating Expense Category	Amount (000s)
Salaries (incl. overtime)	$ 131,281
Benefits, Fringes, and Workers' Comp	$ 53,421
Fuel	$ 33,297
Inventory	$ 15,473
Other Materials, Supplies, and Contracts	$ 14,836
Impact of Efficiency Initiative	$ (15,000)
Impact of Health/Salary/Other Changes	$ (19,559)
TOTAL	**$ 213,750**

(Source: 2009 PTP Pro Forma)

Metrorail

The heavy-rail Metrorail system provides fast and frequent service to 22 stations throughout Miami-Dade County on an elevated, electrically-powered 22.6-mile guideway. The Metrorail division is projected to have 428 employees in FY 2010 who will assist in the provision of over 6.8 million annual revenue miles.

The Metrorail system's most recently completed expansion project was the Palmetto Station, which opened on May 30, 2003. However, a major new addition to the system will come online during the span of this TDP Major Update. Construction on the Miami Intermodal Center (MIC) Station, which is adjacent to and connected to the Miami International Airport, has begun as of May 2009. New elevated guideway between the MIC and the existing Earlington Heights (EH) station are also being constructed. When completed in 2012, this new connector will provide direct rail service from downtown Miami to the airport. In addition to the capital costs of the MIC-EH connector, MDT estimates that the operational changes required to serve the MIC station will increase Metrorail operational costs approximately 10 percent (10%) over their current levels.

The primary components of the FY 2010 Metrorail operating costs are presented in Table 10-4 below.

Table 10-4: MDT Projected FY 2010 Metrorail Operating Expenses

Metrorail Operating Expense Category	Amount (000s)
Salaries (incl. overtime)	$ 29,843
Benefits, Fringes, and Workers' Comp	$ 9,210
Electrical Power	$ 8,759
Inventory	$ 7,122
Other Materials, Supplies & Contracts	$ 2,532
TOTAL	**$ 57,466**

(Source: 2009 PTP Pro Forma)

Metromover

The electrically-powered, fully-automated people-mover system connects with Metrorail at Government Center and Brickell stations and with Metrobus at many locations throughout downtown Miami. The original Metromover guideway is a 1.9-mile elevated double loop with nine (9) stations, with the more recent Brickell and Omni loops adding 2.5 miles to the system and another 12 stations. The Metromover vehicles are driverless and no fares are required to ride the system, so the Metromover division operates with relatively few employees – only 70 are required in FY 2010 to produce Metromover's 950,000 revenue vehicle miles. There are no extensions of the Metromover planned during the period of this TDP Major Update.

The primary components of the FY 2010 Metromover operating costs are presented in Table 10-5 below.

Table 10-5: MDT Projected FY 2010 Metromover Operating Expenses

Metromover Operating Expense Category	Amount (000s)
Salaries (incl. overtime)	$ 5,110
Benefits, Fringes, and Workers' Comp	$ 1,538
Electrical Power	$ 1,003
Inventory	$ 1,653
Other Materials, Supplies & Contracts	$ 146
TOTAL	**$ 9,449**

(Source: 2009 PTP Pro Forma)

STS/Paratransit

Special Transportation Service (STS) is Miami-Dade Transit's complementary paratransit service based on the Metrobus, Metrorail and Metromover services. STS meets the special transportation needs of disabled Miami-Dade County citizens and is available for anyone whom MDT certifies as eligible. Privately-contracted sedans, vans, and vans equipped with lifts provide door-to-door service for eligible customers, and service is offered with no restrictions on trip purpose. The projected FY 2010 cost for the STS service contract is $45.3 million, with an additional $2.2 million in MDT support staff costs.

Support & Engineering

The expenses described above can be attributed directly to the operation and maintenance of one of MDT's four transit modes. The expenses in this category, while critical to the day-to-day functioning of the agency, cannot be specifically allocated to one mode. These expenses are organized into four principal categories:

- *Operational Support*: There are projected to be 459 operational support employees within MDT in FY 2010. These employees oversee or provide services ranging from landscaping to human resources and IT to finance and accounting to security. Recurring items for keeping the "business" side of MDT running – such as building leases, computing equipment, insurance, data processing, and more – are also included in this category. The total expenditure on Operational Support in FY 2010 is projected at $103 million, which is detailed in Table 10-6 below.
- *Customer Service*: MDT's 39 customer service employees assist the residents and visitors of Miami-Dade County with navigating the transit system. This includes providing information on routes and services, assisting seniors with the Golden Passport program, and monitoring the quality of transit services. The FY 2010 customer service budget of $6.3 million is composed almost entirely of staff salaries and benefits.
- *Engineering*: The 150 employees of the Engineering Department are responsible for the planning, design, and delivery of capital projects for MDT. This includes the procurement of new bus and rail vehicles; major rehabilitation and

replacement projects for the existing system; and the construction of new network capacity (such as the MIC-EH connector). The FY 2010 engineering budget of $21.3 million is largely comprised of staff salaries and benefits ($18.0 million) with an additional $3.3 million in smaller expenses.

Table 10-6: MDT Projected FY 2010 Operational Support Expenses

Operational Support Expense Category	Amount (000s)
Salaries (incl. overtime)	$ 31,679
Benefits, Fringes, and Unemployment	$ 9,789
Electrical	$ 1,150
Security	$ 15,545
Janitorial	$ 4,100
Outside Contractual	$ 707
Execess Liability	$ 1,000
Property Fire CVM	$ 3,309
General Liability Payouts	$ 5,000
Elevators	$ 4,500
Landscaping	$ 1,402
Other Outside Maintenance	$ 2,716
Building Leases	$ 3,202
Copy Machine	$ 453
Data Processing	$ 1,868
Radios	$ 689
IT Funding Model	$ 1,800
Other Charges	$ 3,286
Promotional	$ 575
Other General Operating	$ 1,000
Fuel	$ 600
Computers	$ 329
PC Equipment	$ 436
Customer Service - Other Line Items	$ 7,459
TOTAL	**$ 102,592**

(Source: 2009 PTP Pro Forma)

- *Executive Support*: The executive group of MDT includes 10 employees who provide both day-to-day operational leadership as well as long-term policy and planning guidance. The projected FY 2010 cost for executive support is $1.4 million.

Other Operating Expenses

MDT's other local and regional operating expense commitments, outside of its direct operating expenses, are explained briefly below:

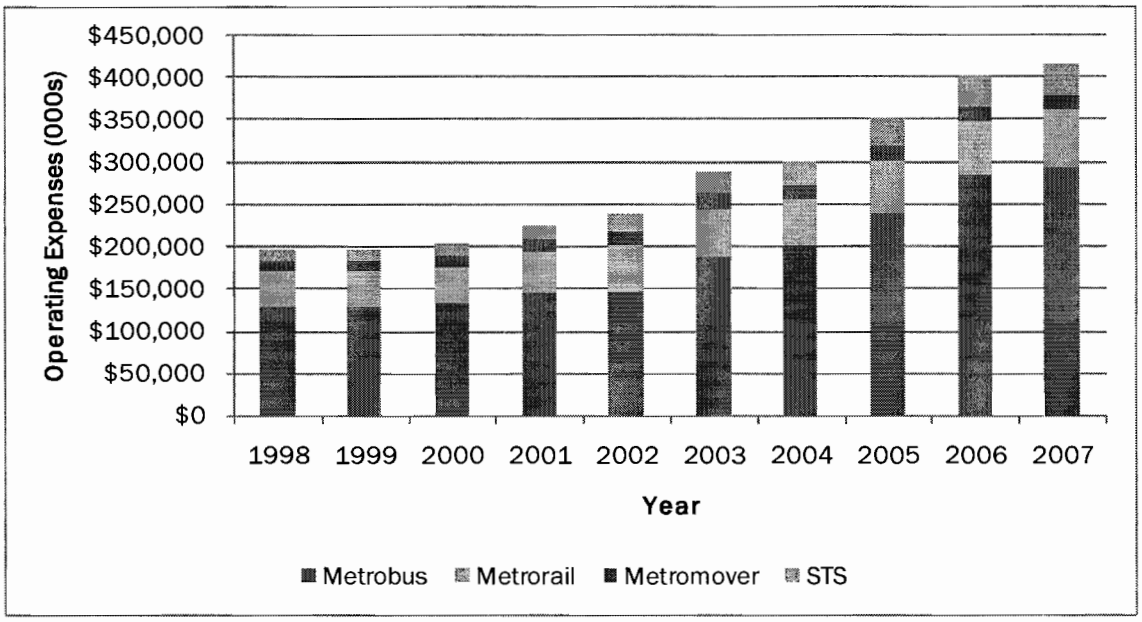
- *Municipal Contribution*: Under the terms of the PTP as approved by the County voters, 20 percent (20%) of the PTP surtax revenues must immediately be returned to the municipalities in the County for their use on local transportation projects.

- *CITT Staff*: The Citizens Independent Transportation Trust (CITT) is a citizen board with the mandate to oversee the spending of the half-cent PTP surtax. MDT contributes an annual amount to support the CITT's staff.
- *SFRTA Contribution*: Miami-Dade County's annual contribution to the South Florida Regional Transportation Authority (SFRTA), which operates the Tri-Rail commuter services in Miami-Dade, Broward, and Palm Beach Counties, flows through MDT.
- *Deficit and Loan Repayment*: In previous budget years, MDT received "loans" from the PTP and from the County General Fund to support operations, and the Pro Forma lays out the repayment schedule for those loans.
- *Debt Service and Reserves*: MDT has outstanding debt that is backed by future PTP surtax revenues, and the agency anticipates issuing more PTP-backed debt during the ten-year period of this plan. This existing and future debt service is shown on this line. In addition, MDT must annually set aside reserves in order to assure coverage of its debt service responsibilities.

Historical Growth in Operating Expenses

MDT's historic growth in operating expenses for its four primary transit modes is shown in Figure 10-1 below.

Figure 10-1: Growth in MDT Modal Operating Expenses, 1998-2007



(Source: National Transit Database)

The modal operating cost data here are taken from the NTD and have "general and administrative" costs removed, so as to focus directly on the cost of operating and maintaining the transit services. A few insights are immediately clear from the historic data. MDT was able to keep its operating expenses relatively flat during the late 1990s, which was a period of both restrained inflation as well as limited system

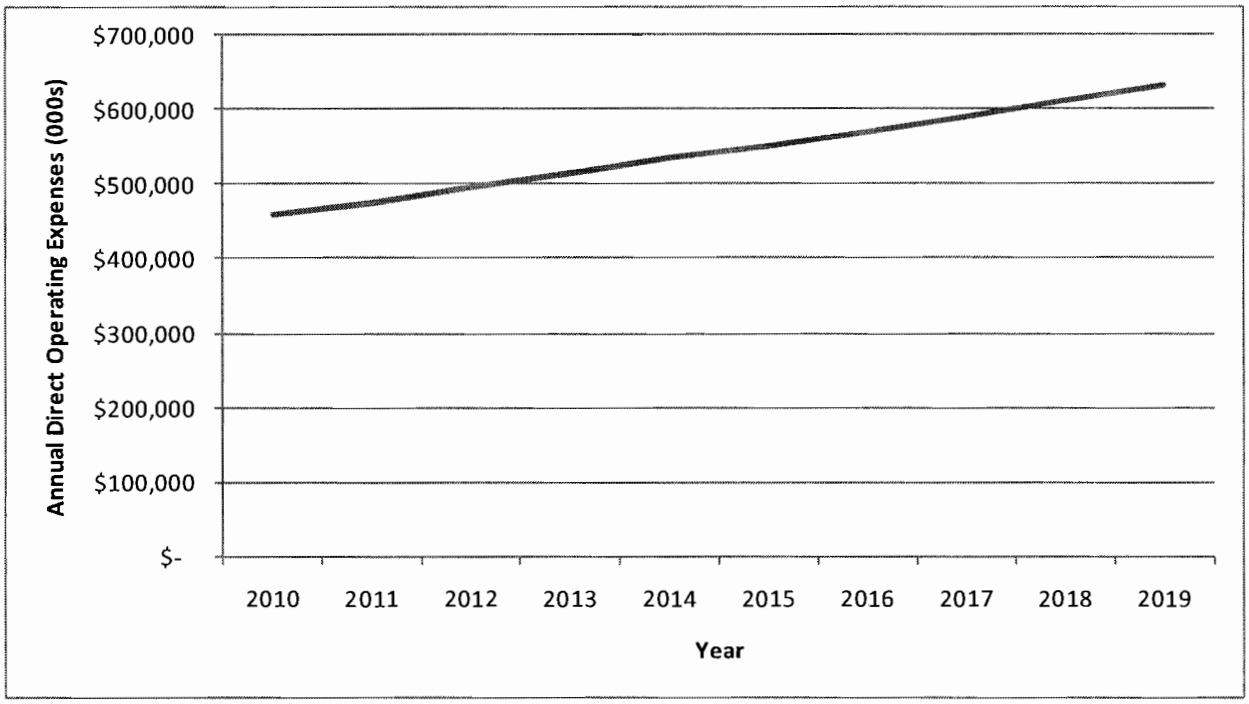
expansion. Beginning in 2001 and continuing through 2006, however, MDT's direct operating expenses doubled. This was a result of both increased unit costs for providing service (particularly labor and health benefits costs) as well as expanded Metrobus service following the passage of the 2002 People's Transportation Plan. In addition, like many transit agencies across the country, MDT is dealing with growth in paratransit expenses that are well above inflation (and well above the growth in revenues intended to support the service).

As of the writing of this TDP Major Update, however, MDT is undertaking major efforts to cut the growth of operating expenses. As noted above, a major service efficiency and route restructuring effort is poised to cut approximately $15 million in Metrobus operating costs from the annual budget. MDT has also implemented efficiencies in its non-operating divisions in order to spend more of its limited funding on direct service provision. This effort has become especially critical as property, sales, and gasoline tax revenue growth has declined during the recession.

Projected Future Operating Expenses

Apart from the expected 10 percent (10%) increase in Metrorail service associated with the opening of the MIC-EH connector in 2012, MDT is not projecting any increase in service levels for Metrobus, Metrorail, or Metromover over the ten year horizon of the TDP Major Update. Therefore, nearly all growth in operating expenses at MDT will come from inflationary cost increases. The projected growth in total direct operating expenses is shown in Figure 10-2 below. By FY19, MDT's direct operating expenses for its four transit modes are projected to have grown to $625 million, an average annual growth rate of 3.6 percent (which includes an above-average 4.4% total increase in 2012 due to the Metrorail expansion).

Figure 10-2: Projected Growth in MDT Direct Operating Expenses, FY 2010-2019



(Source: 2009 PTP Pro Forma)

The key inflation assumptions that drive the cost projections, as included in the Pro Forma, are also summarized below in Table 10-7.

Table 10-7: MDT Operating Expense Inflation Assumptions

Expense Item	Annual Inflation Rate
Labor Increase - Merit	2.2% (before 2015) 2.0% (2015 and after)
Labor Increase - COLA	0% (2010-2011) 2.0% (2012-2013) 3.0% (2014 and after)
Health Insurance	10% (2010-2014) 3.5% (2015 and after)
Major Support Line Items	2.5%
Inventory	1.0%
Fuel	1.0%
Maintenance	3.0%

(Source: 2009 PTP Pro Forma)

10.2.2 Operating Revenues

Current Operating Revenues

MDT's transit operations are supported by a range of federal, state, local, and directly-generated revenue streams. Table 10-8 shows the projected agency operating revenues for FY 2010 by major category.

Table 10-8: MDT Projected FY 2010 Operating Revenues

Operating Revenue Category	Amount (000s)
Fare Revenues	$ 113,413
Other Operating Revenues	$ 8,300
Federal Grant Funds Used for PM	$ 63,038
State Block Grant	$ 18,732
Other State Operating Support	$ 9,029
PTP Surtax	$ 169,700
County General Funds	$ 148,132
Local Option Gas Tax	$ 13,809
Interest, Reimbursements & Other	$ 47,348
TOTAL	$ 591,501

(Source: 2009 PTP Pro Forma)

MDT's major revenue sources are briefly described below.

Fare Revenues

MDT's transit services are expected to generate fare revenues of approximately $113 million in FY 2010. When compared to the services' direct operating expenses of over $480 million, this results in a projected farebox recovery ratio of approximately 23 percent. Given the significant amount of free service that MDT currently offers (via the Metromover and through the Golden Passport and Patriot Passport programs), as well as the relatively low-density environment in the County through which much of the agency's service operates, this result is to be expected. MDT has also struggled in recent years with fare evasion, but the upcoming major capital project to replace the fare collection equipment is intended to address this problem and improve farebox recovery without negatively impacting ridership.

Federal Grant Funds

MDT currently chooses to use nearly all of its federal capital grant funds for preventative maintenance (PM) via a force account as detailed in FTA Circular 5010 1D, which is categorized as an operating expense, rather than for capital purchases. A force account as detailed in FTA Circular 5010 1D requires transit agencies to establish a program to monitor and justify the use of its workforce on projects where the transit agency determined the use of its own workforce would be either more efficient or effective in completing all or a portion of a project than a third party

contractor. The use of these funds for PM by transit agencies is common across the country, as many agencies struggle to secure sufficient revenue streams for agency operations.

PTP Surtax

The half-cent PTP surtax was approved by the voters in 2002 and immediately became a principal funding source for MDT. The original intent of the PTP surtax was largely to fund capital projects, but it has also been used to support expanded bus operations in the County. The Board of County Commissioners (BCC) recently approved a measure allowing up to 90 percent (90%) of the PTP surtax to be used for operations, with 10 percent (10%) dedicated for capital improvements.

County General Funds

As a County department, MDT receives significant funding directly from the County General Fund. The BCC has committed to increasing the general funds that MDT receives (known as "maintenance of effort") by 3.5 percent annually in order to support the continued provision and usage of transit in the County. The County also provides a small additional amount of funding to support SFRTA, which operates the Tri-Rail commuter rail service, and those funds are included here.

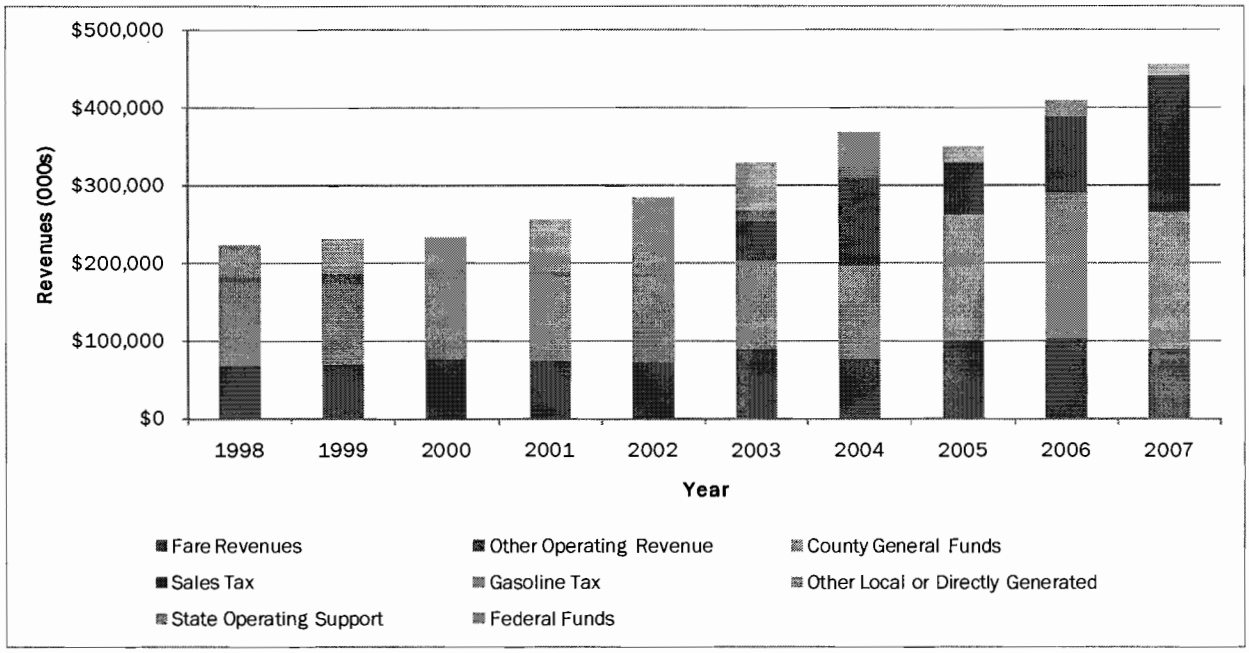
All Other Funds

As indicated above, MDT also receives other operating revenues (from sources such as concessions, advertising, and parking); state support, in the form of a block grant, urban corridor funds, and funds to assist the transportation disadvantaged; a majority of the proceeds from a local option gas tax (LOGT), currently imposed at a rate of three (3) cents per gallon; and other interest payments and intra-County reimbursements.

Historical Growth in Operating Revenues

MDT displayed somewhat erratic growth in operating revenues over the last ten year period from 1998 to 2007, as Figure 10-3 shows.

Figure 10-3: Change in MDT Operating Revenues (1998-2007)



(Source: National Transit Database)

Note: Between 2003 and 2004, there was a change in the way MDT programmed its federal funding from a revenue stream to a reimbursement to expenses.

Most notably, fare revenues showed only very modest growth prior to 2005, reflecting both the agency's policy at the time of imposing very infrequent fare increases as well as the slow growth in passenger trips on the system. Fare revenues have grown more recently in response to programmed fare increases.

What is clear, however, is that the growth in agency operating expenses experienced since 2002 has been primarily funded by two sources – the dedicated PTP surtax and the County General Fund. Both of these sources (meaning primarily the *ad valorem* property tax for the General Fund) have been hit hard by the current recession and housing market collapse, which explains the need for the restructuring and cost-cutting which the agency is currently undertaking.

Projected Future Operating Revenues

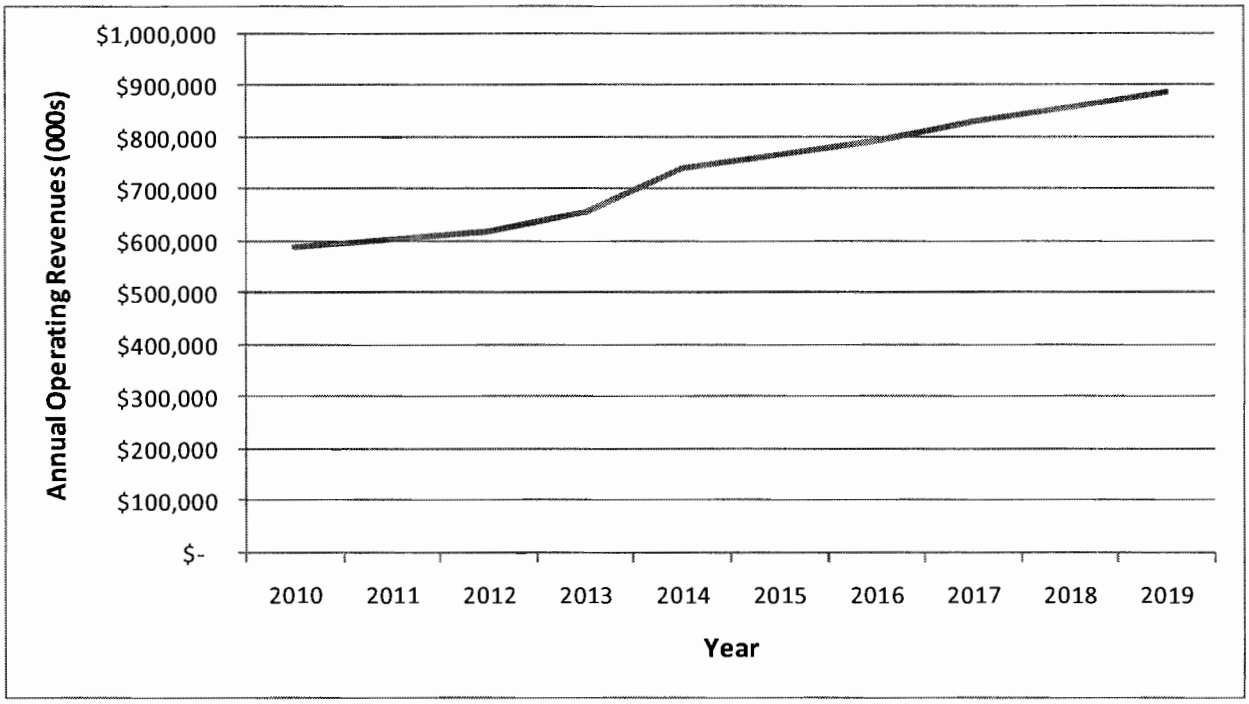
Revenue growth in the future is also projected to be somewhat more uneven than operating expense growth. In the near term, tax revenue growth will continue to be hampered by the recession. After that, in years without any major policy changes, total available funding is expected to grow at slightly over three percent (3%) annually. However, MDT does foresee two separate major policy actions related to funding during the upcoming ten year TDP Major Update planning horizon:

- *Regular programmed fare increases*: The BCC recently approved a policy for regular fare increase for MDT in order to keep up with inflation. The Pro Forma projects a 25 cent increase in the base fare (from its current level of $2.00 to

$2.25) in 2013, with another 25 cent increase in 2017. These increases have the effect of bumping up the overall revenue growth rate in those years.

- *Additional local funding*: In 2014, MDT anticipates that it will receive additional funding to support operations from two local sources. The first is the local option gas tax (LOGT). Miami-Dade County currently imposes only 3 of the 5 cents available to it under that fuel tax, and the Pro Forma assumes that the other 2 cents will be approved and made available for MDT's use in 2014. The value of those 2 cents in 2014 is approximately $14 million annually. The second source is additional County General Funds, which are also assumed to become available in 2014 and would require a Board action. This new County funding is estimated at approximately $45 million in the first year. Figure 10-4 shows the growth in total projected operating funds for MDT.

Figure 10-4: Projected Growth in MDT Operating Revenues, FY 2010-2019



(Source: 2009 PTP Pro Forma)

The critical funding growth assumptions that drive the Pro Forma results are also outlined below.

Table 10-9: MDT Operating Revenue Growth Assumptions

Revenue Item	Annual Growth Rate
PTP Surtax	2011: 1.5% 2012: 3.0% 2013: 4.0% 2014+: 5.0%
General Funds (Maintenance of Effort)	3.5%
Fare Revenue (Trip Growth)	1.00%
State Block Grant and Transp. Disadv. Funds	2.00%
Federal Funds	2011-2015: 2.75% 2015 and after: 2.5%
Local Option Gas Tax	1.50%

(Source: 2009 PTP Pro Forma)

10.2.3 Summary of Baseline Operating Budget

The operating budget as presented in the 2009 Pro Forma for the ten-year period from FY 2010 to FY 2019 is balanced. This means that all projected operating expenses are covered by the forecasted revenues from various local and non-local sources, and there is no funding gap. This balanced budget is achieved by a combination of cost efficiencies and service restructuring in Metrobus; an avoidance of any major service expansion except for the MIC-Earlington Heights Metrorail connector service; and aggressive use of available local funding sources (LOGT and general funds) during the second five years of the TDP.

10.3 Baseline Capital Expenditures and Funding Sources

10.3.1 Planned Capital Expenditures

MDT's planned capital expenditures for the period 2010 to 2019 are described in more detail in the ten year implementation plan chapter of this TDP major Update. For the purposes of the financial plan, the projects can be usefully divided into two groups – those projects which will be financed with PTP-backed debt, and those projects which will be paid for on a "cash" basis with funding from various sources. In the case of very large projects (such as the MIC-EH connector) or projects which are ongoing throughout the plan (such as bus acquisition and replacement), these projects may be funded by a combination of debt proceeds and cash. A summary of the two groups of projects is provided below with costs in projected year of expenditure dollars.

Table 10-10: Planned MDT Capital Expenditures FY 2010-2019

PTP Debt-Financed Capital Projects	Total Cost FY10-FY19 (000s)
Bus Acquisition	$ 322,999
Fare Collection Equipment	$ 23,716
Mover Vehicle Replacement	$ 27,396
Central Control Overhaul	$ 26,756
MIC-EH Connector	$ 300,120
Rail Vehicle Replacement	$ 374,556
Track and Guidway Rehab	$ 31,670
IRP (Infra. Renewal Prog.)	$ 336,544
All Other Projects	$ 45,181
TOTAL	**$ 1,488,938**

Pay-as-you-go ("cash") Capital Projects	Total Cost FY10-FY19 (000s)
Bus Acquisition	$ 147,217
MIC-EH Connector	$ 61,083
All Other Projects	$ 92,697
TOTAL	**$ 300,997**

(Source: 2009 PTP Pro Forma)

Many of these projects, such as the vehicle replacements (for bus, rail, and Mover) and the guideway rehabilitation, will greatly improve the quality and longevity of the existing MDT transit system. However, most of the projects shown above are scheduled to be completed on or before 2015. After 2015, the capital program consists only of scheduled bus acquisitions and the Infrastructure Renewal Program (IRP), which is the agency's long-term projection of future rehabilitation and replacement needs throughout the system, as shown in Table 10-15.

Table 10-11: MDT Annual Funded Capital Projects

PTP Debt-Financed Capital Projects	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Cost FY10-FY19 (000s)
Bus Acquisition	$ 4,453	$ 15,259	$ 5,462	$ 4,855	$ 49,766	$ -	$ 60,083	$ 54,014	$ 60,083	$ 69,023	$ 322,999
Fare Collection Equipment	$ 22,876	$ -	$ 840	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,716
Mover Vehicle Replacement	$ 11,122	$ 15,594	$ 680	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,396
Central Control Overhaul	$ 11,245	$ 12,719	$ 2,792	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,756
MIC-EH Connector	$ 97,449	$ 112,830	$ 73,912	$ 15,929	$ -	$ -	$ -	$ -	$ -	$ -	$ 300,120
Rail Vehicle Replacement	$ 37,260	$ 22,760	$ 64,530	$ 45,709	$ 90,166	$ 93,003	$ 21,128	$ -	$ -	$ -	$ 374,556
Track and Guidway Rehab	$ 6,414	$ 7,413	$ 6,868	$ 5,917	$ 3,899	$ 1,159	$ -	$ -	$ -	$ -	$ 31,670
IRP (Infra. Renewal Prog.)	$ 10,115	$ 12,322	$ 9,704	$ 12,430	$ 3,793	$ 38,299	$ 92,684	$ 68,815	$ 42,153	$ 46,230	$ 336,544
All Other Projects	$ 27,714	$ 15,865	$ 1,602	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45,181
TOTAL	**$ 228,648**	**$ 214,762**	**$ 166,390**	**$ 84,840**	**$ 147,624**	**$ 132,461**	**$ 173,895**	**$ 122,829**	**$ 102,236**	**$ 115,253**	**$ 1,488,938**

Pay-as-you-go ("cash") Capital Projects	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Cost FY10-FY19 (000s)
Bus Acquisition	$ 22,045	$ 21,318	$ 37,097	$ 66,757	$ -	$ -	$ -	$ -	$ -	$ -	$ 147,217
MIC-EH Connector	$ 23,644	$ 23,697	$ 13,742	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 61,083
All Other Projects	$ 39,386	$ 17,732	$ 16,808	$ 8,231	$ 7,573	$ 2,967	$ -	$ -	$ -	$ -	$ 92,697
TOTAL	**$ 85,075**	**$ 62,747**	**$ 67,647**	**$ 74,988**	**$ 7,573**	**$ 2,967**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 300,997**

10.3.2 Capital Funding Sources

As noted above, MDT's capital projects over the next ten years will either be debt-financed (grant funded) or funded on a pay-as-you-go basis from various sources. The debt financing is backed by the PTP surtax revenues, which have been projected in the previous sections of this financial plan. The "cash"-funded projects will be supported by a combination of funding sources, which are shown in the figure below. All of these funding sources for pay-as-you-go capital will be concluded by 2015.

Table 10-12: Projected "Cash" Revenue Sources for Capital Projects, FY 2010-2019

Capital Funding Source	Total Amount (000s)
Building Better Communities (BBC)	$ 1,046
Future Bus Financing	$ 125,172
FTA Section 5307/5309 Formula Grant	$ 18,679
CI-LOGT PAY GO	$ 11,868
Pay Go Surtax	$ 6,092
FDOT Funds	$ 138,140
TOTAL	**$ 300,997**

10.3.3 Summary of Baseline Capital Plan

The capital budget as presented in the 2009 Pro Forma for the ten-year period from FY 2010 to FY 2019 is balanced. This means that there is no baseline capital funding gap and that all projected capital expenditures will be funded with either PTP surtax debt proceeds or on a pay-as-you-go basis with funds available from a variety of sources. This balanced budget is achieved by a combination of aggressive borrowing against the PTP surtax (ultimately requiring the inclusion of additional LOGT and general funds in MDT's budget, as described above effective in 2014, to guarantee debt coverage effective 2014), as well as reductions and even eliminations of planned capital projects that had been included in previous TDPs.

10.4 New Service Initiatives and Additional Funding Needs

As described in greater detail in the Implementation Plan chapter, MDT has identified three primary initiatives – either expanded operations or increased capital investments – that are currently unfunded, but which represent important areas of need for the agency. These three areas are:

- bus route improvements, including modifications to existing routes and the introduction of new routes, which have both a capital cost component and an operating cost component;
- significant capital investments in eleven (11) priority travel corridors that will improve customer comfort and Metrobus service quality and reliability; and,
- additional Capital Improvement Program (CIP) projects that represent selective improvements to the existing transit network.

The necessary capital and operating funds to support these unfunded service areas over the ten-year TDP planning period is presented below. These projects have been described in greater detail previously in the Implementation Plan chapter, so a full description is not provided here. In addition, the project costs here are presented in year-of-expenditure (YOE) dollars, according to the planned implementation schedules and inflation assumptions.

10.4.1 Bus Route Improvements

MDT has identified a significant number of improvements to existing routes as well as entirely new routes that it will implement if and when funding becomes available. The projected year-of-expenditure costs of implementing these services are presented in Table 10-13 below. These improvements have both associated capital costs and operating costs. The operating costs are recurring in every year after the service is introduced, and these costs are assumed to grow with inflation at 3.5 percent annually, which is roughly the rate of inflation for existing Metrobus service as projected in the Pro Forma. The capital costs, which represent the purchase of new hybrid buses to support the services is based on the 15 year bus replacement plan. A 20 percent (20%) spare ratio is assumed, and bus costs are assumed to be $600,000 per 40 ft. hybrid vehicle in 2009 dollars, which grows at a five percent (5%) annual cost inflation over the period of the TDP Major Update.

Table 10-13: Proposed Bus Route Improvements (Unfunded)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Existing Routes											
Operating Costs	$0.2	$1.6	$5.6	$6.8	$7.1	$7.3	$7.6	$8.3	$8.7	$9.1	$62.2
Capital Costs	$0.0	$0.0	$5.8	$3.5	$0.0	$0.0	$0.0	$3.2	$1.1	$0.0	$13.6
New Routes											
Operating Costs	$7.8	$9.8	$13.6	$18.0	$18.7	$19.3	$20.0	$20.7	$21.4	$22.2	$171.4
Capital Costs	$24.9	$2.4	$7.5	$7.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$41.8
TOTAL (millions)	**$33.0**	**$13.8**	**$32.5**	**$35.3**	**$25.7**	**$26.6**	**$27.5**	**$32.2**	**$31.3**	**$31.2**	**$289.2**

(Source: MDT; YOE capital costs assume a 5% annual cost inflation rate; YOE operating costs assume a 3.5% annual cost inflation rate)

10.4.2 Priority Corridors

The eleven identified priority corridors are proposed to be implemented at the rate of approximately one corridor per year beginning in 2011, with two corridors being implemented in each of 2018 and 2019. Table 10-14 shows the unfunded capital cost associated with these priority corridor improvements.

Table 10-14: Proposed Investments in Priority Corridors (Unfunded)

Year of imple-mentation	Priority Transit Corridor	Base year (2009) capital cost (millions)	Year-of-expenditure capital cost (millions)
2011	US 1 (Biscayne Boulevard) from Downtown Miami to County line	$97.0	$106.9
2012	NE 167th/163rd/Sunny Isles Boulevard from Golden Glades Tri-Rail Station to Collins Avenue	$38.7	$44.8
2013	NW 135th Street from NW 12th Avenue to US 1	$24.2	$29.4
2014	NW 36th Street/Julia Tuttle Causeway from Tri-Rail Hialeah Market Station to Collins Avenue	$62.9	$80.3
2015	West 12th Avenue from Okeechobee Metrorail Station to NW 186th Street	$48.1	$64.5
2016	SW 107th Avenue from SW 40th Street to NW 25th Street	$29.4	$41.3
2017	Flagler Street from SW 107th Avenue to Downtown	$74.8	$110.6
2018	SW 8th Street from SW 107th Avenue to Downtown	$73.2	$113.5
2018	SW 72nd Street from 117th Avenue to US 1/Busway	$38.1	$59.1
2019	Kendall Drive from 137th Avenue to US 1/Busway	$44.6	$72.6
2019	Coral Reef Drive from 137th Avenue to US 1/Busway	$30.3	$49.3
TOTAL		**$561.3**	**$772.4**

(Source: MDT; YOE capital costs assume a 5% annual cost inflation rate)

10.4.3 CIP Projects

MDT has identified four (4) projects from the near-term Capital Improvement Program (CIP) that are a priority for the agency to achieve its service objectives, but that are not able to be funded with current revenues. The timing for these projects is not set, but they are targeted for implemented around FY 2012 if funding becomes available, so that is the assumed implementation year shown here. Table 10-15 shows the unfunded capital cost associated with these CIP projects.

Table 10-15: Additional Capital Improvement Program (CIP) Projects (Unfunded)

Year	Project Description	Base Year (2009) Cost (millions)	Year-of-expenditure cost (millions)
2012	Bus Pullout Bays throughout Miami-Dade County	$0.8	$0.9
2012	Electronic Information Kiosks	$0.5	$0.6
2012	Park and Ride Facilities throughout Miami-Dade County	$3.6	$4.2
TOTAL		**$4.9**	**$5.7**

(Source: MDT; capital costs are in YOE dollars assuming a 5% capital cost inflation rate)

10.4.4 Total Unfunded Needs

MDT's total unfunded needs over the next ten years – covering bus service improvements, capital investment in priority travel corridors, and CIP projects – totals approximately $1.0 billion in year-of-expenditure dollars.

Table 10-16: Total Unfunded Needs, FY2010-2019 (YOE millions)

Service Improvement Category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total Unfunded Needs FY10-19
Bus Improvements (Operating)	$ 8.0	$ 11.4	$ 19.1	$ 24.8	$ 25.7	$ 26.6	$ 27.5	$ 29.0	$ 30.2	$ 31.2	$ 233.7
Bus Improvements (Capital)	$ 24.9	$ 2.4	$ 13.3	$ 10.5	$ -	$ -	$ -	$ 3.2	$ 1.1	$ -	$ 55.5
Priority Corridors (Capital)	$ -	$ 106.9	$ 44.8	$ 29.4	$ 80.3	$ 64.5	$ 41.3	$ 110.6	$ 172.6	$ 121.9	$ 772.4
CIP Projects (Capital)	$ -	$ -	$ 5.7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.7
TOTAL UNFUNDED NEEDS	**$ 33.0**	**$ 120.7**	**$ 83.0**	**$ 64.8**	**$ 106.0**	**$ 91.1**	**$ 68.9**	**$ 142.8**	**$ 203.9**	**$ 153.1**	**$ 1,067.2**

10.5 FDOT TDP Financial Planning Tool

FDOT has provided a spreadsheet-based financial planning tool to all Florida transit agencies for use in the development of their TDP's. The Financial Plan tool is intended to provide a standard format in which Florida transit systems can submit their TDP financial plans. MDT has taken the detailed expense and revenue projections of the PTP Pro Forma (as summarized in the sections above) and modified them for entry into the Financial Plan tool.

The Financial Plan tool is prepared in Microsoft Excel format and consists of seven components. Each component is included in the TDP financial plan tool as a separate worksheet. The financial plan tool components are briefly described below.

- **Inputs:** This tab documents the operating and capital cost assumptions that drive the future cost and revenue projections for MDT.
- **Service Plan**: This tab summarizes information for existing services by mode and new alternative services for the current year. Annual operating costs for each service (based on vehicle miles and vehicle hours of service) are calculated in the Service Plan Element.
- **Implementation Plan**: This tab displays the time frames for implementing proposed needs and projects. This component takes the annual operating costs for the current year, applies the appropriate inflation rate, and projects the cost for implementing new service alternatives and other existing service improvements for future TDP planning years.
- **Operating Cost Element:** This tab combines the results of the Implementation Plan and the Service Plan Components to present a total operating cost projection for the agency.
- **Capital Cost Element:** This tab summarizes the capital cost estimates associated with new service alternatives during the planning period. These costs includes new, replacement and spare vehicles as well as transit infrastructure costs.
- **Revenue Element:** This tab summarizes the anticipated federal, state, local, and private revenue sources that will support MDT's transit services. Total operating and capital costs from previous tabs are carried forward to the Revenue Element. Budget surpluses or shortfalls throughout the planning period are also determined in this section.
- **Final Summary:** A Cost Summary table and a Revenue Summary table for the 10-year planning period are presented as the tool's final outputs. Based on the costs and revenue summaries, funded and/or unfunded needs are also shown in this section of the spreadsheet.

10.6 Future Funding and Financing Options

This section of the TDP Major Update financial chapter outlines the existing funding sources for MDT as compared to its peers (both within Florida and nationally), and then presents an assessment of potential future options for the funding and/or

financing of the service improvements described in the TDP that are currently unfunded.

10.6.1 Sources of Funding for MDT and Peer Transit Agencies

Data from the FTA National Transit Database for 2007 (the latest data available) are summarized below in Table 10-17 are the selected agencies, in addition to MDT itself: This comparative analysis identifies the sources of funding that both Florida and national transit agencies typically utilize for system operations

Table 10-17: Peer Transit Agencies

Florida Agencies		National Systems
Manatee County Area Transit	City of Ocala, Florida	Washington Metropolitan Area Transit Authority
Pinellas Suncoast Transit Authority	Polk County Transit Services Division	Maryland Transit Administration
Lee County Transit	Okaloosa County Board of County Commissioners	Metropolitan Atlanta Rapid Transit Authority
Broward County Office of Transportation	Collier Area Transit	Dallas Area Rapid Transit
Gainesville Regional Transit System	Hernando County Board of County Commissioners	Denver Regional Transportation District
Lakeland Area Mass Transit District	St Johns County, Florida, Board of County Commissioners	San Francisco Bay Area Rapid Transit District
County of Volusia, dba: VOTRAN	Space Coast Area Transit	
Central Florida Regional Transportation Authority	Pasco County Public Transportation	
City of Tallahassee	Jacksonville Transportation Authority	
PalmTran (Palm Beach County)	Hillsborough Area Regional Transit Authority	
Escambia County Area Transit	Sarasota County Area Transit	

Figure 10-5 summarizes the sources of operating funding for MDT, Florida agencies, and national transit systems. MDT's primary sources of operating revenue are systemwide fares (19%), sales tax (37%), and local allocated funds (general fund revenue, in the case of MDT) (38%). Among Florida agencies, the primary sources that are similar are fares (19%) and general fund revenue (28%); sale tax revenues are much lower (3%) and other sources that are particularly important include local gas tax (12%) and local property tax (14%); note that property taxes are a primary source of general fund revenues. Among rail peers, a much larger portion of revenues are from fares (33%), followed by sales tax revenues (27%).

Figure 10-5: Sources of Operating Funding

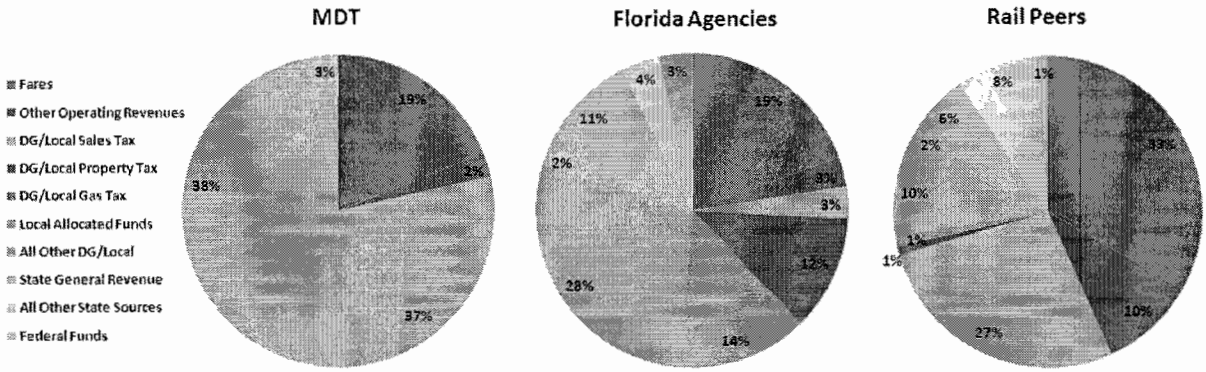
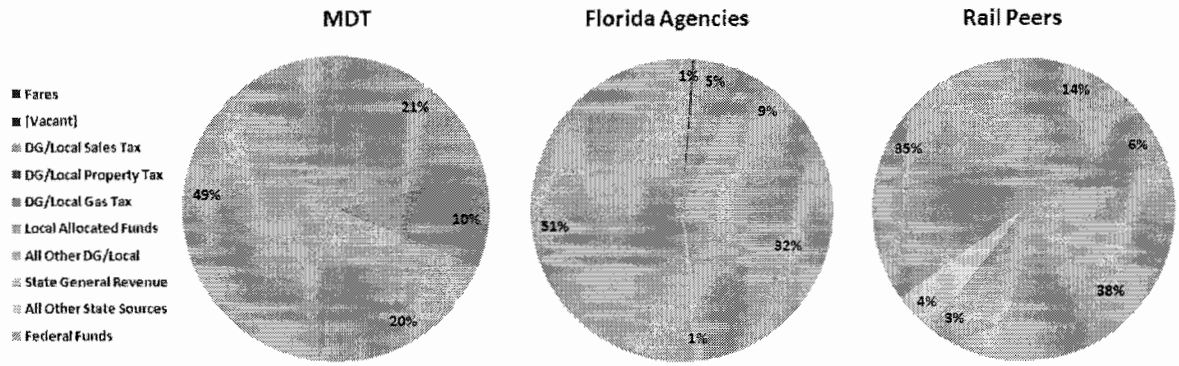


Figure 10-6 summarizes sources of capital funding for MDT, Florida agencies, and national rail peers. The primary sources for MDT were local sales tax (21%), local gas tax (10%), state general revenue (20%), and federal funds uses for capitalization of preventive maintenance (49%). Among Florida agencies, the largest sources were local funds (5% allocated and 9% other), state grants (32%), and federal grants (51%). Among national rail peers, the largest sources include local sales (14%), other local funds (38%), and federal grants (35%).

Figure 10-6: Sources of Capital Funding



10.6.2 Analysis of Individual Funding, Financing, and Implementation Options

Individual funding, financing and implementation options can be evaluated prior to the development of the financing plan. Options can be evaluated using a set of criteria which recognizes the varied issues which must be considered prior to developing a funding plan. These evaluation criteria are summarized below according to five principal issues which need to be addressed when developing a funding/financing plan:

- **Financial Criteria:**
  - **Revenue Yield:** The dollar magnitude of revenues a funding alternative may be expected to generate at different rates and coverage.
  - **Stability of Revenue Flow:** The ability to generate a stable revenue stream over time which is not subject to major fluctuations.
  - **Growth Potential:** The ability to respond to growth in the economy.
  - **Response to Inflation:** The ability to respond to the general rate of inflation.
- **Political Criteria**
  - **Public Acceptance:** The anticipated degree of opposition to a funding, financing, or implementation alternative. This criterion considers the public's perception of dedicating a funding source, or issuing debt for the proposed transit investment.
  - **Equity:** The match of burden to benefits and the ability to pay, which frequently is based on the progressivity, proportionality, or regressivity of a funding/financing alternative.
  - **Incentive and Distortion Effects:** The probable impacts of a funding alternative impact on individual behaviors, location decisions and economic growth.
  - **Benchmarking:** Prevalence of applications of the funding, financing and implementation options in neighboring states and/or local jurisdictions.
- **Legal/Regulatory:**
  - **Legality:** The legal status of the funding, financing and implementation alternatives with respect to state statute and an assessment of the ease of implementation.
  - **Regulatory Authorization:** The relationship of the funding, financing and implementation options to legislative authority.
- **Construction Staging:**
  - **Resource Availability:** The ability of the funding and financing options to provide sufficient resources to meet the project's construction timetable.
  - **Debt Financing Impacts:** The project implementation/staging schedule's impact on debt requirements.

- **Timing for Service Implementation:** The project implementation schedule's relationship to the opening of a minimum operating segment and the initiation of full service.

- **Administrative Criteria:**
  - **Revenue Assessment and Collection Mechanisms:** This includes the administrative structures and procedures necessary to levy and collect the funds.
  - **Evasion Potential:** The ease with which the levy can be evaded and the corresponding enforcement activities required.

The feasibility analysis involves an overview of the ability of each funding, financing and implementation option to meet all or part of the revenue needs of the capital project and an evaluation of the political, legal/regulatory, construction staging and administrative/institutional issues. It focuses on developing a funding, financing, and implementation packages which can be used to develop a feasibility analysis.

Financial evaluation is the initial input into the selection of an appropriate package of funding, financing and implementation options. While revenue yield is ultimately the most important factor, legal and regulatory issues must be accorded considerable weight. In some cases, legal barriers may prove to be insurmountable and thus grounds for eliminating an option from further consideration. Construction staging issues will affect the overall financing and resource needs for the project. Administrative barriers should be identified and treated as a negative factor, but generally do not represent an insurmountable obstacle.

10.6.3 Description of Potential Funding Sources and Increases in Existing Taxes

Table 10-18 describes each revenue source in the context of its financial, political, legal and administrative implications. The financial section includes commentary on revenue stability, growth and yield and effect of inflation. The political discussion includes commentary on public perceptions, equity and boundary issues. Legal contains an analysis of legislative impacts, ties to transportation and additional legal implications, and administrative looks at whether collection and assessment mechanisms currently exist at either the state or local level.

Taxes on Motor Vehicles and Fuels

Gallonage Tax on Motor Vehicle Fuel: The state could impose an additional gallonage tax for gas sold in the region, with the proceeds to be dedicated to the project or others. Consideration of this source must be done in the context of the tax rates in neighboring states consideration of state constitutional and statutory limitations or prohibitions and the expectations of highway-related interest groups that may object to motor vehicle taxes being applied to public transportation purposes.

- **Extension of State Retail Sales Tax to Motor Fuels:** Several states apply a sales tax on retail sales of motor fuel in addition to the gallonage tax. Typically, retail sales are defined as sales to a consumer or to any person for any purpose other than resale. In Georgia, for example, the sales tax is statewide. In Virginia,

a sales tax on motor fuels is imposed in the northern Virginia suburbs near Washington, DC and the proceeds are dedicated to public transportation uses.

- **Vehicle License Fees:** Triangle Transit Authority in Raleigh/Durham has two dedicated sources to fund transit. One is a $5.00 per vehicle annual fee (which can be increased as high as $10.00 by action of the TTA Board of Directors and with the concurrence of North Carolina legislature and without voter referendum)

Table 10-18: Summary of Alternative Funding Sources

Source/ Example	*Financial*			*Political*	*Legal*	*Administrative*
	Revenue Growth/ Stability	**Revenue Yield**	**Indexing**	**Public Perception/ Equity**	**Legality/ Tie to Transportation**	**Assessment & Collection**
Local Option Sales Tax *Atlanta, GA* *Buffalo, NY* *Charlotte, NC* *Chicago, IL* *Dallas, TX* *Houston, TX* *Santa Clara, CA* *San Diego, CA* *St. Louis, MO*	▪ Tax revenue is affected by economic conditions. ▪ Provides a reliable revenue flow if State economy remains strong.	▪ There is potential for large revenue yield, especially as population and median income levels grow.	▪ Sales tax revenues have a direct relationship to price levels and inflation.	▪ Tax is regressive; lower income individuals spend greater portion of disposable income. ▪ Tax is unpopular with local retailers who fear a negative impact business. ▪ Requires referendums.	▪ Sales tax has no direct tie to transportation. ▪ Legislation would be required to impose new sales tax rates.	▪ Mechanism in-place to collect the local-generated tax revenue.
Corporate Income Tax *New York, NY*	▪ Revenue growth can be affected by economic conditions and existing industry mix.	▪ Corporate income tax revenue is cyclical and follows state and local business patterns.	▪ Tax has an indirect tie to inflation because corporate income reflects price levels over longer time periods.	▪ Indirect negative impact on investment and corporate growth.	▪ No direct tie to transportation.	▪ Mechanism in-place to collect the local-generated tax revenue.
Employer Payroll Tax *Portland, OR*	▪ Tax paid by employers and is based on gross payroll paid to employees.	▪ Potential for sufficient long-term yield if employment levels continue to grow.	▪ Inflation has indirect effect if payrolls try to keep pace with increasing costs of living.	▪ Tax may face opposition from local business community.	▪ No tie to transportation.	▪ No collection mechanism at either the State or local level.
Personal Income Tax	▪ Salary and wage distributions account for majority of the revenue collected. ▪ Tax normally produces stable revenue flow.	▪ Traditionally, personal income tax has reliable revenue yield.	▪ Inflation has an indirect effect in so far as salaries and wages keep pace with inflation.	▪ Raising the tax is politically unpopular. ▪ State has tried in past to lower the income tax rate. ▪ Opponents claim increasing the tax has a negative economic impact and inhibits income generation and resulting productivity.	▪ Legislation would be required to impose new income tax rates. ▪ No direct tie to transportation.	▪ Mechanism in-place to collect the local-generated tax revenue.

Table 10-18: Summary of Alternative Funding Sources (continued)

Source/ Example	*Financial*			*Political*	*Legal*	*Administrative*
	Revenue Growth/ Stability	**Revenue Yield**	**Indexing**	**Public Perception/ Equity**	**Legality/ Tie to Transportation**	**Assessment & Collection**
Real Estate Property Tax *San Francisco, CA*	▪ Stable revenue source, but fluctuates with real estate trends and property values. ▪ Revenue growth contingent on property trends.	▪ Sufficient revenue yield, but any increase would tend to reduce municipal revenue potential.	▪ Property values do not always follow inflationary trends.	▪ Tax is already heavily burdened, potential for stiff public opposition.	▪ No direct tie to transportation.	▪ Collection mechanism in place.
Personal Property Tax (Auto)*Hillsborough County, FL*	▪ Revenue stability affected by personal property value fluctuations.	▪ Adding intangible property increases yield and progressivity.	▪ Some personal property values will track price levels.	▪ Tax is a major local revenue source and is already heavily burdened	▪ Tax has direct tie to transportation if levied against auto values.	▪ Collection mechanism in place. ▪ Complex tax that is difficult to enforce.
Motor Fuel Gallonage Tax *Cleveland, OH* *Miami, FL* *Washington, DC*	▪ Stable revenue flow as long as economic conditions remain strong. ▪ Limited revenue growth potential as technical advances improve fuel efficiency.	▪ A local option fuel tax tends to reduce statewide tax increase potential.	▪ Must be indexed to inflation because tax is based on a gallonage method. ▪ Potential long run yield not as reliable as a *% of motor fuel tax* or other indexed bases. Larger revenue output if consumers were taxed on the % of fuel purchased.	▪ Reinstating a recently reduced tax may generate negative reactions. ▪ Opportunity to promote the tax as pro-environment (i.e.: represents effort to achieve clean air goals).	▪ Tax has a direct tie to transportation. ▪ Levy is actually a user charge rather than a "traditional" tax.	▪ State collection mechanism in place.
Motor Vehicle Registration Fees *Seattle, WA*	▪ Stable revenue if the per capita growth of automobiles grows with the State's economy.	▪ Potential exists for low revenue yield.	▪ Fee would have to be indexed for inflation.		▪ Registration fees have a direct tie to transportation. ▪ The levy is a user charge not a tax.	▪ State collection mechanism in place.

Table 10-18: Summary of Alternative Funding Sources (continued)

Source/ Example	*Financial*			*Political*	*Legal*	*Administrative*
	Revenue Growth/ Stability	**Revenue Yield**	**Indexing**	**Public Perception/ Equity**	**Legality/ Tie to Transportation**	**Assessment & Collection**
Parking Receipt Tax	▪ Reliable revenue (i.e. will have inflationary growth) if single-occupancy drivers continue to grow. ▪ Growth contingent on businesses remaining in CBD.	▪ Revenue yield is low and costs to enforce and collect may exceed revenue gain.	▪ Tax is not related to current price levels.	▪ Not visible to commuters, tax is embedded in parking price. ▪ Directly affects parking providers who will likely oppose the tax as anti-business.	▪ Relationship to transportation in that tax revenue is generated by commuters.	▪ No collection process in place at either State or local level.
Surface parking surcharge	▪ Reliable revenue if single-occupancy commuters grows. ▪ Growth contingent on businesses remaining in CBD. ▪ If successful, revenues diminish over time.	▪ Yield affected if businesses decide to relocate to outlying communities.	▪ Levied as a flat fee surcharge priced as an absolute dollar amount. ▪ Not indexed to increase with the cost of parking.	▪ Parking rates currently low. ▪ Downtown commercial occupants may relocate if parking rates increased.	▪ Tie to transportation in that tax revenue is generated by commuters.	▪ Implementation will require coordinating with private parking vendors and businesses located in the CBD.
Rental Car Tax*Raleigh-Durham, NC*	▪ Tax levied on amount charged for auto rental. ▪ Small tax base, limited growth potential. ▪ Revenue flow affected more by non-resident traffic.	▪ Low yield may be deterrent.	▪ Tax may be levied on a per day basis or as % of the total rental charge.	▪ Considered more of a burden to non-residents.	▪ Tax has a tie to transportation.	▪ State level collection mechanism in place.
Vehicle Emissions Fee	▪ Normally paid as an annual flat fee but may be levied based on vehicle miles traveled.	▪ Limited revenue growth; revenue yield may be a disincentive.	▪ Levied as a flat fee priced as an absolute dollar amount.	▪ May limit other auto usage revenue, such as gas tax increase. ▪ Palatable to public if tax achieves clean air standards and improves quality of life.	▪ Emissions tax has a direct link to transportation. Will require legislation to change existing emission standards.	▪ State level collection mechanism in place.

Table 10-18: Summary of Alternative Funding Sources (continued)

Source/ Example	*Financial*			*Political*	*Legal*	*Administrative*
	Revenue Growth/ Stability	**Revenue Yield**	**Indexing**	**Public Perception/ Equity**	**Legality/ Tie to Transportation**	**Assessment & Collection**
Vehicle Privilege Fee *Charlotte, NC*	▪ Fee levied on the number of cars per household and is paid as an annual flat fee.	▪ Limited revenue growth; yield may be a disincentive.	▪ Levied as a flat fee priced as an absolute dollar amount.	▪ Fee is a user charge; may be unpopular and viewed as an unnecessary public burden.	▪ Fee has a tie to transportation.	▪ No in place collection mechanism, could be collected with personal property or vehicle registration fee.
Real Estate Transfer Tax *Washington, DC*	▪ Tax that applies to the transfer value of real property deeds. ▪ Unreliable growth, collections infrequent and unpredictable.	▪ Revenue yield may not be sufficient due to infrequency of transfers.	▪ Tax values are contingent on the value of transferred property.	▪ Opposition from real estate partnerships, realtors or other ventures managing extensive property holdings.	▪ No tie to transportation.	▪ State currently levies a *real estate* conveyance tax assessed on the purchase price of conveyed property. Seller pays the tax.
Mortgage Recordation Tax *Albany, NY*	▪ Excise tax on recorded mortgages. ▪ Low revenue growth since tax is one-time levy on mortgage recording.	▪ Low yields where property purchases and mortgage recordings are below the national average and/or declining.	▪ Tax collections are based on the recorded liens. ▪ Inflation has no direct affect	▪ Tax could be unpopular with general public; a real estate property tax is already collected at the local level.	▪ No tie to transportation.	▪ No collection mechanism at either the State or local level.
Fund Balance Transfers *New York, NY* *San Francisco, CA*	▪ Interfund transfers among municipal agencies. ▪ Growth depends on volume of municipal revenues collected.	▪ Low revenue yield and uncertain revenue source. ▪ Many variables affect a municipality's ability to run fund surpluses.	▪ Fees collected from the general public are not indexed to price levels.	▪ Revenue transfers are not visible to the public.	▪ No tie to transportation.	▪ No transfer process in place.
Incremental Tax Financing District	▪ Surcharge on the incremental increase of selected property values. ▪ Revenue growth affected by property value fluctuations.	▪ Low revenue yield.	▪ Property values are not indexed to current price levels.	▪ Surcharge may face opposition from property owners and developers.	▪ If the assessment district is based on transportation benefits, then tie to transportation.	▪ No collection mechanism. ▪ Modifications are needed to govern the set-up of new districts.

Table 10-18: Summary of Alternative Funding Sources (continued)

Source/ Example	*Financial*			*Political*	*Legal*	*Administrative*
	Revenue Growth/ Stability	**Revenue Yield**	**Indexing**	**Public Perception/ Equity**	**Legality/ Tie to Transportation**	**Assessment & Collection**
Benefit Assessment District *Rt. 28 / Dulles, VA*	▪ Surcharge levied on property within defined areas that has benefited from local improvements.	▪ Low revenue yield.	▪ Property values are not indexed to current price levels.	▪ Surcharge may face opposition from property owners and developers.	▪ If the assessment district is based on transportation benefits, then tie to transportation	▪ District must be defined and collection mechanism put into place.
Value Capture *Atlanta, GA* *St. Louis, MO* *Washington, DC*	▪ Public/private partnership where private sector compensates public agency for transit development costs that generate economic value.	▪ Yield dependent upon the economic value of the completed transit facility or project.	▪ Value capture is not indexed to current price levels.	▪ Can be a popular way to enlist private investment.	▪ If facility or project involves transportation, then there is a tie to transportation.	▪ Projects would have to be identified and developed to assess value capture opportunities.

- **Emissions Tax:** An emissions tax may be imposed in several different manners. Currently, the most common forms of this tax are flat fee based, which generally vary by car type, or a gallonage tax on gasoline. The tax may also be based on vehicle miles traveled (VMT), or a factor taking into account both VMT and vehicle fuel efficiency. Tax collection mechanisms are in place for the first two forms of this tax. An emissions fee may be collected along with other vehicle fees such as vehicle registration fee, or at the pump per gallon of gasoline purchased. An emissions tax has the advantage of being directly tied to transportation and, if based on VMT, is expected to have strong revenue potential as well as significant impact on air quality. In comparison, gasoline taxes have generally resulted in improved vehicle fuel efficiency and the introduction of alternative fuels. Because of this, gasoline taxes are expected to have limited revenue growth potential. In addition, while gasoline taxes impact fuel consumption per mile traveled, they have little impact on driving patterns and VMT. An emissions tax based on VMT, on the other hand, is expected to have a more direct impact on driving patterns, resulting in a greater long term impact on air quality. Given that VMT is expected to grow substantially under all reasonably foreseeable circumstances, the revenue potential of such a tax is expected to be strong. In addition, while in general this tax is regressive with greater impact on low income individuals, it is less regressive if based on VMT.

Taxes on Cigarettes and Alcohol

- **Cigarette Tax:** The state excise tax on cigarettes is paid through the purchase of stamps, which must be affixed to each container used for the retail sales of cigarettes. In some states, cities and towns have the right to levy additional taxes upon the sale or use of cigarettes if their charter provides such right.
- **Alcohol Taxes:** State taxes on wine, beer, and distilled spirits are typically deposited in the state's general fund.

Taxes on Corporations

- **Corporate Income Tax:** State corporate income taxes are typically deposited to the state's general fund.
- **Business, Professional and Occupational License (BPOL) Taxes:** Some states (e.g., Virginia) permits localities to impose a local tax on "merchant's capital" or a tax on the inventory of stock on hand, daily rental property, and all other personal property excluding items that are taxed as tangible personal property. Those localities that do not impose a merchant's capital tax are authorized to impose a local license tax on businesses, professions, and occupations operating within their jurisdiction. Businesses, professions, trades and occupations must file each year and are assessed a tax based on gross receipts for the prior year. Self-employed individuals must also file.

Consumer Taxes

- **Local Option Sales Tax:** This funding mechanism has several shortcomings that need to be addressed. First, sales tax receipts are highly cyclical and fluctuate with general economic conditions. Second, sales tax does not apply to

services, the fastest growing sector of the economy. Taxing services should be considered as a means of increasing sales tax receipts. Third, the growth in Internet sales could result in reduced sales tax receipts. Options for collecting tax on Internet sales should be investigated. Furthermore, the appropriateness of a local vs. a statewide sales tax dedicated to transit should be investigated. The advantage of a statewide sales tax is that it is more efficient and less costly to impose; the voting process does not need to be repeated separately by each jurisdiction. Because of this a statewide sales tax dedicated to transit will better support long range planning than local taxes.

- **Utility Taxes:** Many states authorize localities to impose a tax upon the consumers of public utilities. In Virginia, residential consumers may not be taxed more than 20 percent of the first $15 of the monthly bill, although localities with a tax in place in 1972 may continue to impose the tax at that rate, but may not increase it. There is no statutory ceiling on the tax on commercial or industrial customers. The tax on telephone service may be levied on local service only. Utility taxes are applied to an individual's monthly bill from public utilities such as the electric or gas companies.
- **Recordation Taxes:** A tax is levied on the recordation of deeds, mortgages, leases and contracts. It is applied by state, county, and local governments. The New York MTA relies on this among several dedicated sources of funding.
- **Lodging Tax:** This funding source is an example of "exporting" the burden on non-residents. While considered for many transit projects, typically it is not pursued because significant tax is already imposed to support convention center or stadium construction or because of resistance by the hotel industry.
- **Local Restaurant/Food Tax:** This tax is similar to the lodging tax in its impacts, and the challenges in using it for transit-related purposes.

10.6.4 Important Considerations Regarding Local Taxes as the Source of Funding

By studying the impact of tax financing among the peer transit agencies and region, several important legislative considerations regarding local taxes as the source of funding have been identified. The following discussion captures several of these observations and highlights the circumstances that may have increased or decreased the likelihood of enacting tax proposals. The discussion also highlights important lessons learned that have greater application to building public support for new taxing mechanisms.

- All things being equal, a specific tax proposal is strengthened if the tangibility of benefits and projects adds to saleability or attractiveness of the proposal. For example, in Santa Clara County (CA) local officials enhanced voter confidence by using public forums to describe attainable benefits from proposed transit projects that would be funded by new sales tax revenue. Such benefits may include:
  - Improved transportation and land-use planning
  - Enhanced congestion relief planning

- Increased transit operations (e.g.: greater transit availability)

- Certain sources indicated that in their jurisdictions, citizens seemed more supportive of new taxes that were directly dedicated to mass transit. In this context, voters perceive both direct (improved transit services) and indirect benefits (reduced congestion) from funding mass transit with dedicated tax revenue.
- Public support typically increases when new taxes offer potential for funding other purposes/uses. For example, surplus revenue from new taxes permits municipalities to fund other local needs such as roads and highways; additionally, new tax revenue prevents depleting general revenue pools that support city needs other than mass transit.
- Using tax revenue for general transportation needs increases the breadth of constituency.
- From a state-level perspective, adopting a strategy of "return to source" or sharing a portion of revenue with the municipalities for their own use improves chances of public buy-in for new tax legislation.
- Recruit public "champions", such as a business or community leader, city council member, mayor or state representative, who can effectively express the benefits of new tax legislation, whether it be at the community, city or state level.
- Maximize local business and community support. These parties will often mobilize wider support for ballots and may fund all or part of the legislative campaign.
- Tax proposals that have a finite duration are often more appealing than perpetual tax plans. More importantly, avoid funding proposals that resemble blank check requests.
- Prospects for employing local taxes to supplement transit projects improve when:
  - The tax and transit projects present a coherent transportation policy.
  - An existing revenue source can be utilized (i.e.: no new taxes).
  - The tax is not perceived as an undue public burden.
  - The tax is not perceived as creating an imbalance among towns or groups of people.

10.6.5 Alternative Project Delivery Strategies

The organizational strategy used to design, implement and operate/manage elements of the project may have implications for the financing analysis. For example, the structure of the implementation organization and the financing plan may influence whether:

- The "profit" of the entity is subject to taxation
- The assets of the entity are subject to real estate, personal property and other taxes

Involvement by the private sector in a turnkey approach requires the execution of an agreement between the private entity and the public agency, which sets forth obligations on the part of both parties. Among the elements of such an agreement are the following:

- Specification of assets to be constructed or procured
- Services to be provided, in terms of hours of operation, frequency of service, length of trains, passenger service personnel
- Reliability and availability of equipment
- Operating cost definition, including determination of whether actual or bid price is the basis for the calculation and the identification of reimbursable expenses (e.g., insurance)
- Remedies in the event of default

Three approaches for implementation and operation/management of the project could be considered:

- **Turnkey:** Under this alternative a public agency contracts with a private entity for delivery of a complete and operational project that will be publicly owned. Essentially, the contractor is engendered with full responsibility for project design and construction. Once the project is completed, the contractor "turns the keys" over to the public agency, certifying the project is ready for use. Operations and maintenance of the transit system is then secured either by the public agency, the turnkey contractor, or a designated third party.

  In addition to the basic elements of a turnkey project, the private contractor in a super turnkey project may receive real estate development rights along the project right-of-way, at station areas, and potentially at off-corridor locations in exchange for partial project funding, thereby reducing the need for public involvement.

  Under a build-operate-transfer procurement, the private entity is given authority to design, build, own and operate a facility for a period of time after which title reverts back to the public sector. During the period of ownership and operation, the contractor is able to generate profits from the services provided. Any financing for construction and operations is provided for privately, on a non-recourse basis using projections of future net revenues.

  The potential advantages of participation by the private sector include the transfer of the cost and revenue risks from the public sector to the private sector, the opportunity to take advantage of leasing and other innovative, non-conventional financing approaches and potential shortening of the period of construction. However, using a turnkey procurement also presents some disadvantages. By contracting with one private entity to provide all elements of the project, the public owner greatly reduces its ability to control the design and construction of the facilities. Also coordination with other public agencies is more difficult because of the loss of control of the facilities design and construction.

- **Conventional:** The public entity would be the owner and would manage and contract for the design and construction of the project. Typically, the owner enters into multiple contracts and is responsible for the overall management, coordination and scheduling of the program. The public entity would then test, commission and operate the system. The primary advantage of this approach is that the public entity has complete control over all phases of the project's implementation and operation. However, the public entity will be responsible for most of the risks associated with construction and, as a result, will have to provide significant resources for project oversight. In addition, a conventional procurement process may result in a higher construction costs due to a potentially longer project implementation time frame and limited access to innovative financing mechanisms.
- **Mixed Conventional/Turnkey:** This strategy incorporates elements of both turnkey and conventional procurements. It allows for closely related subsystems in a project to be procured through a total system technology elements contract that is the responsibility of a single supplier/contractor. This approach also provides the public entity with the opportunity to procure facilities/civil elements of the transit system using the conventional contracting process. This allows the owner to retain control of the design and construction of the facilities which are usually of primary interest to an owner due to aesthetic and construction interests.

10.6.6 Alternative Financing Options

This section describes the range of financing options that can be considered in the financial analysis. Financing mechanisms refer to bonds, notes, leases and other forms of debt which are supported by a pledge of future revenues from one, or more funding sources. Public entities utilize financing because it provides the ability to access the capital markets and secure sufficient resources to implement a capital project within an optimal time period. Without debt financing, public entities could only rely upon a pay-as-you-go approach where only annual revenues generated from taxes, user fees and other sources would be used to fund a project. In most cases, the annual revenues generated from these sources are insufficient to cover peak construction requirements.

Financing alternatives that can be evaluated include:

- **Pay-as-You-Go:** As noted above, this is a traditional approach where debt financing is not utilized. The project construction and implementation schedule is driven by the annual availability of federal, state and local resources including grant appropriations and dedicated funding sources. Although this approach eliminates costs associated with debt financing, it generally does not ensure that sufficient resources are available during the peak period of construction. As a result, the project's construction schedule would need to be lengthened so that construction resource needs meet funding availability. Extending the construction schedule delays implementation of the new transit service and significantly adds to the cost of the project.

- **Leasing:** The financial analysis will provide for separating capital costs into leasable and non-leasable items. Leasable items are likely to include rolling stock, other equipment, and maintenance facilities. One option would utilize "certificates of participation" (COPs) which is a means to issue debt secured by the value of the vehicles and/or facilities of the project similar to bonding. The COP investors become the technical owner of the vehicles/facilities and "lease" them back to the transit agency. The lease payments become the service on the debt and at the end of the "lease period" the debt is retired and ownership reverts back to the transit agency.
- **Debt Financing:** Bonds, secured by one, or more of the dedicated funding sources described in the previous section, would be applied in the financial analysis to make up the difference between funding needs and funds provided by grants and leases/certificates of participation. The spreadsheet developed for this analysis will automatically "issue" bonds to the extent required to cover financial need. The spreadsheet can test the financial impact of bonds with varying durations such as 10, 20 and 30 years. The following types of debt financing may be considered in the financial analysis:
- **General Obligation Bonds:** These are securities which are backed by the full faith and credit of the issuing state and/or local governments. General obligation (GO) bonds usually require voter approval. Two types of GO bonds are typically issued. The first is an unlimited tax general obligation bond that is secured by a tax source that is not limited in rate or amount. The second is a limited tax general obligation bond which is only secured by taxes from specific sources such as a sales, motor fuels, or property tax.
- **Revenue Bonds:** These are payable from specific sources of revenues, other than property taxes, and are not backed by the full faith and credit of the issuer. These types of bonds are generally secured by a revenue pledge, by related covenants to ensure the adequacy of the revenue pledge and in some cases by a mortgage on the facilities being financed by the revenue bonds.
- **Notes:** These are generally short term financing mechanisms that are used prior to the implementation of longer term financing. Three types of notes are most common:
  - **Tax and Revenue Anticipation Notes (TRANs):** These notes are issued in anticipation of tax receipts and other revenues.
  - **Grant Anticipation Notes (GANs):** GANs are short-term notes issued in anticipation of grant resources to be provided from some other governmental body or agency such as FTA. GANs are used to initiate construction, or operation of a project prior to the actual receipt of funds.
- **Innovative Financing with FTA:** In addition to the financing techniques mentioned above, the FTA allows the following mechanisms to be used for transit capital projects:
  - **Deferred Local Match:** Federal grantees, with prior FTA approval, may use federal resources to cover up to the first 80 percent of a project's cost. Under

this arrangement, local resources would be committed at the end of construction to cover the grantee's share of the project.

- **Revolving Loan Fund:** Federal grants may be used to support state or local revolving loan funds. These funds would be available to provide direct loans for transit projects, or to acquire equipment and facilities and lease them back to transit operators. Payments to retire the loans or service the leases, including accrued interest, would be used to fund other transit projects. The revolving loan fund could be used in combination with pooled procurements, state/locally issued bonds, joint development, or other financing techniques.
- **Joint Development:** As noted earlier, FTA capital funds may be used for joint development projects as long as they are physically related to and enhance the effectiveness of a transit project.
- **Use of Proceeds from Sale of Assets in Joint Development Projects:** Property that is no longer needed for transit purposes may be sold and the proceeds used to purchase other property for transit supportive development. If the property is leased, the proceeds are considered program income and may be used for any transit purpose. In addition, air rights over transit facilities constructed with federal funds may be sold to developers and the proceeds retained as program income for future use by the transit operator.

- **Transfer of Federal Ownership:** FTA will permit the concentration of federal ownership in a portion of assets acquired with federal funds, leaving the remaining portion of assets unencumbered by any federal ownership. FTA provides an illustrative example of this arrangement whereby a fleet of 100 vehicles is acquired with 80 percent federal and 20 percent local funds. Under this approach, the federal ownership would be concentrated on 80 of these vehicles, while 20 would be locally owned. This separation of federal and local ownership allows grantees to utilize innovative financing techniques for the local share of the investment including COPs, or cross border leases to leverage additional funds.
- **Incidental Non-Transit Use:** FTA funded facilities may also be used for limited non-transit purposes. FTA will determine what is use is incidental on a case-by-case basis.

10.6.7 Joint Development and Benefit Capture

The following describes joint development and benefit capture strategies that could be used to fund transit projects. This includes an overview of FTA's policy governing joint development projects involving federally funded properties and facilities and typical joint development and benefit capture strategies that used by transit agencies.

FTA Joint Development Policy

FTA has actively supported joint development as a strategy for enhancing transit ridership and revenue and for promoting the Livable Communities Initiative. To facilitate transit joint development projects, FTA will make grant funds available for joint development and allow the proceeds from the sale, lease, or other encumbrance of property for transit oriented development to fund capital and operating expenses.

Transit agencies are allowed to sell property as excess for non-transit use, lease the property for incidental, non-interfering use by others while the property is held for a future identified transit use; or they can undertake a transit-oriented development on the property site. In the case of the sale of a property where there would no longer be a continuing transit use, the transit agency would be required to return the pro-rata federal share of the net proceeds from the sale to the U.S. Treasury.

Transit oriented joint development can be undertaken through a sale or lease of federally funded property, or through the direct participation of the transit agency in the development. FTA requires that to qualify as a "transportation project", the transit agency must retain sufficient continuing control over the property to ensure its continuing relationship to transit. The FTA policy noted that continuing control can be accomplished through the use of easements, or contract/lease clauses that would allow the property to revert to the transit agency if access was unreasonably curtailed.

To be eligible for consideration as a transit oriented joint development, FTA requires that the project:

- Has a transit element *and;*
- Enhances urban economic development, or incorporates private investment and;
- Enhances the effectiveness of a transit project, and the non-transit element is physically or functionally related to the project, or;
- Creates new or enhanced coordination between public transit and other forms of transportation, or;
- Includes non-vehicular capital improvements that result in increased transit usage
- In addition to the above, FTA identifies several financial criteria that would be used to evaluate a transit joint development project:
- The project would generate either a one-time payment or revenue stream where the present value equals either the current market value or the appraised value of the property, taking the highest and best transit use into account.
- When more than one joint development project would be undertaken, the combined revenue streams from all the projects may be balanced against the cumulative appraised value of the real estate on a portfolio basis.
- As long as the transit agency retains effective continuing control of the joint development project, FTA will not consider it to be disposition of property. However, if the transit agency does not maintain effective continuing control, the agency may be liable to repay the federal share of the current market value of the property

Typical Joint Development and Benefit Capture Strategies

The following identifies the range of joint development and benefit capture strategies that are typically used by transit agencies. As a subset of joint development, transit districts can utilize the process of value capture to generate additional revenue,

whereby transit agencies capture the benefit of increased real estate values to fund transit projects. Under this scenario, a transit agency acquires real estate and then develops it to either resell or lease to private parties. Ideally, the agency benefits from an increased property value due to the agency's enhancements and/or proximity to transit stops.

- **Leasing/Selling Development Rights:** In most instances the transit agency would sell or lease the rights to develop the air space over a transit station. This would provide a direct economic benefit to the private developer, as well as to the transit agency that would earn a stream of revenues, or a one-time payment. For example, the redevelopment of South Station in Boston included the construction of office and retail space above and adjacent to the station. According to a 1991 FTA Joint Development report, the Massachusetts Bay Transportation Authority (MBTA) spent $60 million to restore the station's shell before turning the project over to the private developer. In exchange for the development of the air rights, the developer agreed to pay 50 percent of the annual operating and maintenance cost of the station. In addition, the developer provided a higher quality building finish and HVAC than the MBTA would normally install in a transit station.
- **Leasing/Selling Land or Facilities:** Selling land or facilities that are publicly owned can provide immediate revenues for the transit agency while also disposing of public assets. Leasing of land-based facilities can occur through either a traditional ground lease or a sale/leaseback mechanism.

  A ground lease is similar to the concept of leasing air rights in that the transit agency would lease the rights to develop a piece of publicly-owned property. This provides an opportunity for joint development at a station as well as a steady stream of income for the agency.

  In a sale-leaseback program, the transit agency would sell a land-based facility to a private owner, who then uses the revenues from the lease payment to cover the debt assumed for the purchase. The transit agency receives cash for the sale which can be used for other purposes, while maintaining the use of the property. The private party receives the benefit of depreciation allowances for the property without incurring additional expenses. In some cases the value of the real property could appreciate over time, providing an additional benefit to the private developer.

  An example of a project of this type is the development above WMATA's Ballston Station in Arlington, Virginia. This is a 28 story, 711,500 square foot mixed use development, which was completed in the early 1990's that includes a hotel, condominiums, retail, parking, a bus terminal facility and direct access to both Metrorail and Metrobus services. The joint development included the lease of over 72,000 square feet of property owned by WMATA to the developer and the sale of 15,000 square feet of WMATA owned property to the developer.

- **Special Benefit Assessment Districts:** To capture benefits associated with enhanced real estate development partially attributable to improvements in transportation corridors, several jurisdictions have created special assessment

districts. A special assessment is charged upon commercial real estate deriving a special benefit from a nearby capital improvement that is used to cover debt service for the improvement. The special assessment charge typically cannot be more than the cost of the improvement. Frequently, the assessment is apportioned on the basis of the front footage of the land, although other valuations such as the land area, or the value of the property benefited are also used. Benefit assessment districts have been used to finance transit improvements in Denver, Seattle, Minneapolis and Miami as well as highway improvements in Northern Virginia. The assessments rate can be levied uniformly for all commercial property owners within the benefit assessment district, or on a graduated rate based on distance from a rail station. The graduated rate, which was used in Denver for the 16th Street Benefit Assessment District, recognizes that benefits of a transit project are related to proximity to the project. Accordingly, the assessment rate is highest for the properties nearest to the transit station and lowest for those at the boundaries of the district.

- **Cost Sharing:** Developers and property owners wishing to have transit stations integrated with their commercial facilities are sometimes willing to share operating expenses and/or contribute to capital construction costs. Cost sharing can substantially reduce the costs to the public of constructing selected elements of transit facilities. Typical cost sharing arrangements include private developer funding of elements of a transit station, or the donation of land for a station. Cost sharing arrangements have widely been used by New York City Transit and Southeastern Pennsylvania Transportation Authority (Philadelphia) to improve existing stations.
- **Concession Leases:** Transit agencies lease space to retail companies and independent vendors. At a minimum this involves the lease of excess space to newspaper stands and convenience centers. A more aggressive approach includes the cooperative design and development, or renovation or rehabilitation of station space. This more expansive strategy has been applied by SEPTA at commuter rail stations.
- **Density Bonuses:** Similar to the joint development concept, a municipality may provide incentives to developers in exchange for construction of station facilities or amenities. By granting a "density bonus" to a developer, the municipality allows a developer to build at a higher density (usually measured by floor-to-area ratio, or FAR), thereby enabling the developer to gain greater profit from the property. Increased density at or near station areas also has positive effects on transit ridership.
- **Tax Increment Financing:** Tax Increment Districts obtain funds from increases in *ad valorum* tax revenues that arise from a new infrastructure project. Tax increment districts differ from benefit assessment districts in that they use the diversion of regular tax revenues rather than additional fees. Tax increment financing is based on regularly recurring taxes, participation of all district taxpayers, assessments based on property values (although sales tax revenues have also been used as a basis for assessment). The incremental increase in tax revenues over a designated base year is diverted into a special fund, which can

be used for debt service, or for reimbursing municipalities or private financial institutions.

- **Connector Fees:** Connector fees are charges to developers or owners of property that derive a benefit from being connected to an adjacent transportation facility. These are three types of fees: lump sum payments to cover capital costs of the connection to the station; an annual contribution to the operating capital costs of the facility; or "in lieu" dedication of property for station areas or easements. By having direct connections to commercial development, the transit system receives the benefit of additional riders.

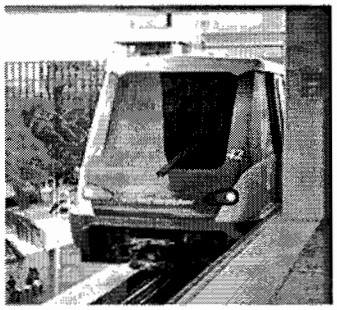
10.7 Financial Analysis Summary

As noted in the introduction, MDT is currently facing a very difficult environment for transit financial planning, with rising costs, shrinking revenues, and uncertainty over the direction of federal and state transportation policy. The FY2010-2019 TDP Major Update reflects these difficulties and attempts to chart a reasonable path forward that is fiscally balanced while still meeting the transit needs of the citizens and businesses of Miami-Dade County.

The ten-year operating budget as detailed in the TDP is balanced, meaning that all projected operating expenses are covered by the forecasted revenues from various local and non-local sources, and there is no funding gap. This balanced budget is achieved by a combination of cost efficiencies and service restructuring in Metrobus; an avoidance of any major service expansion except for the MIC-Earlington Heights Metrorail connector service; and aggressive use of available local funding sources (LOGT and general funds) during the second five years of the TDP.

The ten-year capital budget as presented in the TDP is also balanced, meaning that there is no baseline capital funding gap and that all projected capital expenditures will be funded with either PTP surtax debt proceeds or on a pay-as-you-go basis with funds available from a variety of sources. This balanced budget is achieved by a combination of substantial borrowing against the PTP surtax (ultimately requiring the inclusion of additional LOGT and general funds in MDT's budget to guarantee debt coverage effective 2014), as well as reductions and even eliminations of planned capital projects that had been included in previous TDPs.

MDT's total unfunded needs over the next ten years – including bus service improvements, capital investment in priority travel corridors, and CIP and IRP projects – totals just under $1.5 billion in year-of-expenditure dollars. There are a number of conventional and innovative funding sources that could be made available to the County to fund these projects, of which the most likely appear to be an additional dedicated sales tax, an increase in the local option gas tax, and additional County general funds. There are both advantages and drawbacks to each funding option which will need to be weighed by the County before deciding how to proceed.



Section 11 Appendix

MIAMI-DADE COUNTY

APPENDIX

A.1 FDOT CORRESPONDANCE LETTERS

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

1000 NW 111th Avenue
Miami, Florida 33172

STEPHANIE C. KOPELOUSOS
SECRETARY

May 20, 2009

Mr. Harpal S. Kapoor, Director
Miami-Dade Transit
701 NW 1st Court, Suite 1700
Miami, Florida 33136-3924

RE: 2009 Transit Development Plan (2010- 2019) Update / FM # 4177391

Dear Mr. Kapoor:

This is in response to your letter dated May 11, 2009 in which you requested approval of the Miami-Dade/Broward model in lieu of FDOT recommended Transit Boardings Estimation and Simulation Tool (TBEST) for use in developing the 2009 Transit Development Plan (2010- 2019) Major Update. Your agency has made a compelling case for the use of the Dade/Broward model. Your request to use the Miami-Dade model for Transit Development Plan purposes is approved.

Should you have any questions or need additional information, please call me at (305) 470-5137.

Sincerely,

L. Carl Filer, Jr., P.E.
Public Transportation Manager

cc: Alice Bravo, P.E.
Ed Carson
Ed Coven
Susanna Guzman-Arean, MDT
Maria Batista, MDT

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

1000 NW 111th Avenue
Miami, Florida 33172

STEPHANIE C. KOPELOUSOS
SECRETARY

June 3, 2009

Mr. Harpal S. Kapoor, Director
Miami-Dade Transit
701 NW 1st Court, Suite 1700
Miami, Florida 33136-3924

RE: 2009 Transit Development Plan (2010- 2019) Update / FM # 4177391

Dear Mr. Kapoor:

This is in response to your letter dated May 26, 2009 in which you requested an extension of time for submitting the required 2009 Transit Development Plan (2010- 2019) Major Update. As stated in your letter, Miami-Dade Transit will need additional time to complete a comprehensive plan that will meet the requirements of Rule Chapter 14-73 Florida Administrative Code. Your letter adequately provides documentation of the extenuating circumstances that were beyond MDT's control that necessitated this request for a late filed TDP. The Department therefore approves your request to submit your TDP following its anticipated approval on November 3, 2009 by the Board of County Commissioners.

As stated in my letter dated May 20, 2009, the Department desires to work cooperatively with MDT to ensure that the requirements of the Rule are met. We are willing to participate in the technical committee for the development of the TDP. This will provide for most of the Department's comments to be provided as part of the plan development. The proposed schedule would provide for the TDP submission to the TIRC on October 14, 2009 and BCC on November 3, 2009. We would appreciate receiving a copy of the adopted 2009 Transit Development Plan as soon after the BCC as possible to make sure that we have adequate time to review the document to ensure that any deficiencies can be identified and corrected prior to December 31, 2009.

Should you have any questions or need additional information, please call me at (305) 470-5137.

Sincerely,

L. Carl Filer, Jr., P.E.
Public Transportation Manager

cc: Alice Bravo, P.E.
Ed Carson
Ed Coven
Susanna Guzman-Arean, MDT
Maria Batista, MDT

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

1000 NW 111th Avenue
Miami, Florida 33172

STEPHANIE C. KOPELOUSOS
SECRETARY

August 11, 2009

Mr. Harpal S. Kapoor, Director
Miami-Dade Transit (MDT)
701 NW First Court Suite 1700
Miami, FL 33136

RE: Transit Development Plan (TDP)-Public Involvement Process--FM 4177391/2

Dear Mr. Kapoor:

The Department has reviewed your letter of August 7, 2009 regarding MDT's Public Involvement process for the 2009 TDP Major Update.

The Department agrees that:

(1) MDT may use the Miami-Dade MPO Public Involvement Plan (MPO PIP) to satisfy the public involvement requirements of Rule 14-73, FAC, with the understanding that a stand-alone TDP PIP will be developed for next year's TDP update; (2) The twelve previously-held LRTP public meetings count as TDP outreach events; and (3) The November 2008 Transit Summit regarding the People's Transportation Plan (Half Cent Sales Tax), the Metrorail Survey & 311 Feedback, and the advertising & posting of the TDP on MDT's website are significant sources for obtaining public input on transit plans and services.

However, the Department requests that MDT obtain additional public input on the TDP by presenting the document to the Citizens' Transportation Advisory Committee (CTAC). This will give the public an opportunity to review the entire updated TDP (including its mission, goals, objectives, and alternatives) as a separate item from the LRTP prior to consideration by the BCC or its TIRC subcommittee. MDT must also solicit comments on the TDP from the South Florida Workforce Investment Board. We believe that these efforts will ensure that the public involvement requirements in the rule are met in letter and spirit.

Thank you for your attention to this important element of your transit planning activities. We look forward to working with you in successfully concluding this TDP preparation cycle.

Sincerely,

for L. Carl Filer, P.E., Manager
Public Transportation Office, District Six

LCF/ec/mdttdppip

Cc: Alice Bravo, P.E. FDOT; Susanna Guzman-Arean, MDT; Clinton Forbes, MDT; Maria Batista, MDT; Ed Coven, FDOT; Diane Quigley, FDOT

A.2 2035 Long Range Transportation Plan Public Meeting Comments

LRTP Public Meeting Comments July 15, 2008								
First	Last	Address	City	State	Zip	Email	Comment	Language
Dexter	Bogle	12220 SW 191 Terrace	Miami	FL	33177		It would be nice to have a bus or shuttle that would take riders from the SW to Miami International Airport.	
Yvonne	Bogle	12220 SW 191 Terrace	Miami	FL	33177		Extend Metrorail to both the Miami International Airport and Fort Lauderdale Airport.	
Alejandro	Bravo	10346 SW 212 Street, #2	Cutler Bay	FL	33189		I envision transportation costing the $2.00 that has been asked of voters. The roads will be full of litter on every mile. The frequency of buses and the Metrorail will be every 2 hours and they will stink of urine even worse than they do now. Meanwhile, old people will be blasted by the sun while they wait at	Spanish
Rosalba	Campos	6340 Lake Genea Road	Miami Lakes	FL	33014		We need more Metrorail and buses in Miami.	Spanish
Irene	Ciemierek						A bus stop needs to be placed on SW 98 Street which would help people living along SW 77 Avenue.	English
Angie M.	Cooper	3597 Franklin Avenue	Miami	FL	33133		Metrorail should extend to Homestead and Hollywood.	English
Jenny	James	8848 SW 72 Street, Apt H253	Miami	FL	33173		Please extend the Metrorail west.	English
Kerrick	Johnson	2500 NW 164 Street	Miami	FL	33054	homealone305@comcast.net	It would be nice to have a System and Services that would Access the City in Minutes! 24 Hours a day 7 days a week AIRPORT, MALLS AND BEACH . High Traffic work areas!!	English
Judy	Johnson	19401 NE 1 Avenue	Miami	FL	33179	jrjlcj@gmail.com	Is rapid transit ever going to find its way to North Dade County? The area of 441 to County Line Road?	English
Willie	Jones	1238 NW 65 Street	Miami	FL	33147		We need a bus bench on NW 62 Street and NW 13 Avenue. I am handicap.	English
Mac	McGregee	105 SE 12 Avenue	Deedco Gardens	FL	33030		I would like to see a bus connection to US1 from SW 162 Avenue to connect to Route 35.	English
Elda	Miranda	8960 SW 4 Lane	Miami	FL	33174		We need a subway that serves the entire County. This system should have stops at least every 2 miles and it should be extended to the suburbs.	Spanish
Phyllis	Prevost	20505 E. Country Club Drive, #438	Aventura	FL	33180		I would like to see the green bus run on Sunday.	English
P.	Riquelme	143 84 SW 96 Lane	Miami	FL	33186	parboriq@yahoo.com	Kendall Drive needs to take heed to US1 and build a rail system next to it to relieve that traffic.	English
Elda	Rodríguez	10160 NW 19 Avenue, #304	Miami	FL	33147		We live in a new development. It's called S. Vincent of Paul Gardens. We are seniors and retirees and we have no public transportation; to get out we have to walk until we get to N.W. 103 ST and 22 AVE. to be able to catch a bus. We need Transport to reach 103rd AVE and 19th AVE. This area is a little dangerous to walk in and we're afraid	Spanish
C.	Rosado	500 Forrest Drive	Miami Springs	FL	33166		My transportation idea is to provide TV with recording of news updates and tourist information at train and bus stations.	English
Carlos J.	Ruiz	3572 SW 13 Terrace	Miami	FL	33145	coyaba@msn.com	Charge low transit fares to get more ridership, then increase the fare once ridership goes up.	Spanish

LRTP Public Meeting Comments July 15, 2008								
Patricia	Samudio	210 174 Street, #401	Miami	FL	33160	sam.patzo@yahoo.com	Educate public bus drivers to respect speed limits and traffic signals, they drive like maniacs, they don't respect anything and believe themselves to be the owners of the roads; if we started doing this our streets would be safe.	Spanish
Sylvia	Santos	3500 Coral Way, #1111	Miami	FL	33145		I would like to see our transit system extend to 24 hours.	English
Melissa	Strurgis	5300 NW 26 Avenue, #28	Miami	FL	33142		Need more buses in the Overtown, Liberty City, and Brownsville area, because of the elderly people and for those who use the bus to go everywhere.	English
Marysol	Torres	8540 SW 133 Avenue, #414	Miami	FL	33183		I catch two buses from South Miami to the airport and it takes me 2 hours to get there and 2 hours to get back home. Please do something. Thanks.	English
Richard	Verlara	1200 NE Miami Gardens Drive, #517W	North Miami Beach	FL	33179		I need the Route H to go to the beach...from Miami Gardens Drive and NW 15 Avenue in front of the Walgreens.	English
Naima	De Pinedo					ndepinedo@hotmail.com	Firstly, I have tried on several occasions out of necessity to use Miami-Dade Public Transit and have given up due to lack of service routes and length of time required to get from point A to point B. For example I live at 17th Terr and 19th Ave in Shenandoah and I work at the City of Miami Beach. In order for me to travel 10+/- miles (one way) by public transit during rush hour, it would take me between 1.5 and 2 hours. That is 3-4 hours daily of my time that I can't afford to spend on transportation. This is mainly because there are not enough connections from bus routes to Metrorail stations nor frequency in bus routes. Some bus routes require a 15-20 minute wait time between each bus and that is even before you get on the bus. Secondly the level of service provided by the transit website is not satisfactory. I have used the Trip Planner feature to find the best possible route, none of the routes that came up in the search included the Vizcaya Metrorail station which is closest to my home. The routes that came up were all bus routes which would have taken me in a Northwest direction before going back down south adding an additional 30 minutes to the trip. There was	English

LRTP Public Meeting Comments July 15, 2008								
Antonio	Torres					ata_cs@msn.com	I propose the following:1.- Why is the train route not like a spinal column that links the North with the South? 2.- Why do buses called MAX or Express have to enter malls like Aventura, for example, when it would be a good idea to have them end at the northern area of the county in Hallandale. 3.- It's mind-blowing that route 3 always ends at Aventura and then takes the same route 3 to go to Hallandale (if this route were shortened it should be serviced with smaller buses which could circulate constantly and this would improve things a lot). 4.- Counties have small buses which do know the users transit patterns. Ex: the one in Miami Beach is free and services all the malls in this city.	Spanish

LRTP Public Meeting Comments
August 22, 2008

First	Last	Address	City	State	Zip	Email	Comment	Language
Marlene	Arribas	20630 N. Miami Avenue	Miami Gardens	FL	33169	hispacol@aol.com#	Provide more accessible mass transit.	
Ilona	Bendix	4725 Riviera Drive	Coral Gables	FL	33146	ilongwmonteiro@hotmail.com	Affordable public transportation is highly necessary in the County.	
Ossie Mae	Conley	300 NE 191 Street, #215	N. Miami Beach	FL	33179		Metrorail should connect Miami-Dade and Broward Counties.	
Joseph	Cook	1831 NW 170 Street	Miami Gardens	FL	33056	cookusmce6@hotmail.com	Metrorail should come North as promised to the community over 20 years ago. Miami-Dade government should keep its promise to the citizens or give the money back to the district.	
Yami	Diaz	2496 SW 17 Avenue, #5106	Miami	FL	33145	yamifrommiami@hotmail.com	Provide Metrorail from Homestead to downtown Miami.	
S.	Euribe					seuribe@aol.com	Need to improve Metrorail and bus schedule from Kendall to Doral and from Kendall to Miami Beach.	
Sharon	Frazier-Stephens	145 NE 193rd Street	Miami	FL	33179		We need more focus on the North Corridor of the Metrorail connecting North Dade and Broward.	
Wayne	Garnsey	11470 NW 35 Street	Sunrise	FL	33329	wgarnsey@aol.com	It takes me 2 hours or more each direction to travel to and from work. Can't the 2 Counties get together and set up a mass transit system that runs 24/7?	
Robert	Hupf	6821 SW 72 Street	Miami	FL	33143		I would like to see more availability of mass transit with WIFI access.	
Charles	Johnson	8390 NW 18th Avenue	Miami	FL	33147	sleuths4@aol.com	Complete the North Corridor Metrorail first.	
Gerald	Lieonart	6605 SW 95 Court	Miami	FL	33173	llwonart@nova.edu	We need to have better mass transit from Kendall Drive to NW 36 Street in Doral.	
Norman S.	Lightbourn	2749 NW 167 Terrace	Miami Gardens	FL	33056		Transit-bus manufacturers should be relocated to Miami-Dade to create jobs/employment.	
Margarita	Maxers	3239 West Trade Avenue, #7	Miami	FL	33133	mmaxera@hotmail.com	We need more buses in different areas and provide them more frequently.	
Hilda	Mitrani	20370 NE 22 Place	Miami	FL	33180		Metrorail must be extended north as promised.	
Lorna	Nones	470 NW 32 Avenue	Miami	FL	33125	lnones@hotmail.com	Put more bus routes or more frequent buses in the Central/NW area-NW 7th Street for example. Need more and better bus stop shelters like those in Miami Beach and South Miami.	
Ernesto	Pino	2800 SW 72 Avenue	Coral Gables	FL	33133	epino@coralgables.com	Implement transit routes from the south part of County to the central area to bring people to where jobs are.	
Rachel	Rao	20630 North Miami Avenue	Miami	FL	33169	vasantha@bellsouth.net	We should have had the North Corridor done long ago. The County failed the people again. They promised to put the North Corridor as 1st priority and didn't deliver. They failed to ignore what they already knew- a large debt. How can we be assured Miami-Dade will not fail us again? The bus system/public transit need improvements, more frequent going to neighborhoods, and they should not have to take 3 hours to get to place that takes 20 minutes in my car.	
Steve	Summerlin	2604 NW 107 Avenue	Sunrise	FL	33322	ssummerlin@yahoo.com	It would be nice to have rapid transit from Sunrise Blvd. to the Doral area. I drive 34 miles a day.	
Emilia	Taibe	3655 NW 87 Street	Miami	FL	33178		We need mass transit to Doral from NW 7 Street and NW 27 Avenue. Please hurry before I retire.	
Mario	Varas	P.O. Box 420763	Miami	FL	33242		I was attempting to cross Biscayne Blvd from NW 36 Street after 4pm and it is almost impossible. The situation will be worse when the condos and stores at NW 36 Street and NW 2nd Avenue are built. Here is my suggestion: Make an outlet from the condos to NW 2 Avenue to avoid them going thru NW 36 Street. Move the bus stop at NW 36 Street and Biscayne Blvd. going east to the east as mush as possible. When the bus stops, since the road is one lane all the traffic blocks Biscayne Blvd.	
Collin	Worth	210 SW 11th Street, #6005	Miami	FL	33130	Collin.worth@gmail.com	More transit and half-cent tax only for rail lines.	

LRTP Public Meeting Comments
September 4, 2008

First	Last	Address	City	State	Zip	Email	Comment	Language
Lafayette	Adams	3465 NW 176 Terrace	Miami	FL	33056		I would like to see transit system go from Miami Gardens to Liberty City.	
Austin	Aungo	10490 SW 204 Terrace	Miami	FL	33189		I would like to see Metrorail travel to the Cutler Bay area.	
Jasmine	Brown	20902 SW 120 Place	Miami	FL	33177		The bus should come further for people who live way far in the south because they need the transportation the most.	
Shantianna	Brown	20902 SW 120 Place	Miami	FL	33177		I would like to see the Metrorail travel further south to the Homestead and Florida City areas.	
Jessie	Carneille	7333 NW 174th Court	Hialeah	FL	33015	jcorneille@yahoo.com	I think they should have more mass transit in the Miami Lakes area.	
Ann	Castellano						More focus on neighborhood developments so residents are more encouraged to stay local, walk, and use more transit. Existing roads should be improved, not expanded. We need more buses and transit lines from airports to downtown Miami, Miami Beach, and major areas.	
Joe	Corradino	4055 NW 97 Avenue	Doral	FL	33178	jmcorradino@corradino.com	Cutler Bay is completing a Transportation Master Plan which will consist of projects approved by the Town. This is being funded by the MPO. We would love to submit as our public involvement plan for the LRTP. Build transit where ridership warrants; build incrementally beginning w/ BRT then enhance as ridership grows. Provide real BRT on South Dade Busway by providing signal priority for buses and park and ride locations.	
Thomas B.	Davis	413 NW 19 Street	Homestead	FL	33030	td349@bellsouth.net	The South Dade Busway is great. Supervisors should be used to patrol the Busway along with the police.	
Oscar	Diaz	12470 SW 104 Terrace	Miami	FL	33186		Route #35 is working well. It comes on time and I never have a problem.	
Pedro	Gotay	973 NE 35 Avenue	Homestead	FL	33033		Metrorail needs to run along Kendall Drive.	
Karon	Grunwell	26200 SW 187 Avenue	Redland	FL	33031	karon.P.grunwell@usps.gov	Metrorail does not go where the people need to go. Until the gas prices went up buses were empty. Buses need to spread out along the route not bunch up.	
Thomas S.	Harris	15844 SW 285 Street	Homestead	FL	33033	lpswitch@bellsouth.net	I would like to see Metrorail be built along the South Dade Busway. I would also like to see another lane added along US-1.	
Deja	Lotiff	22882 SW 113th Court	Miami	FL	33170	dejalotiff@yahoo.com	The buses are too slow and some bus drivers are rude and nasty.	
Tamara	Montgomery	10359 SW 216 Street	Miami	FL	33190	tmontgomery73@yahoo.com	We need mass transit in Miami-Dade County. Gas prices are really high, so we need some relief by adding mass transit.	
Carlos	Quintero	6765 NW 169 Street	Miami	FL	33015	wolf1989cja@hotmail.com	I am upset that transit from Miami to Pembroke Pines was discontinued. I think I speak for a great majority that it is taxing or bothering that this choice was made.	
Luis I.	Ramirez	2500 Flamingo Road	Miami Beach	FL	33140		We would like to see more grid style connections for the Metrobus and Metrorail. We need a bus line from Miami Beach to MIA.	
Valerie	Robinson	17111 NW 16 Avenue	Miami	FL	33169		We need more mass transit from North Dade to Downtown Miami. Expand the Metrorail system!	
Linda	Rosenberg						Please consider spending the money on good, fast, efficient, affordable mass transportation. Housekeepers, nannies, and other low-unskilled workers can't easily get to the Beach.	
Linda	Rosenberg	2845 Prairie Avenue	Miami Beach	FL	33139		Please consider spending the money on good, fast, efficient, affordable mass transportation. Housekeepers, nannies, and other low-unskilled workers can't easily get to the Beach.	
Gary	Rosenberg	1655 Drexel Avenue	Miami Beach	FL	33139	pdrgary@gmar.com	Provide parking lots along the South Dade Busway (SW 160 Street especially); increase transportation to lower income areas.	
Maria	Stevens	18005 SW 175 Street	Miami	FL	33187		Please consider having transportation meetings from Eureka Dr/Krome to US 1. Please give us transit ASAP.	
Sheri	Stevens	18005 SW 175th Street	Miami	FL	33187		I would like to see a great amount of transit from Krome Avenue to US-1, Eureka Drive, 216th Street, and 186th Street. We must have an easier way of getting around.	

LRTP Public Meeting Comments September 4, 2008								
Julio A.	Suri	20520 SW 82 Avenue	Miami	FL	33189		Expand Metrorail to Homestead.	
Christine	Wang	P.O. Box 398083	Miami	FL	33239	cwang2007@yahoo.com	Direct a bus to Wynwood and the design district from South Beach; direct a bus to Fairchild Tropical Gardens from South Beach and key attractions.	
Margaret	Waters	9445 Nassau Drive	Miami	FL	33185	waterse@miamidade.gov	The Busway is good, but we are outgrowing its usefulness. Extend the Metrorail further south.	

LRTP Public Meeting Comments October 30, 2008								
First	Last	Address	City	State	Zip	Email	Comment	Language
William		1121 SE 13 Terrace	Homestead	FL	33038		The Busway has improved the ease of traveling up to Kendall and Metrorail.	English
Yamile	Armas	28127 SW 143 Court	Homestead	FL	33033		We really need a bus shelter in front of Baptist Hospital. Many patients leave the hospital and have to stand in the rain and sun.	English
Yanira	Beltran						Would like to see some type of transit from Krome Avenue and SW 200 Street to Campbell Drive (Baptist Hospital).	English
Latonya	Brooks	660 NW 177 Street, #111	Miami	FL	33169		More buses need to be added for the 95 Express from 5 am to 7am.	English
Johanna	Chaparro	1625 SE 20 Place	Homestead	FL	33035	Pamcja@hotmail.com	I support Metrorail extending into Florida City.	English
Larry	Charlemayne						The County should let the bus system go private.	English
Marina	Ciccazzo	18798 SW 293 Terrace	Homestead	FL	33030	marina.ciccazzo@vitas.com	I would like the Metrorail to be extended south (Homestead).	English
Lynne	Cohen	7955 SW 110 Street	Miami	FL	33156		More compact parking is needed at the Metrorail Stations. There also needs to be a discount for compact cars. Also enforce that smaller cars are using the impact car parking spots.	English
Gary	Collins	499 NW 3 Avenue	Deerfield Beach	FL	33441		Can Route 136 be extended one more block from SW 142 Avenue to SW 147 Avenue?	English
Julie	David	1935 SE 17 Court	Homestead	FL	33035	david5753@bellsouth.net	There is a need for more bus routes to service communities on the east side of Campbell Drive who want to get to Homestead Hospital.	English
Katherine	Echanique	13419 SW 115 Place	Miami	FL	33176		Please don't cancel route 136. Employees at the Beckman institution use the route.	English
Barbara	Erath	16330 SW 284 Street	Homestead	FL	33033		I would like to see Metrorail extend to Florida City.	English
Carlos	Flores	21223 SW 89 Court	Cutler Bay	FL	33189		I would like to see routes 35 and 70 extend their hours to the Homestead Hospital.	English
Alice	Florin	2401 North Bay Road	Miami Beach	FL	33140		I would like to see more transit links from Miami Beach to the airport.	English
Shakevia	Johnson	641 NW 7 Street	Florida City	FL	33034	mskevia2002@msn.com	I am in full support of see the Metrorail extending to Florida City.	English
Loretta C.	Lyall						Miami needs more buses and trains.	English
Olga	Machanic					olga.machanic@vitas.com	The bus stop on SW 200 Street/Caribbean Blvd going south needs to be moved in front of the Park & Ride. It is dangerous to cross the street.	English
Vonda	McCoy	9501 SW 190 Street	Miami	FL	33157	vondamc@baptisthealth.ne	Would like to see an extension of Metrorail down south.	English
Carol	Parramore	11800 SW 147 Avenue	Miami	FL	33138	carol.parramore@coulter.com	It would be great if the employees had access to the Killian KAT. The walk is to far from SW 104 Street to SW 118 Street. I would like to see route 136 run directly in front of the Beckman Coulter building at 11800 SW 147 Avenue.	English
Hether	Peat	11311 SW 200 Street, #D313	Miami	FL	33157	peatylove28@yahoo.com	We need more 38 and 34 buses to run frequently.	English
Rosemary	Ramos	10300 NW 30 Court, #204	Sunrise	FL	33322	rosemarc1@yahoo.com	Park and Rides should be at major malls, arenas, and stadiums.	English
Peter	Ranger						Route A, east and west bound, are consistently different than the published time table. I catch the bus at 7am going east and then at 6 pm going west and it is never on time.	Spanish
Lyloni	Santiago	1550 N. Miami Avenue	Miami	FL	33136		A bus shelter is needed at NW 60 Street and NW 2 Avenue. Route 62, 9, and 10 should be running every 15 mins. The current ridership is overcrowded.	English
Charlotte	Tison	2233 SE 26 Lane	Homestead	FL	33035		I would like to see Metrorail extend to Florida City.	English
Cordelia	West	304 NW 3 Street	Florida City	FL	33034		I support the Metrorail extending to Homestead.	English

LRTP Public Meeting Comments October 30, 2008								
John	Whitt						Mass transit from west Broward to downtown Miami is currently too difficult and time consuming to travel to from west Broward.	English

A.3 Miami-Dade Transit Service Standards

Service Standards

Miami-Dade Transit
Service Planning & Scheduling
701 NW First Court
Miami, FL 33136
www.miamidade.gov/transit

Rev 9/29/09

PURPOSE

This document formalizes Miami-Dade Transit's (MDT) service standards, the framework for guiding the decisions on which services are created and evaluated. This framework is applied to best serve the citizens' varied travel needs, as well as achieve our mission of providing the highest possible quality service within the available budgetary resources. MDT's service standards provide consistent and fair evaluation of both existing and proposed services. MDT service standards follow procedures published by the Transportation Research Board's Transit Cooperative Research Program (TCRP) of the National Academies.

These service standards are intended to support the goals and objectives of Miami-Dade County. The objectives and the resources available to attain them can be expected to change over time. Therefore, these service standards will be revised periodically to reflect those changes. Previous period experience as well as changes in Miami-Dade County's goals and objectives, will be used to determine whether any standards can be added or revised.

The overall mission of MDT is "*to meet the needs of the public for the highest quality transit service: safe, reliable, efficient, and courteous.*" These service standards are applied to improve the efficiency of existing routes and address the needs of the community by implementing new bus service. These service changes and implementation must meet the required standards.

The relationship between MDT's Service Standards and the agency budget is dynamic. The level of service MDT provides to patrons has a direct impact on the operating and capital budgets. In turn, service standards affect the amount of service delivered, and the amount of service to be provided within the bounds of existing financial resources. Balancing transit needs and budget constraints is very challenging, and adjustments are required between the costs and benefits of providing transit service.

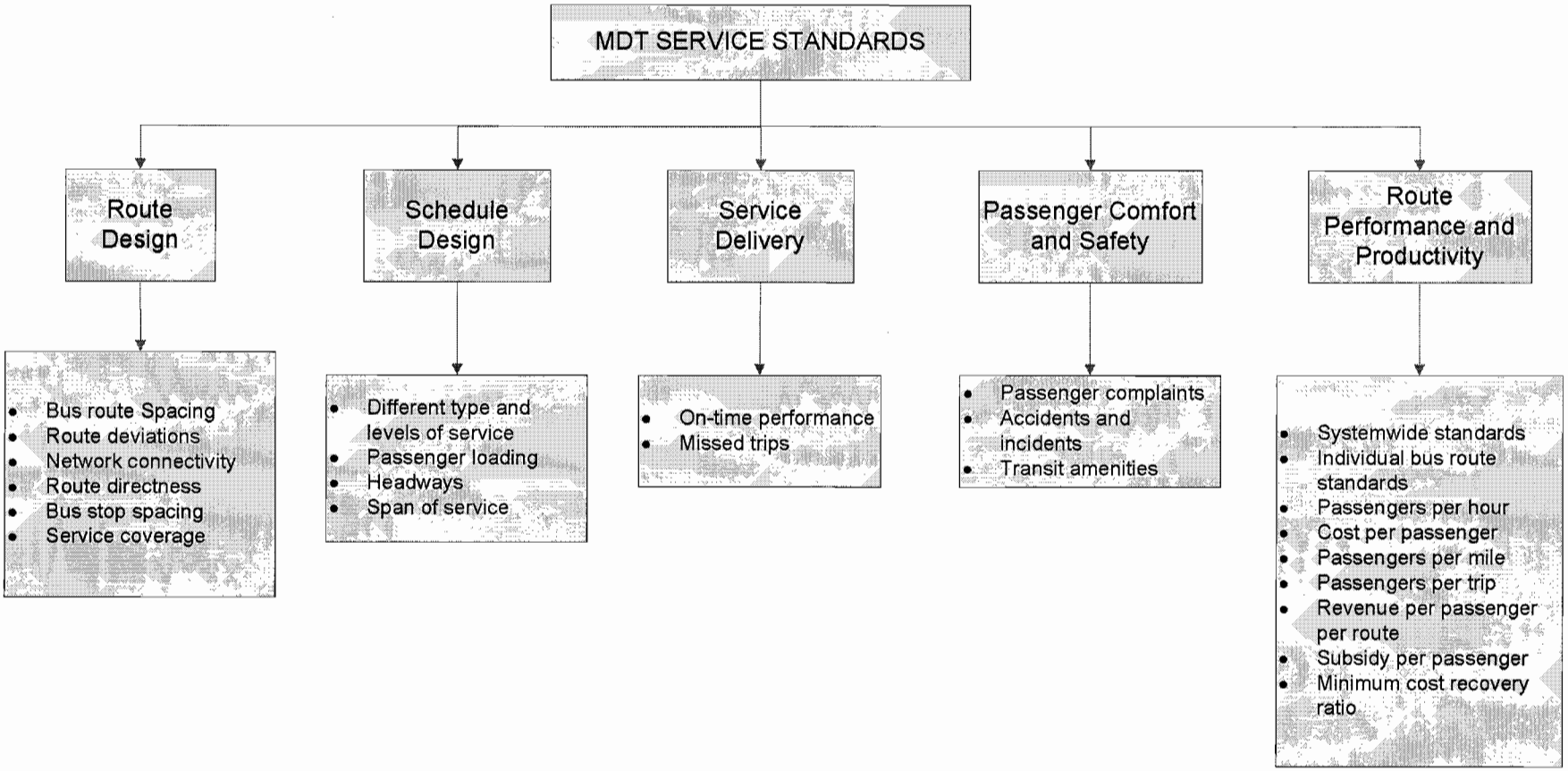
The application of service standards leads to a fair, equitable, and objective comparison of all requests and proposals generated from the general public, elected officials, and

MDT staff. These service standards are maintained and applied to be consistent in the evaluation of service proposals and to ensure that the service being provided represents the most cost-effective use of the Miami-Dade County's resources. MDT service standards establish minimum, maximum, and recommended levels of service. The purpose of MDT's standards is to identify routes which are most in need of service changes, such as restructuring to eliminate lower-productivity segments or branches, adjusting service frequency to better reflect the demand for service, or providing additional promotion of less patronized routes. Routes which do not meet MDT standards are not automatically selected for elimination. Decisions to eliminate a route is only intended as a last resort, when it has been determined that no cost-effective actions are available to improve the productivity of the route. There are two primary applications for the ongoing use of the service standards:

1. The use of standards to evaluate existing services, and
2. Use of standards to evaluate proposals for new service

The service planning process considers four major divisions within Miami-Dade Transit: Metrobus, Metrorail, Metromover, and Special Transportation Services (STS). Metrobus standards include information on the design and redesign of routes and schedules, and a process for route performance evaluation. For Metrorail, service schedule design standards are the only guiding factors since the route follows a set alignment. The operating plan forms the basis for the Metromover service standards. Finally, Special Transportation Services standards include performance and productivity Demand-Response.

The numerical values of these service standards will be evaluated yearly, using the most recent twelve-month period for which data is available. The evaluation compares the current values of productivity standards versus those from the previous year. Operating cost data for the previous year is examined to account for system-wide increases or decreases in expenditures.


MDT SERVICE STANDARDS
Route Design
Schedule Design
Service Delivery
Passenger Comfort and Safety
Route Performance and Productivity
• Bus route Spacing
• Route deviations
• Network connectivity
• Route directness
• Bus stop spacing
• Service coverage
• Different type and levels of service
• Passenger loading
• Headways
• Span of service
• On-time performance
• Missed trips
• Passenger complaints
• Accidents and incidents
• Transit amenities
• Systemwide standards
• Individual bus route standards
• Passengers per hour
• Cost per passenger
• Passengers per mile
• Passengers per trip
• Revenue per passenger per route
• Subsidy per passenger
• Minimum cost recovery ratio

SERVICE PLANNING PROCESS

MDT's service planning process starts by using its service standards to evaluate current service. Many planning and design elements are taken into account when considering a service change. MDT's service changes address issues of route efficiency, cost effectiveness, operational feasibility, and the availability of resources.

MDT applies its service standards to:

- Improve route productivity while keeping customer impact to a minimum
- Assure that service is provided in a fair, consistent, and equitable manner, considering transit-dependent areas / regions
- Provide a baseline for service planning of bus route alignments, and scheduling frequencies for all transit modes

Data collected on MDT service is compared against the service standards to determine whether or not existing services perform at acceptable levels. Remedial action plans are developed to bring the service up to standards, when they are not acceptable. Ridership data is collected using Automatic Passenger Counters (APC), and via manual ride checks. As part of the process this data is evaluated to perform the following remedial actions:

- Enhance/Reduce per-route service span
- Increase/Decrease frequency
- Modify/Eliminate duplicative service
- Modify/Eliminate low ridership route segments
- Modify/Eliminate weekend service (Saturday, Sunday or both)
- Modify/Eliminate off-peak service
- Modify/Eliminate low productivity trips
- Market/Promote low ridership routes

The service planning process identifies and documents service deficiencies. If continued remedial actions cannot bring a service up to MDT's service standards, it may be an indication of changes in demand or travel patterns. Reallocating the resources may be the only alternative to resolve such service deficiencies.

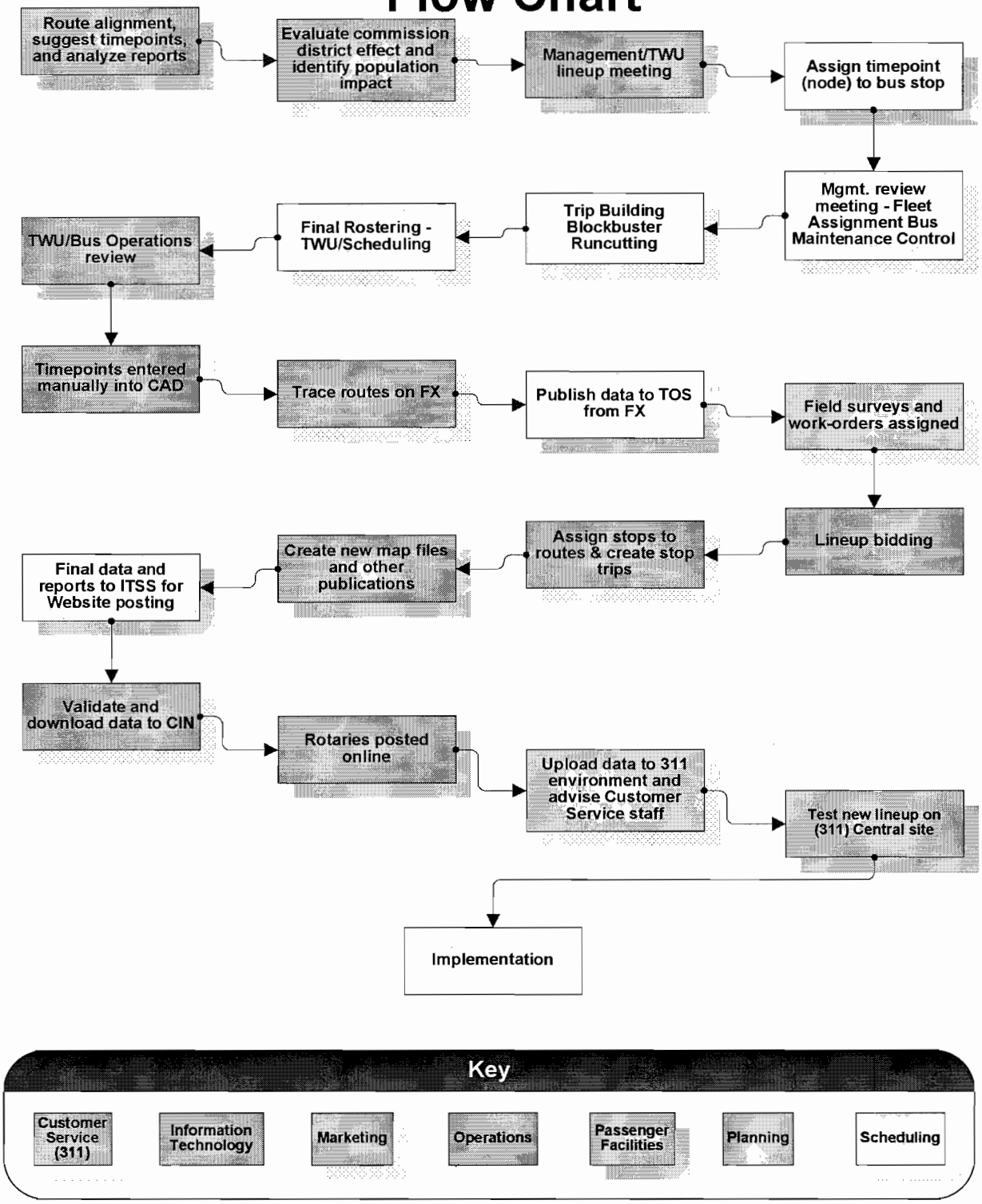
MDT continuously evaluates the performance of its services, analyzing data and developing recommendations for service changes as justified through the use of service delivery standards. Applying a service standard process assures that available resources are deployed in the most effective manner. Although the service routes and schedules are evaluated continuously, major service changes are implemented in June or November of each calendar year, per the Collective Bargaining Agreement with the Transport Workers Union.

Minor recommended changes to service, as defined by Section 2-150 of the County Code, can be implemented as required with the approval of the Administration. Minor changes are defined as modifications affecting less than a quarter (25%) of a route. Major recommended changes, those above the 25% threshold, require approval by the Board of County Commissioners after a public hearing.

The service planning process targets only short-range plans, which are six to eight months into the future. Long-range plans, such as the Transportation Improvement Program (TIP), the Transit Development Plan (TDP), and the Long-Range Transportation Plan (LRTP), are incorporated into the short-range planning process in order to align long-term visions with short-term goals.

MDT works towards the implementation of route and scheduling service changes with input and collaboration from other divisions within the department. These divisions assist in the planning, scheduling, and implementation of the various modes of transit service. Each division works as a team to plan design and deliver optimal transit services to its community.

Planning & Scheduling Flow Chart



SERVICE COVERAGE

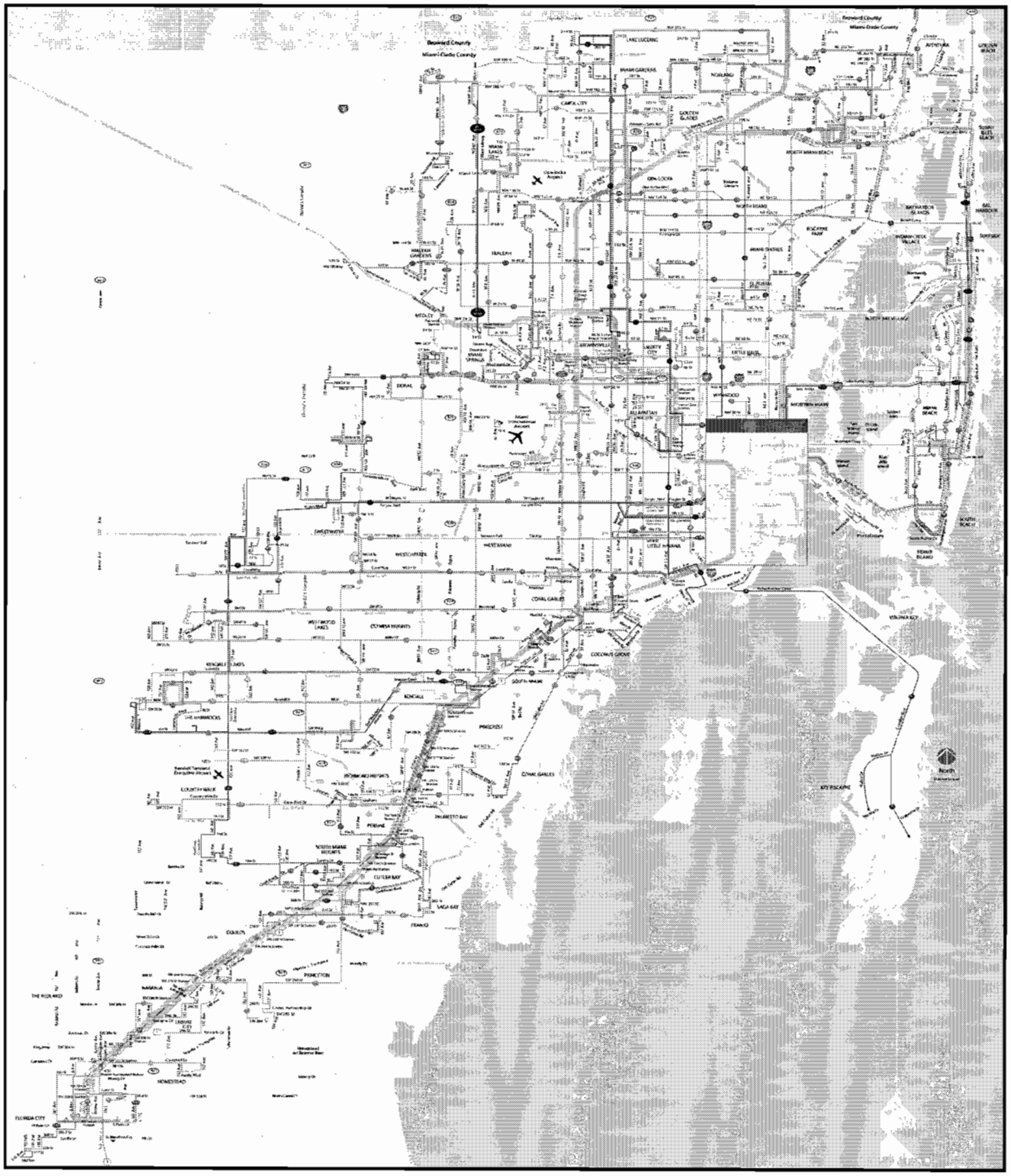
Miami-Dade County's policy establishes that ninety percent (90%) of the County population within the Urban Development Boundary (UDB) shall be provided with transit service. The Mass Transit sub-element of the Comprehensive Development Master Plan (October 2006 edition) adopted by Miami-Dade County establishes the following minimum service levels:

> *The minimum peak-hour mass transit level of service shall be that all areas within the Urban Development Boundary (UDB) of the Land Use Plan which have a combined population and work force of 10,000 persons per square mile shall be provided with public transit having a minimum headway of 30 minutes and average route spacing of one mile provided that:*
>
> *The average combined population and employment density along the corridor between the existing network and the area of expansion exceeds 4,000 persons per square mile, and the corridor is 0.25 miles on either side of any necessary new routes or route extensions to the area of expansion.*
> *Areas with lower density will be provided with lower-frequency peak only bus service, or have access to park-and-ride lots within 15 miles*

Service will be provided along major arterials at a route spacing of one mile and one-half mile space for the urban core. The urban core or "the mainland" is defined as, inclusive of NW/NE 79 Street on the north, NW/SW 42 Avenue (Le Jeune Road) on the west, Coral Way on the south and Biscayne Bay on the east, including the area south of 96 Street on Miami Beach.

Geographic coverage may not always be achieved due to constraints such as street network restrictions, or the infeasibility of modifying existing routes without negatively affecting their overall performance. In some cases, it may not be economically feasible to implement and/or modify service coverage. Careful consideration is exercised when such cases arise.

Miami-Dade Transit's Coverage Area



ROUTE DESIGN

MDT uses route design standards to design or redesign of a pathway on which a bus route operates. The factors considered in developing or modifying a route include service area characteristics (population, employment, transit-dependency), route type (express, limited, local), route spacing, travel directness, bus stop spacing, and bus stop amenities.

Bus Service Type

Trunk Routes

MDT designs local trunk bus service in Miami-Dade County to collect and distribute high-turnover ridership along developed arterials radiating to and from the area commonly referred to as the Miami Central Business District (CBD). This service is characterized by frequent stops, short passenger trips, and slow average bus speeds.

Feeder Routes

MDT uses local feeder routes mainly to link trunk routes, though many feeders also serve high density corridors with internal travel markets. This type of service provides travel opportunities linking the feeder routes with other local bus service provided by municipalities, and/or Metrorail and/or Metromover stations. MDT feeder routes also include those which do not directly enter the Miami CBD.

Circulator

MDT uses a circulator, or shuttle bus, for a short route connecting two transportation centers, or as a feeder to another service. For MDT, these routes include the Tri-Rail commuter rail stations in Miami-Dade County, and short area-specific routes.

Limited

MDT uses limited-stop service to serve a limited number of specific bus stops along a route. The MAX routes serve stops at major transfer points or approximately every one-half mile (in the system core and CBD) to one mile (in the non-urban or suburban areas) along the route. Similarly, the KAT routes in the Kendall area also operate as limited routes. This type of route has characteristics of both express and local service. With

fewer stops, the limited routes have significantly increased operating speeds when compared to local service.

Busway

MDT's South Miami-Dade Busway is an exclusive, dedicated two-lane corridor dedicated solely for bus service along U.S. 1 from SW 344th St in South Miami-Dade to the Metrorail Station at Dadeland South. The Busway has bus stop stations along the corridor, with preferential signal phasing provided for the buses at each intersection. Several bus routes currently operate on the Busway. Most of these routes are considered limited-stop service, or have portions that offer limited service, due to the nature of the Busway service and the number of stops.

Express

MDT uses express service as service that has fewer stops and operates at a higher speed than local service. Express routes serve outlying areas (serving designated park-and-ride lots or shopping centers), some with direct service to the CBD. They usually operate along a freeway or major arterial road to increase the operating speed. Currently, only the 95 Express operates along a freeway as an express bus service in Miami-Dade County from the Golden Glades Park-and-Ride lot. The Busway Flyer also operates as an express bus route.

Special Transportation Service (STS)

MDT has STS available for people with disabilities who cannot ride Metrobus, Metrorail, or Metromover. STS offers shared-ride, door-to-door travel in accessible vehicles throughout most of Miami-Dade County, in some parts of South Broward County, and in Monroe County Upper to Middle Keys. STS operates 24 hours a day, seven days a week, including most holidays. STS is used for trips to medical appointments, school, work, shopping, business, or recreation. Air-conditioned minivans, small buses, lift-equipped vans, and sedans transport passengers with disabilities safely in a clean, smoke-free environment.

Bus Route Spacing

The average distance between parallel routes is referred to as route spacing. A high level of accessibility enhances the attractiveness of transit. As such, MDT service is designed to provide all segments of the population with reasonable access from residential areas to areas of employment and essential services. A strong measure of accessibility is the distance between transit routes. A trade-off must be made between an acceptable walking distance and the frequency of service provided in these areas. Nonetheless, it may be necessary to duplicate service where routes merge such as at a Metrorail station, shopping center, or in the Central Business District.

Factors affecting route spacing include geographical conditions, population concentrations, and trip generators and attractors. MDT's standard is to provide service along major arterials at a spacing of one mile; with one-half mile in the urban core, where densities and transit dependency are typically high.

During late night and overnight hours, route spacing will be based on demand along major travel arterials.

Development Characteristics	Distance between Routes *
Urban core	1/2 mile
Suburban and Major Arterials	1 mile
Low Density (Residential/Undeveloped)	As needed

Bus Route Directness

MDT route alignments are as direct as possible to maximize average speed and minimize travel time and miles of operation. Deviations from a direct path from start to end of a route shall not exceed 125% of the direct start to end travel time of a route.

Route deviations are evaluated to determine if the total additional travel time for all through passengers does not exceed five minutes for each rider boarding or alighting along the deviation.

$$\frac{P(t) * VTT}{P(d)} \leq 5 \text{ minutes}$$

where: P(t) = number of through passengers
VTT = additional vehicle one-way travel time,
P(d) = number of passengers served by the deviation

Occasionally, it may be reasonable that MDT deviate a route to a trip generator location, such as a mall or employer site, where there is no alternative transit service to that location. When a deviation is evaluated, the total additional travel time for all through passengers shall not exceed five minutes for each rider boarding or alighting along the deviation. The decision to deviate considers the impact the deviation will have to its existing on-board customers and weigh it against the potential gains in new ridership. When considering a deviation, MDT looks at the gain in convenience to those passengers who are boarding or alighting during the deviation must be balanced against the additional travel time for the passengers traveling through to their final destination

.

Bus Stop Spacing

The spacing of bus stops has a major impact on the performance of MDT system. Bus stop spacing affects the riders' overall travel time and, as a result, the demand for transit service. In general, MDT analyses the trade-off between close stops with shorter walking distances but more frequent stops (resulting in longer bus trips for riders), and stops placed further apart with longer walking distances, but less frequent stops (resulting in shorter bus trips). When MDT evaluates locations for Metrobus stops, it is important to strike a balance among passenger convenience, effect on average speed, and safety. The spacing of stops is determined by the nature of the adjacent development. Locations of critical need, such as locations with a high population or the elderly or persons with disabilities, have modified spacing to allow for better accessibility to these patrons with special needs and limited mobility.

MDT uses the following 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

Service Type	Stops
Local	Average 5 stops per mile
Limited / Busway	1-2 stops per mile Stops at all major transfer points
Express	Closed door service for at least 50% of the total route length
Circulator	Local or as needed
STS	Door-to-door

SCHEDULE DESIGN

MDT uses criteria for schedule design to establish or re-establish the scheduled interval between buses, and the hours during which a route operates. Factors influencing frequency of boarding are the use of clock-face headways and loading guidelines.

Span of Service

The time between the first and last trip operated on a route defines the span of service. In addition, service span specifies the minimum period of time service will operate at any point in the system. This gives customers confidence that direct and connecting service will be provided during the span hours. The minimum hours of operation for Metrobus service vary by day of week and reflect the predominant peak travel flows in the regions. Evening and weekend service and their respective frequencies will be based on the estimated and actual productivity and customer demand.

Express routes operate at minimum during the peak a.m. and p.m. periods of weekday service, though demographic characteristics and work hours of the area may require a different span of service. Some routes may require only midday service due to special rider demands. The following are the MDT standards:

Scheduling Time Periods		
Peak	Morning Peak	6:00 am – 9:00 am
	Afternoon Peak	3:00 pm – 6:00 pm
Off-Peak	Early Morning	5:00 am – 6:00 am
	Midday	9:00 am – 3:00 pm
	Evening	6:00 pm – 9:00 pm
	Late Night	9:00 pm – 12:00 am
	Overnight	12:00 am – 5:00 am
	Weekend	6:00 am – 7:00 pm

Current Service Span		
Service	Weekday	Weekends
Express Service	Peak Hours Only	Peak Hours Only
Busway	24 hours*	24 hours*
Metrobus	24 hours*	24 hours*
Metrorail	5:00am – 12:00am	5:00am – 12:00am
Metromover	5:00am – 12:00am	5:00am –12:00am
STS	24 hours	24 hours

*select routes

Differing Types and Levels of Service

Metrobus Service Type	Maximum Standees
Express	0%
Busway	15%
Limited	30%
Local	45%

Passenger Loading

The intent of loading standards is to balance safety, passenger comfort and operating efficiency. The frequency of service provided on a route is at least equal to the maximum headway to accommodate changing passenger loads. MDT's vehicle load standards define acceptable passenger loads at different times of the day to help ensure acceptable levels of passenger comfort and operating efficiency. Loading standards are applied and the service is adjusted through the continuous monitoring of the performance measures.

The maximum passenger load factor for a single trip will not exceed 160%. Premium service refers to limited and express routes. Loading standards are at the maximum load point during a 30 minute interval of service. When elderly ridership exceeds 20% of the ridership of a route, the loading standard will not exceed 100%, except during the peak hours where the standard is 110%. When the standing time on a trip is of short duration (less than or equal to 10 min.) such as school trippers with low elderly ridership, the maximum load for a single trip can be 160%.

Average Maximum Loading Standards by Time Period for Bus				
Headway (min.)	Peak	Midday/Weekend	Night	Premium
1 – 15	160%	120%	110%	120%
16 – 30	130%	110%	100%	100%
31 – 60	110%	100%	100%	-NA-

The standards for Metrorail passenger loading is for normal scheduled service at the peak load point during a 30 minute interval of service. When loading standards are exceeded, additional cars are added, if possible, prior to decreasing headways.

Average Maximum Loading Standards by Time Period for Rail			
Headway (min.)	Peak	Midday/Weekend	Night
1 – 10	145%	125%	100%
11 – 30	130%	110%	100%

Average Maximum Loading Standards by Time Period for Mover			
Headway (min.)	Peak	Midday/Weekend	Night
1.5 – 3	75%	75%	75%

Headway

Headway is the interval of time between two vehicles running in the same direction on the same route.

Maximum Bus Headways

Maximum Metrobus Headway (minutes)				
Operating Period	Express	Limited	Local	Circulator
Peak	20	30	60	30
Midday	-NA-	30	60	45
Evening	-NA-	-NA-	60	60
Overnight	-NA-	-NA-	60	60
Weekends	-NA-	-NA-	60	30

Maximum Rail Headways

Maximum Metrorail Headway	
Operating Period	Headway (min.)
Peak	7.5
Midday	15
Early Evening	15
Late Evening	30
Weekend	30

Maximum Mover Headways

Maximum Metromover Headway	
Operating Period	Headway (min.)
Peak	1.5
Midday	3
Early Evening	3
Late Evening	3
Weekend	3

ROUTE PERFORMANCE AND PRODUCTIVITY

Systemwide Standards

If minimum systemwide productivity standards are not met, MDT will conduct a thorough evaluation of all routes to identify areas of opportunity to achieve improved productivity and efficiency.

Minimum Systemwide (Boardings per Hour)			
Mode	Weekday	Saturday	Sunday
Metrobus	30	25	25
Metrorail	60	60	50
Metromover	- NA -	- NA -	- NA -

Individual Bus Route Standards

MDT's operation of transit services must be balanced between its public service function and fiscal responsibility. Because of this need, MDT's evaluation of routes is based on two measures of productivity standards, rather than just one. MDT uses the following two productivity standards for individual bus routes:

- Passengers per revenue hour
- Net cost (subsidy) per passenger

The number of "Passengers per revenue hour" denotes the number of passenger boardings in one revenue hour of service. This measure is a very strong indicator of the effectiveness of service consumption. MDT uses the number of riders per hour as a productivity standard for bus routes.

The net cost (subsidy) per passenger is the route's total costs minus farebox revenues, divided by its number of passenger trips. This standard is utilized by MDT for route productivity. The net cost per rider reflects both the efficiency with which service is delivered, and the market demands for the service. Routes that do not meet the net

cost per passenger standard are evaluated to determine if a high percentage of passengers are Golden Passport or Patriot Pass holders. If an MDT bus route fails to meet both the boarding per revenue hour and net cost per passenger standards, the route is considered substandard and corrective action is exercised by MDT, which includes route modification or elimination.

MDT Standards:

Passengers per Mile: Number of passengers carried in one bus mile, with a minimum of 0.7 passengers per vehicle mile or minimum of 70% systemwide average passengers per vehicle mile.

Passengers per Trip: All bus route trips that exceed a one-way trip time of one hour shall not have less than 8 boarding's on any trip.
If the route is shorter than a one hour one-way trip, the minimum acceptable boarding's for the trip is a rate of five passengers per hour.

Minimum 15 passengers average load for all routes
Minimum Average load on express trips is 30 passengers

Any trips not meeting the minimum ridership level for an individual trip (for mature routes > 2 years) shall be considered for elimination unless the trip cannot be modified because it would result in an ineffective or inefficient schedule.

Minimum Cost Recovery Ratio: Minimum of 0.20 ratio and Minimum of 1.0 ratio for express-type service.

Passengers per Revenue Hour	
	Service Average
Pass	> 60% of average
Watch	50% - 60% of average
Fail	< 50% of average

Bus Route indicators	
Net cost (subsidy) per passenger	$4.40
Passengers per hour	Minimum 15
Cost per passenger	Route cost divided by Ridership
Passengers per mile	70% of systemwide average passenger vehicle mile
Passengers per trip	Trip greater than one hour, no less than 8 passengers on any given trip. Trip less than an hour, no less than 5 passengers on any given trip.
Revenue per passenger per route	Revenue collected divided by total boardings
Minimum cost recovery ratio	Min. 0.15 ratio and max. of 1.0 ratio for express-type service

SERVICE DELIVERY

On-Time Performance

On-time performance is the time deviation of actual operating time from the published schedule. MDT buses are considered on-time if the scheduled time is no more than 59 seconds before actual departure and no more than 4 minutes and 59 seconds (the on-time window) past the scheduled time of departure. On-time performance is measured monthly by comparing the actual departure times at all time points using the Automatic Vehicle Locator System (AVL) with the corresponding scheduled departure times, excluding first and last time points for each trip.

Metrorail on-time performance window is no more than 59 seconds before and no more than 4 minutes and 59 seconds past the scheduled time. Metrorail 5 minute on-time performance is calculated using the following formula:

$$\text{5-Minute Reliability} = \frac{(\text{Total Trips - Total Vehicle caused Late Trip})}{(\text{Total Trips})} * 100$$

STS is on-time from 0 to 30 minutes late from scheduled pick-up time. As with bus, any departure before scheduled time (early) is not on-time. On-time performance for all modes is shown below.

Systemwide On-Time Performance Standards	
Metrobus	75%
Metrorail	95%
STS	90%

Missed Trips is defined as trips that are either added to, or removed from, the daily schedule, other than routine schedule changes. Daily operations are dynamic, and although there is an established predetermined schedule, often scheduled trips are either missed (e.g., due to mechanical failure or inordinate driver absences), or trips are added (e.g., bus bridges or extraordinary events – these are commonly called extras). Maximum allowed 5% of trips.

PASSENGER COMFORT AND SAFETY

MDT's passenger comfort and safety is evaluated by the following standard:

Comfort and Safety Standards	
Passenger Complaints	Rail – Max. 1.5 complaints / 100,000 boardings Bus – Max. 11 passengers per 100,000 passengers Mover – Max. 0.5 passengers per 100,000 passengers STS – Max 2% of total trips in a month
Accidents and Incidents	Bus – Max. 6 accidents per 100,000 vehicle miles

Transit Amenities

Amenities selectively placed at bus stops can increase the demand for transit by increasing the passenger's comfort, perception of safety, and image of the attractiveness of the system. For example, seating and/or shelters reduce the inconvenience of waiting at the stop, while lighting can make the passenger feel safer when utilizing the system at night. In addition, amenities such as route maps, permanent structures, or bus bays convey the stability of the system and its presence in the community to both current and potential riders.

MDT uses the following standards:

Metrobus Amenities	Minimum Requirement for New Bus Stops
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

*Municipalities install shelters within their own jurisdiction.

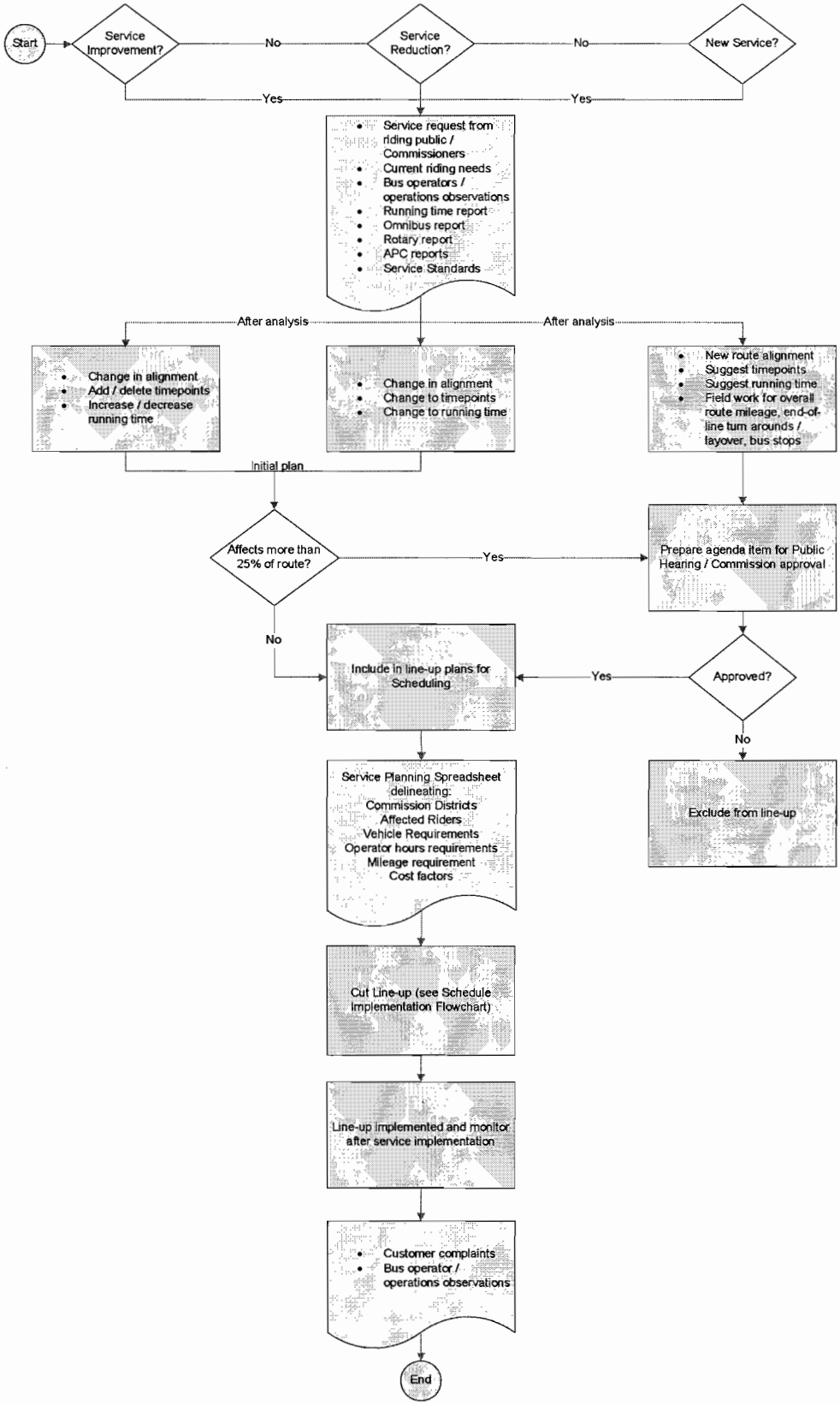
Metrorail Amenities	Minimum Requirement for Rail Station
Information	Passenger information case with a system map and individual route schedules that service that particular station
Litter Bins	At all Metrorail Stations
Emergency Phone	At all Metrorail Stations

New Service Implementation Process

New service recommendations are reviewed based on the following: These requests are evaluated against MDT's service standards. If the request is within the stipulated standards, it is ranked and considered for implementation dependent on funding. New service is implemented during service line-up, which occurs at least twice a year.

New service is implemented as demonstration service. A new bus route is given 24 months to mature and reach the minimum productivity standards. The route will be re-evaluated every six months during this period to check progress and consider potential changes to improve service, including changes to route alignment, schedule, stop spacing, promotional activities or other issues. However, if after 12 months the route has failed to reach the halfway point of the minimum standards, Miami-Dade Transit will make a recommendation to the Commission to restructure or eliminate the route.

Service Planning Flowchart



GLOSSARY OF TERMS

Americans With Disabilities Act Of 1990 (ADA): The law passed by Congress in 1990 which makes it illegal to discriminate against people with disabilities in employment, services provided by state and local governments, public and private transportation, public accommodations and telecommunications.

AM Peak: The weekday time period between 6:00 a.m. and 9:00 a.m.

APC Obs: The number of automatic passenger counts obtained during the reporting period. The number of samples used in estimated boarding rides and load information.

Arterial Street: A major thoroughfare, used primarily for through traffic rather than for access to adjacent land, that is characterized by high vehicular capacity and continuity of movement.

Automatic Passenger Counters (APC): A technology installed on transit vehicles that counts the number of boarding and alighting passengers at each stop while also noting the time. Passengers are counted using either pulse beams or step treadles located at each door. Stop location is generally identified through use of either global positioning systems (GPS) or signpost transmitters in combination with vehicle odometers.

Automatic Vehicle Location (AVL): A smart technology that monitors the real-time location of transit vehicles (generally non-rail modes) through the use of one or more of the following: global positioning systems (GPS), Loran-C, or signpost transmitters in combination with vehicle odometers. Most installations include integration of the AVL system with a geographic information system (GIS or computer mapping system). The monitoring station is normally located in the dispatch/radio communications center.

Average Maximum Load: The average maximum passenger load of all trips within the defined category.

Average Minutes Late: The average minutes a vehicle departs a scheduled time point. Excludes the ending location of a trip.

Base Period (off-peak period.): The period between morning and evening peak periods when transit service is generally scheduled on a constant interval or non-rush periods of the day when travel activity is generally lower and less transit service is scheduled.

Base Fare: The price charged to one adult for one transit ride; excludes transfer charges, zone charges, express service charges, peak period surcharges and reduced fares.

Branch: One of multiple route segments served by a single route.

Boarding Rides: The number of trips taken on a transit line, group of lines, or entire system, where a transfer is considered as the start of a new trip.

Crosstown Route: A route which does not operate to the city center and, unlike a feeder route, serves primarily non-downtown travel in urban neighborhoods.

Deadhead: The movement of a transit vehicle without passengers aboard.

Downtime: A period during which a vehicle is inoperative because of repairs or maintenance.

Dwell Time: The scheduled time a vehicle or train is allowed to discharge and take on passengers at a stop, including opening and closing doors.

Early: The percentage a vehicle departs a scheduled time point more than 59 early of the published scheduled time. This percentage excludes the ending location of a trip.

Early AM: The weekday time period before 6:00 a.m.

Excess Wait Time (EW): The excess wait time passengers experience as a consequence of unreliable service. As headway variation grows and departures are more variable, passengers are forced to arrive at stops earlier or wait longer and thus experience increased wait times.

Express Service: Express service is deployed in one of two general configurations:

1) A service generally connecting residential areas and activity centers via a high speed, non-stop connection. e.g., a freeway, or exclusive right-of-way such as a dedicated bus way with limited stops at each end for collection and distribution.- Residential collection can be exclusively or partially undertaken using park-and-ride facilities.

2) Service operated non-stop over a portion of an arterial in conjunction with other local services. The need for such service arises where passenger demand between points on a corridor is high enough to separate demand and support dedicated express trips.

Feeder Route: A route connecting neighborhoods (usually suburban) with a transit center and usually having timed connections at the latter point with a trunk line to the city center.

Fare Box Recovery Ratio: Measure of the proportion of operating expenses covered by passenger fares; found by dividing **fare box revenue** by total **operating expenses** for each mode and/or systemwide.

Fare Box Revenue: Value of cash, tickets, tokens and pass receipts given by passengers as payment for rides; excludes charter revenue.

Fare Elasticity: The extent to which ridership responds to fare increases or decreases.