

7.0 Ten Year Implementation Program

A ten year implementation plan for FY 2011 – 2020 has been prepared for the TDP Annual Update to include a new tenth year or FY 2020 as presented.

7.1 Capital Improvement Plan

Annually MDT prepares a proposed capital budget and a multi-year Capital Plan as previously mentioned. Funded Metrorail and Metrobus projects identified within the Capital Plan are expected to be implemented within the ten year planning period. The Capital Improvement Plan for FY 2011-2020 is presented in Table 7-1.

Please note that the YOE totals in this table are based upon the total project cost which include annual dollar amounts previously expended prior to FY 2010 - 2011. Furthermore, the escalation applied is specific to each project as related to project conditions and contractual agreements. 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).

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 Annual Update.

At the time the TDP Annual Update was being prepared the proposed FY 2010 – 2011 capital budget and multi-year capital plan were being finalized by MDT. Once MDT determines the budget and capital plan to be final this section will be updated to reflect the most current information.

7.2 2020 Recommended Service Plan

The MDT Recommended Service Plan (RSP) serves as the needs plan for the MDT system. The 2020 RSP has been developed for the FY 2011-2020 TDP Annual Update and has been updated from the previous RSP as presented in last year's 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 2020 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 2011 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.

7.2.1 Recommended Service Plan – Existing Metrobus Routes

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 MDT seeks to properly address critical issues of generating revenue, managing operational budgets, and prioritizing capital expansion programs.

Table 7-1: MDT FY 2010 – 2011 Proposed Capital Budget and Multi-Year Capital Plan (\$000's)

Project Name	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	FY 20-21	YOE Total
PROPOSED CORRIDOR PROJECTS & RELATED PROJECTS:												
Orange Line Phase 1, MIC-EHT Connector Project	\$149,824	\$29,815	\$29,815									\$ 209,454
Orange Line Phase 1: MIC-EHT Connector (FDOT MIC Components - West Concourse, Vestibule, & Bus Plaza Rway)	\$8,710	\$8,213	\$0									\$ 16,923
Metrorail Central Control Upgrade	\$14,734	\$12,171	\$1,185									\$ 28,090
Existing Metrorail Station (Phase 1) - Graphics & Signage Upgrade	\$2,970	\$715										\$ 3,685
Subtotal	\$ 176,238	\$ 50,914	\$ 31,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 258,152
VEHICLE PROCUREMENT & RELATED PROJECTS:												
Lehman Yard Rehabilitation & Expansion Phase 1 (5 storage and 2 MOW tracks)	\$ 3,545	\$ 5,068										\$ 8,613
Rail New Vehicle Procurement (136 cars)	\$ 25,969	\$ 28,878	\$ 48,420	\$ 108,685	\$ 121,731	\$ 31,260						\$ 364,943
Lehman Center Test Track	\$ 6,594	\$ 9,241										\$ 15,835
Palmetto Station Traction Power Sub-Station	\$ 13,299	\$ 2,453										\$ 15,752
Mover 17 Phase 2 Vehicle Replacement	\$ 12,159	\$ 620										\$ 12,779
Bus Acquisition	\$ 15,734	\$ 12,462	\$ 27,534	\$ 21,589	\$ 16,589							\$ 93,908
Mainline Turnout Replacement (T&G ARRA)	\$ 435											\$ 435
MDT Bus Tracker System & Computer Aided Dispatch/Automatic Vehicle Locator Replacement	\$ 4,740	\$ 9,770										\$ 14,510
Infrastructure Renewal Plan (IRP)	\$ 7,080	\$ 7,500	\$ 7,500	\$ 12,500	\$ 12,500	\$ 12,500						\$ 59,580
Subtotal	\$ 89,555	\$ 75,992	\$ 83,454	\$ 142,774	\$ 150,820	\$ 43,760	\$ -	\$ 586,355				
FARE COLLECTION	\$ 1,805											\$ 1,805
Subtotal	\$ 1,805	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,805

Source: Miami-Dade Transit, F-5 Report, 2010

Table 7-1: MDT FY 2010 – 2011 Proposed Capital Budget and Multi-Year Capital Plan (\$000's)(continued)

Project Name	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	FY 20-21	YOE Total
OTHER PROJECTS:												
Track & Guideway Rehabilitation Subset	\$ 7,413	\$ 7,243	\$ 6,377	\$ 5,503	\$ 3,589							\$ 30,125
Park and Ride Facility at NW 168 St. and Busway	\$ 1,400											\$ 1,400
Park and Ride Facility at SW 344 Street and Busway	\$ 5,939	\$ 452										\$ 6,391
Park and Ride Facility at Kendall Drive and SW 127 Ave	\$ 1,779	\$ 608										\$ 2,387
NW 7th Avenue Transit Village	\$ 2,891	\$ 1,097	\$ 235									\$ 4,223
AMAG \ Proximity Access Control	\$ 11,521	\$ 11,982	\$ 16,827									\$ 40,330
Metrorail & Metromover Tools & Equipment	\$ 441	\$ 463	\$ 486	\$ 510	\$ 536	\$ 563						\$ 2,999
ADA Improvements and Equipment		\$ 252	\$ 265	\$ 278	\$ 292	\$ 307						\$ 1,394
Busway ADA Improvements	\$ 1,714	\$ 2,079										\$ 3,793
Bus and Bus Facilities	\$ 2,797											\$ 2,797
Facility and Equipment Rehabilitation	\$ 240	\$ 252	\$ 265	\$ 278	\$ 292	\$ 307						\$ 1,634
Bus Tools and Equipment	\$ 240	\$ 252	\$ 265	\$ 278	\$ 292	\$ 307						\$ 1,634
Passenger Amenities and Transit Enhancements	\$ 519	\$ 545	\$ 572	\$ 601	\$ 631	\$ 662						\$ 3,530
Capitalization of Preventative Maintenance	\$ 82,705	\$ 84,061	\$ 89,625	\$ 93,163	\$ 98,733	\$ 103,021						\$ 551,308
Kendall Enhanced Bus Service	\$ 2,320											\$ 2,320
Metrorail Bike Path (M-Path)	\$ 908	\$ 292										\$ 1,200
Metromover Station Canopies and Escalator Replacement	\$ 4,655	\$ 2,007										\$ 6,662
Metromover Bicentennial Park Station Refurbishment	\$ 1,230	\$ 971										\$ 2,201
ARRA Municipalities	\$ 10,577	\$ 2,288										\$ 12,865
Park and Ride Facility at Quail Roost Drive	\$ 4,379											\$ 4,379
Security and Safety Equipment	\$ 1,775	\$ 544	\$ 571	\$ 600	\$ 630	\$ 661						\$ 4,781
Northeast Passenger Activity Center			\$ 2,373	\$ 1,574	\$ 1,050	\$ 920						\$ 5,917
Metrorail WIFI Implementation												
Transit Operating System Replacement Project	\$ 4,754	\$ 413										\$ 5,167
Sub Total	\$ 150,197	\$ 115,801	\$ 117,861	\$ 102,785	\$ 106,045	\$ 106,748	\$ -	\$ 699,437				
Total	\$ 417,795	\$ 242,707	\$ 232,315	\$ 245,559	\$ 256,865	\$ 150,508	\$ -	\$ 1,545,749				

Source: Miami-Dade Transit, F-5 Report, 2010

Since the TDP Annual 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, the following details the both improvements and adjustments to achieve MDT's long term objectives.

Service route improvements and adjustments needs outlined in the RSP are proposed for implementation throughout the ten year planning horizon of FY 2011-FY 2020. The following Table 7-2 provides a summary description of all bus service improvements, impact of additional buses on the peak vehicle requirements (PVR), annual operating need per improvement, and programming of transit improvements by fiscal years; and corresponding funding needs by fiscal year. The estimated total need for improvements to existing transit routes over this ten planning horizon is \$81.5 million (Table 7-2).

7.2.1.1 Transit Hubs and Feeder Routes for Existing Routes

The 2020 RSP 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. 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.

Nine transit hubs are proposed throughout Miami-Dade County. Passenger amenities will be provided at these locations such as the ability for transit riders to purchase 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. In addition, the 7th Avenue Transit Village (at 62nd Street) and the Homestead terminals were added as proposed transit hub locations following the submittal of the 2009 MDT TDP Major Update. The Northeast Passenger Activities Center (NEPAC) and the Homestead (Busway/SW 344th Street) transit hubs have the highest number of proposed routes, with twelve and five routes planned respectively.

Table 7-3 provides a list of the transit hubs with corresponding route connections planned to serve them. These hubs are also illustrated in Figure 7-1. In addition to those listed in this table 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 7-2: Recommended Service Plan Summary for Existing Transit Bus Routes (2020)

Route	Change Description	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		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	Extend to 72 Street.																				
L	No planned improvements.																				
M	No planned improvements.																				
S	Improve headways. Monday-Saturday from 12 to 10 minutes and Sundays from 15 to 10 minutes.					\$1,750,000	4	\$1,750,000	4	\$1,750,000	4	\$1,750,000	4	\$1,750,000	4	\$1,750,000	4	\$1,750,000	4	\$1,750,000	4
1	Extend Route to Dadeland South Metrorail Station									\$500,000	3	\$500,000	3	\$500,000	3	\$500,000	3	\$500,000	3	\$500,000	3
2	Realign northern terminus to future Golden Glades Intermodal Terminal.							\$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	New branch (7M) from MIC to Culmer Metrorail station, serving the Marlins Ballpark.			\$850,000	6	\$850,000	6	\$850,000	6	\$850,000	6	\$850,000	6	\$850,000	6	\$850,000	6	\$850,000	6	\$850,000	6
8	No planned improvements.																				
9	No planned improvements.																				
10	No planned improvements.																				
11	No planned improvements.																				

Table 7-2: Recommended Service Plan Summary for Existing Transit Bus Routes (2020) (continued)

Route	Change Description	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
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		-\$173,190	
16	No planned improvements.																				
17	No planned improvements.																				
19	No planned improvements.																				
21	No planned improvements.																				
22	No planned improvements.																				
24	Convert limited-stop service east of Ponce de Leon Boulevard due to City of Miami Coral Way Trolley.	-\$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	-\$600,000	-2
27	No planned improvements.																				
29	No planned improvements.																				
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	\$395,453	3
34 (Busway Flyer)	No planned improvements.																				
35	Improve peak headway from 30 to 20 minutes.					\$642,620	4	\$642,620	4	\$642,620	4	\$642,620	4	\$642,620	4	\$642,620	4	\$642,620	4	\$642,620	4
36	No planned improvements.																				
37	Realign route to serve the Miami Intermodal Center.			\$0	0	\$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	\$255,396	1	\$255,396	1
40	No planned improvements.																				
42	Realign route to serve the Miami Intermodal Center.			\$0	0	\$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.																				
49	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	\$0	0

Table 7-2: Recommended Service Plan Summary for Existing Transit Bus Routes (2020) (continued)

Route	Change Description	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		Cost	PVR																		
52	No planned improvements.																				
54	No planned improvements.																				
56	Discontinue peak period branch to MDC, increase service to 162 Avenue branch.	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
57	Realign route to serve the Miami Intermodal Center.			\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
59	Realign to 163rd Street Mall with 2-way service	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1	\$100,000	1
62	No planned improvements.																				
70	Truncate Route at Southland Mall when Cutler Bay Circulator begins service.	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0	(\$82,000)	0
71	Extend Route to Palmetto station via 74 Street.			\$500,000	2	\$500,000	2		2	\$500,000	2	\$500,000	2	\$500,000	2	\$500,000	2	\$500,000	2	\$500,000	2
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	\$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)	Extend Route to Tri-Rail Metrorail	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1	\$153,000	1
87	Extend to Flager station in Medley			\$400,000	1	\$400,000	1	\$400,000	1	\$400,000	1	\$400,000	1	\$400,000	1	\$400,000	1	\$400,000	1	\$400,000	1
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	\$233,477	1	\$233,477	1	\$233,477	1
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	\$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
97 (27 Avenue MAX)	Route to be transformed to 27 Avenue Rapid Bus, connecting to MIC (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.																				
104	Realign 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	\$83,629	0	\$83,629	0	\$83,629	0
115 (Mid-North Beach Connection)	Restructure into two (2) separate routes			\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
120 (Beach MAX)	Improve weekday headways from 12 to 10 minutes.			\$765,000	3	\$765,000	3	\$765,000	3	\$765,000	3	\$765,000	3	\$765,000	3	\$765,000	3	\$765,000	3	\$765,000	3

Table 7-2: Recommended Service Plan Summary for Existing Transit Bus Routes (2020) (continued)

Route	Change Description	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
123 (South Beach Local)	No planned improvements.																				
132 (Tri-Rail Doral Shuttle)	No planned improvements.																				
133 (Tri-Rail Airport Shuttle)	To be discontinued with the opening of the MIC-MIA Mover.			(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1	(\$142,000)	-1
135	Discontinue Hialeah branch to MDC, and increase service to Miami Lakes.	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0
136	No planned improvements.																				
137 (West Dade Connection)	No planned improvements.																				
150 (Airport Flyer)	Extend north to 44th St / Collins Ave. and south to South Pointe Dr.	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1	\$600,000	1
183 Local	No planned improvements.																				
195 (I-95 Dade-Broward Express)	Add midday 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	\$217,000	0
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	\$0	0	\$0	0	\$0	0
207/208 (Little Havana Circulator)	Extend Route to Brickell Metrorail station.			\$438,000	1	\$438,000	1	\$438,000	1	\$438,000	1	\$438,000	1	\$438,000	1	\$438,000	1	\$438,000	1	\$438,000	1
211 (Overtown Circulator)	No planned improvements.																				
212 (Sweetwater Circulator)	No planned improvements.																				

Table 7-2: Recommended Service Plan Summary for Existing Transit Bus Routes (2020) (continued)

Route	Change Description	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
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	\$250,000	1
243 (Seaport Connection)	No planned improvements.																				
246 (Night Owl)	No planned improvements.																				
248 (Brickell Key Shuttle)	Discontinue service once City of Miami Shuttle begins service.			(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1	(\$130,000)	-1
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	\$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	\$0	0	\$0	0	\$0	0

Table 7-2: Recommended Service Plan Summary for Existing Transit Bus Routes (2020) (continued)

Route	Change Description	2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR	Cost	PVR
277 (7 Avenue MAX)	No planned improvements.																				
286 (North Pointe Circulator)	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	\$153,213	1	\$153,213	1
288 (Kendall KAT)	Realign route to the future West Kendall Bus Terminal and transform to Kendall Enhanced Bus.	\$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	\$970,092	4	\$4,021,305	12	\$9,297,396	14	\$9,297,396	0	\$9,797,396	3	\$9,797,396	0	\$10,192,849	3	\$10,273,853	1	\$10,273,853	0	\$10,273,853	0
(MINI-BUSES)		0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)		4		12		14		0		3		0		3		1		0		0
CUMULATIVE TOTALS	\$970,092	4	\$4,991,397	16	\$14,288,793	30	\$23,586,189	30	\$33,383,585	33	\$43,180,981	33	\$53,373,830	36	\$63,647,683	37	\$73,921,536	37	\$84,195,389	37
(MINI-BUSES)		0		0		0		0		0		0		0		0		0		0
(FULL SIZE BUSES)		4		16		30		30		33		33		36		37		37		37

Source: Miami-Dade Transit, 2010

Table 7-3: Transit Hub Locations and Feeder Routes for Existing Bus Routes

TERMINALS	ROUTES																					
	A	B	C	E	G	H	J	L	M	S	1	2	3	6	7	8	9	10	11	12	16	
Dadeland Metrorail Stations																						
Flagler Marketplace (CBD)			■							■		■	■	■		■	■	■		■		
Homestead (Busway/SW 344th Street)																						
Miami Beach - Lincoln Rd/Washington	■		■					■	■	■												
Miami Intermodal Center (Airport)															■							
Northeast Passenger Activities Center				■		■						■	■	■				■	■			■
West Dade (Dolphin Station)															■							
West Kendall (Kendall Town Center)																						
7th Avenue Transit Village (at 62nd St)																						

TERMINALS	ROUTES																					
	17	19	21	22	24	27	29	31*	32	33	34*	35	36	37	38*	40	42	46*	48	49	51*	
Dadeland Metrorail Stations								■			■				■							
Flagler Marketplace (CBD)			■		■																	■
Homestead (Busway/SW 344th Street)								■			■	■			■							
Miami Beach - Lincoln Rd/Washington																						
Miami Intermodal Center (Airport)														■			■					
Northeast Passenger Activities Center		■		■																		
West Dade (Dolphin Station)													■									
West Kendall (Kendall Town Center)																						
7th Avenue Transit Village (at 62nd St)																		■				

Table 7-3: Transit Hub Locations and Feeder Routes for Existing Bus Routes (continued)

TERMINALS	ROUTES																					
	52	54	56	57	59	62	70	71	72	73	75	77	79*	87	88	93*	95X	97*	99	104	115*	
Dadeland Metrorail Stations	■									■				■	■						■	
Flagler Marketplace (CBD)												■					■	■				
Homestead (Busway/SW 344th Street)							■															
Miami Beach - Lincoln Rd/Washington																						■
Miami Intermodal Center (Airport)				■																		
Northeast Passenger Activities Center					■						■											
West Dade (Dolphin Station)									■													
West Kendall (Kendall Town Center)									■							■					■	
7th Avenue Transit Village (at 62nd St)						■						■										

TERMINALS	ROUTES																					
	120*	123*	132*	133*	135	136	137*	150*	183*	202*	204*	207*	211*	212*	238*	243*	246*	248*	249*	252*	254*	
Dadeland Metrorail Stations						■					■										■	
Flagler Marketplace (CBD)	■											■					■					
Homestead (Busway/SW 344th Street)																						
Miami Beach - Lincoln Rd/Washington	■	■						■														
Miami Intermodal Center (Airport)				■				■								■						
Northeast Passenger Activities Center																	■					
West Dade (Dolphin Station)								■								■						
West Kendall (Kendall Town Center)											■											
7th Avenue Transit Village (at 62nd St)																						

Table 7-3: Transit Hub Locations and Feeder Routes for Existing Bus Routes (continued)

TERMINALS	ROUTES								
	272*	277*	286*	287*	288*	301*	302*	344	500*
Dadeland Metrorail Stations									
Flagler Marketplace (CBD)									
Homestead (Busway/SW 344th Street)									
Miami Beach - Lincoln Rd/Washington									
Miami Intermodal Center (Airport)									
Northeast Passenger Activities Center									
West Dade (Dolphin Station)									
West Kendall (Kendall Town Center)									
7th Avenue Transit Village (at 62nd St)									

Source: Miami-Dade Transit, 2010

*** Route Descriptions**

- | | | |
|---------------------------------------|---|-------------------------------------|
| Route 31: Busway Local | Route 133: Tri-Rail Airport Shuttle | Route 248: Brickell Key Shuttle |
| Route 34: Busway Flyer | Route 137: West Dade Connection | Route 249: Coconut Grove Circulator |
| Route 38: Busway MAX | Route 150: Airport Flyer | Route 252: Coral Reef MAX |
| Route 46: Liberty City Connection | Route 183: 183 Local | Route 254: Brownsville Circulator |
| Route 51: Flagler MAX | Route 202: Little Haiti Connection | Route 272: Sunset KAT |
| Route 79: 79 Street MAX | Route 204: Killian KAT | Route 277: 7 Avenue MAX |
| Route 93: Biscayne MAX | Route 207/208: Little Havana Connection | Route 286: North Pointe Circulator |
| Route 97: 27th Avenue MAX | Route 211: Overtown Circulator | Route 287: Saga Bay MAX |
| Route 115: Mid-North Beach Connection | Route 212: Sweetwater Circulator | Route 288: Kendall KAT |
| Route 120: Beach MAX | Route 238: East West Connection | Route 301: Dade-Monroe Express |
| Route 123: South Beach Local | Route 243: Seaport Connection | Route 302: Card Sound Express |
| Route 132: Tri-Rail Doral Shuttle | Route 246: Night Owl | Route 500: Midnight Owl |

Figure 7-1: Transit Hub Locations



Source: Miami-Dade Transit, 2010

7.2.2 Recommended Service Plan – New Metrobus Routes

Five (5) new transit routes have been proposed under the 2020 RSP to replace old existing routes or add new service (Table 7-4). The table presents the proposed new transit routes with associated service levels, peak vehicle requirements for buses, annual operating funding needs, and proposed implementation schedule. The preliminary programming of these routes was conducted in a systematic and regional approach based on coordination with major transit capital projects.

A description of each of the new routes identifying whether they are funded or partially funded is included below. These new routes represent MDT's response to citizens' request for additional enhanced bus service throughout the County. These new transit routes are also illustrated in Figure 7-2.

- **Route 27 Avenue Rapid Bus Route (North Corridor):** Funded: \$1.0 million from Route 97. \$1.0M (Applied for) JARC FY 2008 and FY 2009.
- **SW 8 Street Rapid Bus (East-West Corridor):** Funded: \$750K (Applied for) JARC FY 2008 and FY 2009. \$750k to be funded by efficiencies and restructuring.
- **SR 836 Express:** Funded: \$500K (Applied for) JARC FY 08 and FY 09. \$500k to be funded by efficiencies and restructuring..
- **Biscayne Rapid Bus:** \$2.3M from Route 93 and \$1.2M to be funded by efficiencies and restructuring. .
- **Flagler Rapid Bus:** \$2.8M from Route 51 and \$1.2M to be funded by efficiencies and restructuring.

Table 7-4: Recommended Service Plan Summary New Routes Description

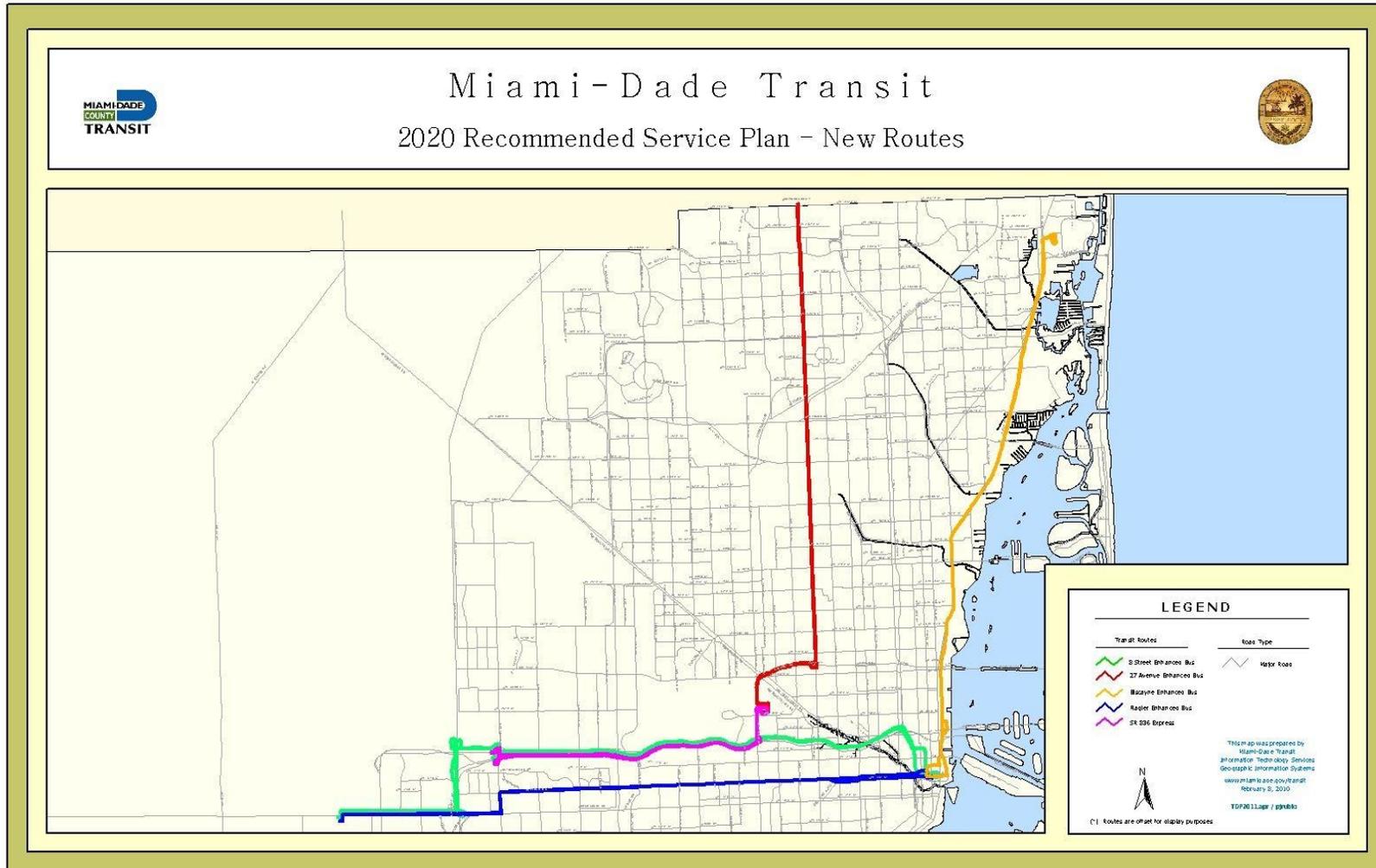
New Route	Description	Headways			2011		2012		2013		2014		2015		2016		2017		2018		2019		2020	
		Peak	Mid Day	Week End	Cost	PVR																		
NW 27 Avenue Rapid Bus (old route 97)	This route would provide limited-stop service along NW 27 Avenue between the Broward/Miami-Dade county line and the MLK Metrorail station.	10	20	N/S			\$0	10	\$0	10	\$0	10	\$0	10	\$0	10	\$0	10	\$0	10	\$0	10	\$0	10
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.	15	30	N/S					\$750,000	8	\$750,000	8	\$750,000	8	\$750,000	8	\$750,000	8	\$750,000	8	\$750,000	8	\$750,000	8
SR 836 Express	This route would provide Express 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.	15	N/S	N/S	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6	\$500,000	6
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 with peak headways improvements.	12	20	N/S	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14	\$1,200,000	14
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 with peak headways improvements.	15	30	N/S	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15	\$1,200,000	15

INCREMENTAL TOTALS		\$2,900,000	35	\$2,900,000	10	\$3,650,000	8	\$3,650,000	0	\$3,650,000	0	\$3,650,000	0	\$3,650,000	0	\$3,650,000	0	\$3,650,000	0	\$3,650,000	0	\$3,650,000	0
(MINI-BUSES)		0		0		0		0		0		0		0		0		0		0		0	0
(FULL SIZE BUSES)			35		10		8		0		0		0		0		0		0		0		0

CUMULATIVE TOTALS		\$2,900,000	35	\$5,800,000	45	\$9,450,000	53	\$13,100,000	53	\$16,750,000	53	\$20,400,000	53	\$24,050,000	53	\$27,700,000	53	\$31,350,000	53	\$35,000,000	53	\$38,650,000	53
(MINI-BUSES)		0		0		0		0		0		0		0		0		0		0		0	0
(FULL SIZE BUSES)			35		45		53		53		53		53		53		53		53		53		53

Source: Miami-Dade Transit, 2010

Figure 7-2: Recommended Service Plan New Transit Routes



Source: Miami-Dade Transit, 2010

7.2.2.1 Transit Hubs and Feeder Routes for New Routes

The 2020 RSP provided that nine (9) transit hubs were proposed for implementation in locations throughout the county. As a result, these new bus routes would serve local corridors and stations, while also providing connecting service to transit hubs. Table 7-5 provides a summary overview of the new routes that have been added to provide additional service to identified transit hub locations.

The 2009 MDT TDP Major Update RSP included nine (9) proposed new transit routes of which eight (8) were unfunded or partially funded. Four (4) new proposed routes listed in the table serve as replacements for old existing routes. In total, five (5) of the nine (9) recommended new transit routes were implemented following the 2009 MDT TDP Major Update.

Table 7-5: Transit Hub Locations and Feeder Routes for New Routes

Terminals	Routes				
	Biscayne Rapid Bus (Old Route 93)	Flagler Rapid Bus (old Route 51)	NW 27 Avenue Rapid Bus (old route 97)	SR-836 Express	SW 8th Street Rapid Bus
Dadeland Metrorail Stations					
Flagler Marketplace (CBD)					
Homestead (Busway/SW 344th Street)					
Miami Beach - Lincoln Rd/Washington					
Miami International Center (Airport)					
Northeast Passenger Activities Center					
West Dade (Dolphin Station)					
West Kendall (Kendall Town Center)					
7th Avenue Transit Village (at 62nd St)					

Source: Miami-Dade Transit, 2010

7.2.3 Recommended Service Plan – Metrorail

The Metrorail expansion program continues to progress with the construction of the Orange Line Phase 1: Earlington Heights-Miami Intermodal Center (MIC) Connector. 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 7-3).

Figure 7-3: Proposed Operating Plan with MIC-Earlington Heights Connector in Service



Source: Miami-Dade Transit, 2009

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 (Figure 7-3).

This new Metrorail service will also provide rail connection to the Miami International Airport via the MIA PeopleMover line operated by Miami-Dade Aviation Department that will provide service between the Airport and the MIC at 90-second headways (Figure 7-3). In FY 2012, construction is scheduled to be complete with the Earlington Heights-MIC Connector opening for passenger service.

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.

7.2.4 Recommended Service Plan – Special Transportation Services

No significant changes are programmed as part of the FY 2011-2020 RSP. MDT is committed to continue improvement of service reliability during this period.

7.3 Capital Needs

7.3.1 Transit Terminals

As identified in the 2019 RSP, the modified grid system requires the development of transit hubs throughout the region of service. Table 7-6 lists the capital needs identified for transit hub locations along with their respective status and funding needs for the 2020 RSP. This is followed by a list of proposed Park and Ride locations.

Table 7-6: 2020 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 2020 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.	\$23,000
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 163 rd Street. There are currently (2010) twelve 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 to implement this terminal.	Committed Improvement
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
Homestead Busway at SW 344 Street	The facility is proposed to address the increased level of services planned in the south Miami area with the completion of the South Miami-Dade Busway extension. This facility will be integrated with the Busway facility to offer a greater degree of passenger convenience.	Committed Improvement
Miami Beach at Lincoln Road and Washington Avenue	A bus terminal is planned to be built at the site adjacent to the Lincoln Road.	Committed Improvement
NW 7th Avenue and 62nd Street	This facility will be developed as a multimodal Passenger Activity Center (PAC), and located on NW 7 th Avenue and NW 62 nd 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.	Committed Improvement

Table 7-6: 2020 Recommended Service Plan Transit Hub Needs (Continued)

Transit Hubs	Status	Unfunded Needs
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 has committed to build for MDT a park and ride garage with 260 spaces, 10 bus bays and a driver's comfort station.	Committed Improvement

Table 7-7: Proposed Park and Ride Locations

Map ID	NAME	LOCATION
1	Busway Lot	Busway and SW 216th Street
2	Kendall South/Metrozoo	Miami Metrozoo Park
3	FPL Lot	SW 72nd Street and SW 136th Court
4	FPL Lot	SW 104th Street and SW 127th Avenue
5	West Miami-Dade/SW Eight Street Park and Ride	SW 8 Street and SW 147th Avenue
6	Bird Central Park and Ride	Tropical Park
7	West Miami-Dade/Tamiami Park and Ride	Tamiami Park
8	El Portal Park and Ride	Biscayne Boulevard and NE 79th Street
9	Church at Kendall and 150 th Avenue (purchase)	Kendall drive and 150 th Avenue
10	County Line Park and Ride	NW 27th Avenue and NW 215th Street

Source: Miami-Dade Transit, 2010

7.3.2 Bus Fleet Expansion

The 2020 RSP service improvements identify the peak vehicle requirements (PVR) for designated bus routes. A determination of bus fleet needs based on the 2020 RSP, which accounts for a 20 percent (20%) vehicle spare ratio results in a total requirement of 80 full size buses. This fleet need also includes new service routes. Based on the RSP, there will be no additional purchase needs of minibuses.

7.3.3 Priority Transit Corridor Needs

The TDP Major Update identified eleven priority transit corridors 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 could include priority signalization, stylized stations with shelters, onboard Wi-Fi, real time information systems at bus stops, as well as the implementation of a branded bus service that would include new transit vehicles.

The Table 7-8 presents the proposed priority corridors together with recommended timeframe for implementation as well as an opinion of the approximate estimated cost for each corridor.

Table 7-8: Priority Transit Corridors

Year of Implementation	Priority Transit Corridors	Possible Types of Improvements	2010 Capital Cost (000's)
2011	US 1 (Biscayne Boulevard) from Downtown Miami to County line	Station upgrades, Queue jump lanes, traffic signal priority/pre-emption, 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

7.4 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. The infrastructure renewal program (IRP) includes planned investments in the following program areas:

- Information technology, including data center modernization, network upgrades, and improved accident/incident reporting;
- Passenger amenities, including escalator covers and improved signage;
- Passenger facilities, including escalator and elevator replacements, Busway improvements, and platform refurbishments;

- Rolling stock, including bus maintenance component replacements (bus vehicle fleet replacement schedule is provided in the Appendix);
- Systems, including wayside overhauls, uninterrupted power supplies, AC unit substations, train control system replacement, traction power substations, and traction power cabling;
- Maintenance facilities, including bus garage lot resurfacing, emergency backup generators, and A/C replacement;
- Safety and security, including fire alarm replacement, railing replacements, and pedestrian safety improvements; and,
- Track and guideway, including guideway painting, frog replacement, and work vehicles.

These investments are critical to the continued safe and efficient operation of MDT's transit network. The proposed year of implementation is also presented for the FY 2011- 2020 planning horizon (Table 7-9).

Table 7-9: Proposed Infrastructure Renewal Program Need (2020)

Classification	Project Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total Estimated Cost YOY
INFORMATION TECHNOLOGY												
Information Technology	MDT CAD/AVL System Upgrade/Enhancements	\$ 6.20	\$ 3.37	-	-	-	-	-	-	-	-	\$ 9.57
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	\$ 0.01	\$ 0.68
Information Technology	Mobile Technology Tools & Bus Driver Training System -Vigil	\$ 0.04	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.47
Information Technology	Static Technology Tools	\$ 0.18	\$ 0.19	\$ 0.19	\$ 0.20	\$ 0.20	\$ 0.21	\$ 0.22	\$ 0.23	\$ 0.23	\$ 0.24	\$ 2.08
Information Technology	Server Plan Upgrade/Strategy	\$ 0.29	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.16	\$ 0.16	\$ 0.16	\$ 0.16	\$ 1.67
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	\$ 0.42	\$ 3.95
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	\$ 0.36	\$ 3.07
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	\$ 0.17	\$ 1.44
Information Technology	Bus Accidents and Incidents System Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.11	-	\$ 0.11
Information Technology	Electronic Kiosks	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.49	\$ 0.49
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

Table 7-9: Proposed Infrastructure Renewal Program Need (2020) (continued)

Classification	Project Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total Estimated Cost YOY
PASSENGER AMENITIES												
Passenger Amenities	Metromover Escalator Covers & Escalator Replacement and Government Center Canopy Extension	\$ 1.97	\$ 2.06	\$ 2.13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6.16
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
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	\$ 2.64	\$ 24.79
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	\$ 0.89	\$ 0.89	\$ 0.87	\$ 0.86	\$ 0.86	\$ 0.85	\$ 0.84	\$ 0.83	\$ 0.83	\$ 0.82	\$ 8.53
Passenger Facilities	Parking Garages Relamping (Induction)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.41	\$ 0.43	\$ 0.44	\$ 0.45	-	\$ 1.73
Passenger Facilities	Metrorail Relamping -Stations	\$ 0.09	\$ 0.09	\$ 0.10	\$ 0.10	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12	\$ 0.12	\$ 1.05
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	\$ 1.13	\$ 9.74
Passenger Facilities	Metromover Escalator Covers & Escalator Replacement	\$ 0.02	\$ 2.06	\$ 2.13	-	-	-	-	-	-	-	\$ 4.21
ROLLING STOCK (Note: IRP assumes, for buses, mid-life overhaul intervals only. No bus overhaul is assumed after the year 2025 due to technological improvements (hybrid technology starting in the year 2019).												
Rolling Stock	Phase 2 Vehicle Door System Facelift	-	-	-	-	-	-	-	-	1.06	-	\$ 1.06
Rolling Stock	Mover F & G Inspections	\$ 0.86	-	-	-	-	-	-	-	\$ 0.39	\$ 0.41	\$ 1.66
Rolling Stock	Phase 2 Vehicle HVAC Facelift	-	-	-	-	-	-	-	-	\$ 1.00	-	\$ 1.00
Rolling Stock	Bus Maintenance Component Replacemtn Plan	\$ 0.95	\$ 3.14	\$ 3.44	\$ 2.68	\$ 2.77	\$ 2.86	\$ 2.96	\$ 3.05	\$ 3.15	\$ 3.26	\$ 28.25
Rolling Stock	Rail HVAC Overhaul	\$ -	-	-	-	\$ 0.41	-	-	-	-	-	\$ 0.41
Rolling Stock	Purchase of Service & Support Vehicles	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.88	-	-	\$ 0.31	\$ 1.19

Table 7-9: Proposed Infrastructure Renewal Program Need (2020) (continued)

Classification	Project Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SYSTEMS											
Systems	Data Transmission System - Mover	\$ -	\$ -	\$ -	\$ -	\$ 4.16	\$ -	\$ -	\$ -	\$ -	\$ -
Systems	Conduit Grounding Rebuild	\$ -	\$ -	\$ -	\$ -	\$ 1.94	\$ 0.97	\$ -	\$ -	\$ -	\$ -
Systems	Uninterrupted Power Supplies - Mover	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.73	\$ 1.75	\$ -	\$ 0.49	\$ -
Systems	Wayside Overhaul	\$ -	\$ -	\$ -	\$ -	\$ -	\$29.25	\$15.00	\$ -	\$ -	\$ -
Systems	Switch Machine Cable- Mainline	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.88	\$ 0.91	\$ 0.88	\$ 0.89	\$ -
Systems	Rebuild Switch Machines (M-3) - Mainline	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.40	\$ 0.21	\$ 0.21	-	\$ -
Systems	Tools and Equipment	\$ -	\$ 0.05	\$ 0.05	\$ 0.08	\$ 0.10	\$ 0.05	\$ 0.05	\$ 0.05	\$ 0.06	\$ 0.06
Systems	Bus Garages Plumbing	\$ -	\$ -	\$ 0.39	\$ -	-	\$ 0.25	\$ 0.26	\$ 0.50	\$ 0.51	\$ 0.53
Systems	Uninterrupted Power Supply - Government Center	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.08	-	\$ -	\$ -
Systems	CAD/AVL RF Vehicular Radio Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ 4.65	\$ -	\$ -
Systems	Lehman and Mover Facility Plumbing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.86	-	\$ -	\$ -
Systems	Replace Switch Machines - Yard	\$ -	\$ -	\$ 0.20	\$ 0.20	\$ 0.20	\$ 0.21	\$ 0.22	\$ 0.23	\$ -	\$ -
Systems	AC Unit Substations	\$ -	\$ -	\$ -	\$ -	\$ 2.94	\$ 2.96	\$ 3.02	\$ 3.02	\$ 3.16	\$ -
Systems	Running Surface	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3.01	\$ -
Systems	Traction Power Substation - Palmetto Yard	\$ -	\$ -	\$ -	\$ -	\$ 1.23	\$ 1.22	\$ -	\$ -	\$ -	\$ -
Systems	AC Unit Substations - Palmetto Yard	\$ -	\$ -	\$ -	\$ -	\$ 1.09	\$ 1.10	\$ -	-	-	\$ -
Systems	Train Control Systems Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$14.33	\$13.70	\$12.86	\$13.43
Systems	Traction Power Substations	\$ -	\$ -	\$ -	\$ -	\$ 5.47	\$ 5.38	\$ 5.01	\$ 4.76	\$ 4.94	-
Systems	Switch Machine Cable - Yard	\$ -	\$ -	\$ -	\$ -	\$ 0.78	\$ 0.81	\$ 0.83	\$ 0.86	\$ 0.89	\$ 0.92
Systems	Replace Switch Machines - Mainline	\$ -	\$ -	\$ -	\$ -	\$ 0.45	\$ 0.46	\$ 0.47	\$ 0.42	\$ -	\$ -
Systems	LED Signal Upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.14
Systems	Traction Power Cabling	\$ -	\$ -	\$ -	\$ -	\$ 3.68	\$ 3.80	\$ 4.12	\$ 4.06	\$ 4.19	\$ -
Systems	Traction Power Gap Ties	\$ -	\$ -	\$ -	\$ -	\$ 0.92	\$ 0.90	\$ 0.93	\$ -	\$ -	\$ -
Systems	Uninterrupted Power Supply - Mainline (Metrorail)	\$ -	\$ -	\$ -	\$ 1.74	\$ 1.80	\$ -	\$ -	\$ -	\$ -	\$ -
Systems	Traction Power Cable Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.24	\$ -	\$ -	\$ -	\$ -
MAINTENANCE FACILITIES											
Maintenance Facilities	Lifts Replacement for Rail and Bus	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.65	\$ -	\$ -	\$ -	\$ -
Maintenance Facilities	Lehman Center Yard Tower Upgrade	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.85	\$ 2.99	\$ 1.01	\$ -	\$ -
Maintenance Facilities	Replace air compressors at all bus locations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.92	\$ 0.60	\$ -	\$ -	\$ -
Maintenance Facilities	A/C & Chiller Unit Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2.42	\$ 0.14	\$ 0.14	\$ 0.14	\$ 0.38
Maintenance Facilities	Bus Garages: Roofs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.90	\$ 0.63	\$ 0.65	\$ 0.68

Table 7-9: Proposed Infrastructure Renewal Program Need (2020) (continued)

Classification	Project Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total Estimated Cost YOE
Maintenance Facilities	Metrobus: A/C Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.56	\$ -	\$ -	\$ -	\$ -	\$ 0.56
Maintenance Facilities	Central O & I Garage Shop Floor Leveling	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.97	\$ -	\$ -	\$ -	\$ -	\$ 0.97
Maintenance Facilities	Secondary Guide Rails for Bus Washes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Maintenance Facilities	ETS - Telephone Cable Replacement - Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.44	\$ 0.23	\$ 0.24	\$ 0.25	\$ -	\$ 1.16
Maintenance Facilities	Repairs at Central Bus Facility Storage Building for 40 Year Building	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	Renovation 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
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	\$ 0.96	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.96
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

Table 7-9: Proposed Infrastructure Renewal Program Need (2020) (continued)

Classification	Project Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total Estimated Cost YOE
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
Safety & Security	DLN Garage Fire Alarm Replacement Project	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.46	\$ 0.46
TRACK & GUIDEWAY												
Track & Guideway	Replacement Work Vehicles 10-15 Year Plan	\$ -	\$ 0.81	\$ 0.39	\$ 0.36	\$ 0.41	\$ 0.31	\$ 0.20	\$ 0.20	\$ 0.19	\$ 0.20	\$ 3.07
Track & Guideway	Fastener Replacement Station Areas	\$ -	\$ -	\$ -	\$ -	\$ 1.07	\$ 1.05	\$ 1.02	\$ 1.03	\$ 1.10	\$ -	\$ 5.26
Track & Guideway	Metromover Brickell Extension Guideway Painting	\$ -	\$ -	\$ 5.17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.17
Track & Guideway	Metromover Inner Loop Guideway Painting	\$ -	\$ -	\$ -	\$ -	\$ 9.53	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9.53
Track & Guideway	Metromover Omni Extension Guideway Painting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7.26	\$ -	\$ -	\$ -	\$ -	\$ 7.26
Track & Guideway	Metrorail Steel Box Girder Guideway Painting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.22	\$ 7.83	\$ -	\$ -	\$ -	\$ 13.05
TOTALS:		\$19.32	\$16.70	\$19.43	\$10.79	\$45.30	\$99.68	\$75.82	\$49.15	\$53.23	\$27.44	\$ 416.87

Source: Miami-Dade Transit, Infrastructure Renewal Program Existing System FY 2009-10 (April 21, 2009) (PRO-FORMA IRP) IRP is partially funded.