



Miami Dade Transit People's Transportation Plan Financial Capacity Analysis

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Integrated Transit System Financial Plan

The following long-term financial plan for Miami-Dade Transit (MDT) is a comprehensive plan that accounts for all Bus, Rail, Metro Mover and STS – Paratransit services. The financial plan includes both the existing, including renewal and replacement needs, as well as expanded service provided by MDT. The comprehensive financial plan will be required by the Federal Transit Administration (FTA) and the Florida Department of Transportation (FDOT) prior to the disbursement of any capital funds. It is important to note that the agencies will review not only the individual project applying for funding, but will also review MDT's ability to operate and maintain the entire system. Specifically, "FTA will direct its Financial Management Oversight contractor to assess the sponsor's financial capacity and the reasonableness of the sponsor's financing assumptions, including the completeness of the sponsor's financial plan, **and the stability and reliability of the sponsor's financing for both the capital costs of the project and the operation and maintenance costs of the overall transit system.**" Further Section 12 of the Full Funding Grant Agreement stipulates, "As a condition of the Government's Award of funding set forth in this Agreement, the Grantee has developed and adopted a Financing Plan to finance the future operation and maintenance of the Project that also takes into consideration the Grantee's **continuing financial responsibilities to operate, maintain and reinvest in its existing transit system.**" Therefore, this financial plan encompasses all existing and expanded services to be maintained and operated by Miami-Dade Transit.

The existing system has been in operation since 1960. Over the past 35 years, Miami-Dade Transit has increased fares five times, with the last fare increase occurring in 1991. The lack of fare increases has inhibited MDT's ability to efficiently operate the system. Inflationary pressures alone have had a negative impact on the system's operations when one considers that CPI has increased steadily at a compounded annual growth rate of 2.54% since 1991, while fares remained constant. The operating deficit caused by an inconsistent schedule for fare increases forced MDT into delaying many necessary replacement and rehabilitation capital costs. These delays compound the problem in that the necessary rehabilitation becomes greater and more costly. In addition to the economic pressures, there were additional concessions made when the sales tax passed that increased the operating burden on MDT. Other services, such as the golden passport, which was previously limited to low-income seniors, have been expanded and have decreased the amount of fare-paying customers.

This report encompasses three solutions to the long-term financial plan for existing and expanded MDT operations. The solutions detailed herein will enable MDT to operate the existing system as well as expanded services to the appropriate levels required for Federal and State Funding. The three solutions described in this report are as follows:

- System Operations – periodic fare increases for both bus and rail service
- County General Fund Subsidy – increase at 3.5% per annum on FY 2005 budget with an additional \$2 million in FY 2005
- Transit Sales Tax – initially/temporarily subsidize existing operations with revenues

The solutions described above are explained in greater detail throughout this report. Again, this report is an integrated financial plan that encompasses existing and expanded services. The financial plan is intended to allow MDT to recover financially while embarking on a substantial bus service expansion and a large rail capital improvement program.

Report Overview

PFM Dade Advisors, LLC (PFM) was contracted by Miami Dade County and Miami Dade Transit (MDT) to review and assess the original 20-year forecast financial feasibility associated with the implementation of the People's Transportation Plan (PTP) and to update the analysis with an independent set of assumptions and forecasting methodology. This report describes the underlying assumptions and the results of the updated financial analysis. For the second year, PFM has worked collaboratively with staff from MDT and the County to develop the following 20-year forecast associated with the implementation of the PTP.

Miami Dade Transit is a department within Miami Dade County Government. MDT operates as an independent business enterprise whose activities are, in part, supported by charges to external customers who use the system. MDT is treated as a "business-type activity" and is accounted for as an enterprise fund within the financial statements of the County. While the following financial capacity analysis has been developed for MDT as an agency and refers to financial initiatives implemented by MDT, it is implicit in this report that MDT must work within the approval process of the County and as an agency of the County.

Specifically, this report addresses the following issues:

- MDT Operations
- MDT Capital Improvement Program and Costs
- MDT Capital Improvement Program Funding
- Additional MDT Funding Sources
- Financing Strategies
- Summary of Program Wide Results

MDT Operations

Prior to the PTP, MDT operated approximately 700 buses and provided approximately 27 million annual bus revenue miles. The PTP called for a total bus fleet increase to 1335 buses by 2007, with a corresponding increase in annual bus revenue miles to 44 million, or 63 percent, by 2007. The following financial plan accounts for an actual increase to 43.5 million annual bus revenue miles and an increased bus fleet of 1191 buses. A bus service implementation schedule was provided by MDT planning staff which estimated the phasing in of the service increase to 43.5 million miles and determined that a total bus fleet of 1191 buses was sufficient to support this service. This level of service and bus fleet size is reflected in the financial results discussed throughout this report.

For financial forecasting purposes, operations associated with service levels prior to the PTP have been characterized as “existing service” and have been forecast separately from any new “expanded service” associated with the PTP Plan. The reason for a separation in the forecasting is solely the methodology being used to forecast revenues and expenses. For example, while existing revenues can be forecasted using budgeted amounts and historical collections, expanded service levels are derived using existing service growth rates. It is important to realize that MDT operates the entire transit “system,” not a portion of the system. As such, existing and expanded services should be considered related and interdependent. Expanded service levels would not continue without the proper maintenance and support of the existing system, expanded service is an extension of the system.

This section first describes the operating and maintenance (O&M) costs and operating revenues associated with MDT’s continuation of “existing service” levels. Next, the O&M costs and operating revenues associated with the implementation of “expanded” bus and rail service is described. The combination of O&M costs for existing and expanded service reflects total O&M costs for MDT. The same is true for operating revenues.

Continued Operation of Existing Service

This section describes the projected O&M costs and operating revenues associated with the continuation of existing service for the following four modes of transit service throughout Miami-Dade County:

- Bus service
- Rail service
- Metro Mover service
- Paratransit services

Operations and Maintenance Costs – Existing Service

O&M costs for each mode of service consists of “direct” O&M costs as well as “indirect” costs. For example, total O&M costs for bus service consists of direct bus service costs such as labor costs, fuel and vehicle maintenance costs, etc., as well as fully allocating general administrative costs (e.g. executive administration), or indirect costs. For purposes of this financial analysis, all O&M costs for MDT have been allocated to one of the four modes of service.

The FY 2005 Budget forecast served as the baseline for O&M cost projections. Baseline O&M costs for each mode of service were projected through 2024 using current information regarding recent labor contract pay increases effective through 2006, and more general growth rate assumptions for the long term. The growth rate assumptions for each service mode are presented below.

Exhibit 1 <u>O&M Cost Growth Rate Assumptions</u>				
	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008 & After</u>
Bus	5.80%	5.50%	4.80%	3.00%
Rail	5.80%	5.50%	4.80%	3.00%
Mover	5.80%	5.50%	4.80%	3.00%
Paratransit (STS)	8.50%	11.0%	13.00%	*
*Paratransit is forecast at the following rates: 2008 = 14%, 2009 = 12%, 2010 & After = 2.0%				

Based upon the FY 2005 baseline budget and the above growth assumptions, total operating costs for MDT's existing service are projected to increase from \$307 million in 2005 to \$600 million in 2024, or at a compounded annual growth rate of 3.51 percent. In addition to these O&M costs, MDT reimburses RTA & Tri-Rail for providing regional service. In 2005, these reimbursements are estimated to be \$2.7 million and \$1.9 million respectively. These reimbursement amounts are kept constant for forecasting purposes. A 20-year summary of MDT's total O&M costs for maintaining existing service through 2024 is provided below in exhibit 2.

Exhibit 2 <u>Projected O&M costs by Mode (Inflated Dollars) – Existing Service</u>				
<u>O&M Cost by Mode</u>	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Direct Operating Expenses				
Existing Bus Service O&M Costs	\$ 2,074,366,479	\$ 2,830,675,209	\$ 3,959,678,651	\$ 8,864,720,339
Existing Rail Service O&M Costs	821,171,126	1,143,264,884	1,640,958,993	3,605,395,003
Mover	274,108,592	370,854,922	524,435,337	1,169,467,337
STS Paratransit	510,525,495	677,410,180	825,759,229	2,013,694,904
Direct Operating Expenses	\$ 3,680,171,692	\$ 5,022,205,195	\$ 6,950,832,210	\$ 15,653,209,000
Additional Costs (Not Allocated)				
RTA	26,700,000	26,700,000	26,700,000	80,100,000
Tri-Rail	19,000,000	19,000,000	19,000,000	57,000,000
Total O&M Costs	\$ 3,725,871,692	\$ 5,067,905,195	\$ 6,996,532,210	\$ 15,790,309,000

Operating Revenues

MDT receives operating revenues from numerous sources, including farebox, parking, joint development and advertising, among others. The FY 2005 Budget itemizes 11 different revenue categories which are considered directly generated (i.e. not including subsidy funds) revenues available to support operations. Directly generated operating revenues for each of these 11 categories have been projected and are described in Exhibit 6.

While there are numerous revenue sources, the majority of directly generated revenues come from passenger fares; either in the form of cash fares, pre-paid tokens or pre-paid transit passes. Passenger fares are a product of ridership and fare levels. As explained below, ridership has been growing slowly since 2000 and fares have not been increased since 1991. Consequently, MDT has seen declining farebox recovery ratios (i.e. the percentage of O&M costs recovered through fare revenues) in recent years. For example, the farebox recovery ratio for bus service has declined from 36 percent to 25 percent between 2000 and 2004, and for rail it has declined from 28 percent to 12

percent over the same period. As the farebox recovery ratio declines, a financial imbalance is created as O&M costs outpace system generated revenues, requiring increasing subsidies from other revenue sources to meet operating demands. The imbalance in the farebox recovery ratios is due to the escalation of operating expenses and the linear growth of the fares and fees, in other words, the fares and fees have not proportionally increased with the expenses, even though there have been gains in ridership. Another reason for this imbalance, is that the increase in ridership has primarily occurred in the golden passport boardings.

There are two ways to increase passenger fare revenues and the farebox recovery ratio: (1) increase passenger boardings and (2) increase passenger fares. As described in Exhibit 4, passenger boardings are projected to increase at a low rate through 2024, with bus boardings increasing at an annual rate just above 1 percent. Consequently, officials at MDT and the County have determined it necessary to incorporate periodic fare increases into this PTP pro forma in order to correct the financial imbalance and to reconstitute MDT's farebox recovery ratios back to healthier levels. This effectively preserves other available revenues for capital expansion and increased system operations.

A description of MDT's current fare structure along with projected periodic fare increases is presented below in Exhibit 3. The implementation schedule for fare increases was provided by MDT staff. While there are some additional fare categories available through the pass program, for example, the fare structure described below is considered representational of MDT's overall fare structure and is used for the basis of passenger fare revenue projections. By assumption, the full bus cash fare is assumed to increase by \$0.35 in 2007, then an additional \$0.50 in 2012 and 2017. These fare increases, together with increased annual ridership, allow farebox recovery levels for bus service to increase and fluctuate between 26 and 48 percent through 2034.

Exhibit 3 <u>MDT Passenger Fare Structure – Existing Fares & Periodic Increases</u>			
<u>Fare Category</u>	<u>Current Fares</u>	<u>Periodic Fare Increases</u>	
	2005	2007	2012 and 17
Cash Fare			
Bus	\$ 1.25	\$ 0.35	\$ 0.50
Rail	\$ 1.25	\$ 0.35	\$ 0.50
Transfers to Bus	\$ 0.25	\$ 0.35	\$ 0.15
Transfers to Rail	\$ 0.25	\$ 0.35	\$ 0.15
Special Transportation Services Fares			
Tokens	\$ 2.50	\$ 0.70	\$ 1.00
Bus	\$ 1.00	\$ 0.40	\$ 0.30
Rail	\$ 1.00	\$ 0.40	\$ 0.30
Prepaid Passes			
Monthly Transit Pass	\$ 60.00	\$ 7.50	\$ 7.50 and 10.00
Monthly Discount Pass	\$ 30.00	\$ 5.00	\$ 2.50 and 5.00

While fares are assumed to increase steadily through 2017, annual paying passenger boardings are projected to grow at a low annual rate. Our initial forecast methodology for passenger fares was based on detailed boardings forecasts and annual fare levels. However, in lieu of accurate passenger boarding forecasts, the annual growth rate in population for Miami-Dade County was used to forecast boardings growth through 2034. In addition to fare increases, a spike in revenues is visible in 2009 and 2010. The increase in revenues is attributed to the new fare collection system MDT plans to have in place by 2009. The new collection system is expected to increase the efficiency with which MDT collects fares. Because of the new technology MDT expects revenues to increase by 20% in 2009 and another 10% in 2010.

According to population forecasts prepared by the Bureau of Economic and Business Research (BEBR) at the University of Florida, population is projected to increase at an annual compounded growth rate of 1.2 percent through 2014. While BEBR forecasts are available only through 2014, their forecast had to be extended through 2034 in order to forecast passenger boarding growth for MDT forecast purposes. Consequently, PFM extended the BEBR forecast through 2034 based upon the average population growth for the final five years of the BEBR forecast. The compounded annual population growth rate through 2034 was 1.11 percent. This, in turn, was used to estimate the annual growth rate for passenger boardings through 2034. It should be noted that MDT provided higher passenger growth rate estimates for STS services, with an annual growth rate of 3.25 percent. In addition, passenger boardings were projected to grow at only 97% of the actual population growth in years where a fare increase was implemented. Updated passenger forecasts may be substituted for these passenger boarding estimates as MDT receives results from their travel demand and ridership study prepared by the University of South Florida's Center for Urban Transportation Research (CUTR).

Exhibit 4	
<u>Annual Growth in Forecast Boardings by Fare Category</u>	
<u>Forecast Boardings by Fare Category</u>	<u>Compound Annual Growth Rate</u>
Cash Fare	
Bus	1.11%
Rail	1.11%
Transfers to Bus	1.11%
Transfers to Rail	1.11%
Special Transportation Services Trips	3.25%
Tokens	
Bus	1.11%
Rail	1.11%
Prepaid Passes	
Total Pass Boardings:	1.11%
Monthly Transit Pass - Full Fare	1.11%
Monthly Discount Pass - Discount	1.11%

Passenger revenues were calculated by multiplying baseline passenger revenues by the annual growth in passenger fares and passenger boardings. This way, passenger revenues are linked to fares and boardings, though driven by growth rates rather than by actual boarding forecasts. The estimated fare revenues are presented below in Exhibit 6.

In addition to passenger fares, growth rate assumptions regarding the remaining operating revenue categories are described below.

Exhibit 5	
<u>Additional Operating Revenues – Assumed Growth Rates</u>	
Parking Fees:	Constant increase of 1.5% <u>plus</u> \$63,000 incremental increase with every new rail parking facility
TD Pass Revenue	5% increase every 5 years
TD Token Revenue	5% increase every 5 years
Medicaid Pass Revenue	5% increase every 5 years
Joint Development/ Permits/Leases	No Growth to 2010. \$10 MM in 2010 through 2023 <u>plus</u> \$100,000 per each new rail facility (\$250,000 FIU – MIC)
Advertising/Others	2.00% annually
Bus feeder	No Growth

Based upon the FY 2005 baseline budget and the above operating revenue growth assumptions, the total directly generated operating revenues for MDT's existing service are projected to increase from \$72 million in 2005 to \$222 million in 2034, or at an annual compounded growth rate of 3.95 percent. A 30-year summary of total operating revenues for MDT's existing service through 2034 is provided below in exhibit 6.

Exhibit 6				
Projected Operating Revenues – Existing Service				
	2005-2014	2015-2024	2025-2034	30-Year Total
Directly Generated Revenues				
Existing Bus Service Farebox	\$ 624,000,900	\$ 1,109,810,185	\$ 1,232,095,521	\$ 2,965,906,606
Existing Rail Service Faregate	92,903,886	149,256,691	165,301,462	407,462,039
Pass Revenue	145,081,914	207,326,489	234,958,677	587,367,080
Rail Parking	14,424,710	14,428,511	14,432,313	43,285,534
STS Revenues	79,722,711	131,913,653	137,190,199	348,826,563
TD Pass Revenue	14,567,000	16,376,535	17,017,088	47,960,623
TD Token Revenue	1,654,395	1,859,906	1,932,655	5,446,956
Medicaid Pass Revenue	18,583,330	20,891,780	21,708,942	61,184,051
JD/ Permits/Leases	42,140,064	94,224,156	107,397,448	243,761,667
Advertising/Others	23,352,392	30,858,897	37,616,824	91,828,113
Bus feeder	9,990,000	9,990,000	9,990,000	29,970,000
Total Operating Revenue	1,066,421,302	1,786,936,802	1,979,641,128	4,832,999,233

Operation of Expanded Service

This section describes the O&M costs and operating revenues associated with implementing new bus and rail service through 2034. This section is separate from existing service only to account for the different forecasting methodology required of new service. Expanded service is an extension of the service currently provided by MDT. Expanded service is not independent of existing service. MDT's existing service and the expansion of that service is part of an entire transit system. The system and the revenues and expenditures associated with it must be considered in their entirety, rather than as separate enterprises. The expansion of MDT's service cannot exist independently from existing service. As noted above, expanded service assumes 43.5 million bus revenue miles and a total bus fleet of 1191 buses necessary to support this service. The total Bus Revenue Miles is now 32,167,940. Additionally, this analysis includes the continuation of MDT's improved rail service in 2004 with decreased headways along existing rail corridors and the new rail service associated with the construction and operation of new rail corridors through 2034.

Operations and Maintenance Costs – Expanded Service

Expanded Bus Service

Planning officials at MDT developed a bus service implementation schedule for new bus revenue miles, revenue hours and peak vehicles requirements to meet the PTP targets through 2007. Expanded bus miles, hours and vehicle days were multiplied by the incremental cost per revenue mile and hour and vehicle day, respectively, in order to estimate the additional O&M costs associated with implementing the new bus service. If new service was programmed to be in operation for only a partial year, then the total cost was pro-rated to determine the first year's impact. The full year's impact would be felt the following year of service. A summary of the implementation schedule for new bus revenue miles, revenue hours and peak vehicle requirements through 2007 is presented below.

Exhibit 7 Bus Service Implementation Schedule <u>Annual Increase in Bus Service</u>			
FY 04 Increase in Bus Revenue Miles = 2.8 million			
<u>Fiscal Year</u>	<u>Bus Revenue Miles</u>	<u>Bus Revenue Hours</u>	<u>Peak Vehicle Requirement</u>
2005	3,332,971	261,710	87
2006	3,572,806	262,974	96
2007	3,455,491	263,151	110
Total Incremental Increase	10,361,268	787,835	293
Cumulative Total Miles	43,450,963		

The increased bus service requirements described above were multiplied by incremental cost factors per hour, per mile and per peak vehicle day. The incremental cost factors were developed by first determining what cost components from the FY 2005 Budget allocated to bus service were variable costs, and then determining whether the variable cost components were driven by increased vehicle miles, hours or additional vehicle days. For example, bus service operator costs were determined to be variable costs which increase according to the number of hours of bus service, while maintenance costs, in general, were linked to the number of miles a bus is in operation for. Conversely, executive administrative positions were not considered variable costs and were not assumed to increase as additional service is implemented. A summary of the FY 2005 Budget allocation used to determine the incremental cost factors is presented below.

Exhibit 8 <u>Incremental Bus Costs – FY 2005 Budget Allocation</u>			
	<u>Vehicle Hours</u>	<u>Vehicle Miles</u>	<u>Vehicle Days</u>
Base Service Levels:	2,862,637	34,335,269	235,013
<u>Cost Categories</u>			
Labor	\$108,238,200	\$30,752,662	\$21,289,738
Services	\$0	\$6,218,925	\$4,486,052
Materials	\$0	\$8,326,770	\$837,435
Utilities	\$0	\$9,509,068	\$1,547,988
Insurance	\$0	\$1,625,400	\$487,320
Taxes	\$0	\$614,470	\$100,030
Other	\$0	\$721,700	\$910,184
TOTAL	\$108,238,200	\$57,768,996	\$29,658,746
Results: Incremental Cost Factors			
Cost Per Veh. Hour	\$37.81		
Cost Per Veh. Mile	\$1.68		
Cost Per Peak Veh. Day	\$126.20		

Bus O&M costs for new service are projected to increase from \$48 million in 2005 to \$213 million in 2034. This cost increase is driven both by phased-in new service as well as inflationary cost impacts. The above described savings associated with innovative service delivery strategies are incorporated into these cost estimates. A summary of the bus O&M costs associated with operating the new service through 2034 is presented below.

Exhibit 9 <u>Projected Incremental Bus O&M Costs</u>				
	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Incremental Bus O&M Costs	\$ 883,423,942	\$ 1,297,356,289	\$ 1,862,608,037	\$ 4,043,388,268

Expanded Rail Service

Expanded rail service, or more generally fixed guideway, is implemented in three ways: (1) expanded train frequency (i.e. decreasing headways) and service hours on existing routes and (2) new rail service along new rail corridors that are constructed and opened for service and (3) expanded fixed guideway service through the implementation of bus rapid transit corridors. Currently, MDT has increased rail service by opening and providing service at the new Palmetto station and has increased the frequency and hours of service along existing rail corridors. This new service is estimated to cost approximately \$11 million to operate and maintain in 2005. MDT has phased out 24 hour service in 2004, however, decreased headways remain.

New rail service and related O&M costs are linked to the capacity and timing of new rail construction. This in turn, as explained below, is linked to certain external factors such as the availability of federal funding. This financial analysis contemplates three different new rail corridors, which will impact expanded rail O&M costs when opened and operating. Because of capital capacity constraints and the availability of federal grant funds that would likely flow to Miami-Dade County over a 10-year period, only three of the rail corridors are assumed constructed and operating within a 20-year planning horizon. The three rail corridors that are assumed constructed and operating by 2015 are listed below. It is important to note that while only three rail corridors were assumed to be

constructed and operating by 2015, it may be possible to begin planning work on other corridors in this time period. As the planning process is underway, it is likely that another corridor can begin construction within twenty-years, or multiple corridors can be constructed in the thirty-year proforma period. Conversely, delays in federal funding, decreased sales tax revenues or other negative impacts to the assumptions made in this proforma could delay operations. The PTP is a dynamic plan that will have to be refined each year.

Exhibit 10 <u>Rail Corridors – Annual O&M Costs</u>		
<u>Project</u>	<u>Start of Operations</u>	<u>Annual O&M Cost (2004\$)</u>
North Corridor	2014*	\$ 26,983,629
FIU to MIC	2015	\$ 26,055,938
EH/MIA connector	2011	\$ 5,554,062

*2014 is the final year of construction and only accounts for a partial year of operations

Annual costs for the North corridor and the Earlington Heights corridor are based upon engineering studies prepared for MDT by Parsons Brinkerhoff. Annual operating costs for the other corridors are based upon existing operating costs for service currently implemented by MDT.

Similar to the methodology used for bus service, rail O&M costs associated with new service were estimated on an “incremental” cost basis and are based upon FY 2005 Budget estimates. Incremental costs were determined based upon total and variable O&M costs allocated to rail and the number of track miles currently operated by MDT. The underlying assumption with this methodology is that the new rail service will operate similar to existing service. While preliminary in nature, this O&M cost methodology had to be used in lieu of any current engineering study for many of the proposed rail corridors. A summary of the incremental cost methodology is presented below.

Exhibit 11 <u>Incremental Rail Cost – Cost Per Track Mile</u>	
Fully Allocated Budget FY 2005 – Rail	\$55,586,000
Full Component - Percent	100%
Full Component of Budget FY 2005 – Rail	\$55,586,000
Rail Track Miles - FY 2005	22.4
Cost Per New Track Mile	\$2,481,518

For those rail corridors that do not have a current engineering study associated with it, incremental rail O&M costs associated with new rail service was determined by multiplying the variable cost per new track mile by the number of new track miles along the specific corridor.

Total O&M costs for expanded rail service are estimated to increase from approximately \$11 million in 2005 to \$181 million in 2034. However, most of the new annual costs do not begin until FY 2011 when the first rail corridor is assumed completed and opened for service. A summary of O&M costs associated with new rail service (both increased frequency and hours along existing corridors and new rail corridor service) through 2034 is presented below.

Exhibit 12 <u>Projected Incremental Rail O&M Costs</u>				
	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Expanded Rail Service O&M Costs	\$ 178,534,371	\$ 1,143,789,518	\$ 1,586,058,778	\$ 2,908,382,667

Operating Revenues – Expanded Service

With new bus and rail service, MDT will collect additional revenues in the form of farebox revenue. It is not known at this time for most new bus or rail service what the increased ridership will likely be. Consequently, it is not possible to project farebox revenues based on projected ridership and fares. As an alternative, the same assumption was used to project estimated revenues associated with new bus and rail service. In both cases it is assumed that the farebox recovery ratio (farebox revenue divided by operating costs) for new service will equal the farebox recovery ratio for the continuation of existing service with both modes, respectively.

With the introduction of fare increases beginning in 2007 and continuing each five years thereafter through 2017, the farebox recovery ratio for both bus and rail fully recover within the time frame of this pro forma. Specifically, the bus farebox recovery ratio is projected to increase from 20 percent in 2005 to 39 percent in 2024, mainly due to the incremental fare increases through 2017. Similarly, the rail farebox recovery ratio is projected to increase from 11 percent in 2005 to 22 percent in 2024.

Based upon projected O&M costs and assumed farebox recovery ratios through 2034, a summary of incremental operating revenue associated with new bus and rail service, respectively, is presented below. Incremental bus operating revenue is projected to increase from \$5.5million in 2005 to \$57 million in 2034. Incremental rail operating revenue is projected to increase from \$588,000 in 2005 to \$39 million in 2034. These sharp increases in expanded bus and rail farebox revenue reflect the fast paced implementation schedule of new service; with new service, comes new revenues. They also reflect the periodic fare increases every five years beginning 2007 and ending in 2017.

Exhibit 13 <u>Projected Incremental Operating Revenue</u>				
<u>Mode</u>	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Incremental Bus Operating Revenue	\$ 271,790,078	\$ 500,108,399	\$ 571,754,519	\$ 1,343,652,996
Incremental Rail Operating Revenue	\$ 27,677,550	\$ 335,576,234	\$ 382,046,708	\$ 745,300,593

Summary of MDT Operating Results

As described above, MDT has determined it necessary to increase fares in the future in order to reconstitute the farebox recovery ratio (i.e. the portion of O&M expenses recovered through farebox revenues) for both bus and rail. Recent years have seen bus and rail O&M costs outpace ridership, leading to declining farebox recovery ratios.

Presented below are three historical years of O&M costs, operating revenues and the resulting farebox recovery ratios, along with the projected 10-year summary estimates for the years 2005-2014, 2015-2024 and 2025-2034. The farebox recovery ratios for the 10-year summary estimates represent average ratios for those time periods.

Exhibit 14						
Historical & Projected Farebox Recovery (Millions)						
Mode	2002	2003	2004	2005-2014	2015-2024	2025-2034
BUS						
Total Bus O&M Costs	\$164.3	\$187.7	208.7	\$2,957	\$4,100	\$5,822
Total Bus Passenger Revenue ¹	\$49.1	\$48.8	52.3	\$1,007	\$1,763	\$1,978
Farebox Recovery Ratio	29.9%	26.0%	25.1%	34.0%	42.0%	34.0%
RAIL						
Total Rail O&M Costs	\$61.5	\$70.2	71.2	\$999	\$2, 287	\$3,227
Total Rail Passenger Revenue ¹	\$13.5	\$13.3	13.7	\$153	\$532	\$601
Farebox Recovery Ratio	21.9%	18.9%	19.2%	15%	23%	18.6%

1. Bus revenue includes 77 percent of pass revenue and rail revenue includes 23 percent of pass revenue for years 2005 through 2034.

As described above in Exhibit 14, the farebox recovery ratio for bus has been steadily declining over the last four years, from 29 percent in 2002 to 25 percent in 2004. Similarly for rail, the recovery ratio has declined from 21 percent in 2002 to 19 percent in 2004 (a slight increase from 2003). This declining trend is the result of increasing O&M costs, presumably tied to increasing service, combined with slow annual increase in boardings in bus and rail.

The trend of increasing O&M costs together with the slow increase in passenger boardings is described below in Exhibit 15. It is important to focus on O&M cost growth compared to growth in boardings, since if no fare increases are implemented, the only factor driving increasing operating revenues is increasing boardings.

Exhibit 15						
O&M Cost Growth vs Passenger Boarding Growth Rate (millions)						
Mode	2002	2003	2004	2005-2014	2015-2024	2025-2034
BUS						
Total Bus O&M Costs	\$164.3	\$187.7	208.7	\$2,957	\$4,128	\$5,822
O&M Cost Growth Rate	1.5%	14.3%	11.3%	5.0%	3.3%	3.3%
Total Bus Boardings	63.4	64.2	73.3	N/A	N/A	N/A
Boardings Growth Rate ¹	-3.1%	1.3%	14.1%	1.17%	1.17%	1.17%
RAIL						
Total Rail O&M Costs	\$61.5	\$70.2	73.2	\$999	\$2,287	\$3,227
O&M Cost Growth Rate	6.3%	14.2%	4.3%	4.29%	5.85%	5.85%
Total Rail Boardings	13.8	14.1	15.8	N/A	N/A	N/A
Boardings Growth Rate ¹	0.1%	2.7%	12.1%	1.11%	1.11%	1.11%

1. Bus and rail boardings growth rates for 2005 through 2034 reflects the growth rate in full cash fare boardings as an indicator.

As described in Exhibit 15, Bus O&M costs have increased significantly between 2002 and 2004 at a compounded annual growth rate of 10.1 percent through 2004. Growth in bus boardings has increased between 2002 and 2004 with a compounded annual growth rate of 6.8 percent through 2004. The sharpest rise in O&M costs occurred in 2003, as costs increased 14.3 percent. This was largely due to the increase in new bus service under the PTP. In this same year, however, bus boardings grew only by 1.3 percent. With slow boardings growth, the only way to maintain structural balance between O&M costs and revenues is through periodic fare increases. As MDT examines new ways to increase boardings, then the need for fare increases may be re-examined.

The same trend emerges for rail service. The compound annual growth rate in rail O&M costs was 9.5 percent between 2002 and 2004 and only 7.1 percent for boardings growth. This similarly leads to a decreasing farebox recovery ratio and an increasing need for cross subsidization to support rail O&M costs.

The results from the statistics presented above have led MDT staff to preliminarily determine that fare increases, beginning in 2007, are necessary. If O&M costs continue to outpace passenger boardings, then the need for cross-subsidy from other revenue sources (including sales tax proceeds) similarly increase, which will compromise MDT's ability to implement their capital improvement program. However, as described above, the addition of sales tax proceeds to MDT's operating revenues has enabled the Department to make certain services free, i.e. golden passport. In order for MDT to continue operating the system without increasing fares is to continue using other revenue sources. While the capital program may be compromised because of this cross-subsidization, other services have increased and transit services have been made more accessible to the public. It is not possible to expect these services to exist without other revenue sources, such as a sales tax.

These preliminary indications suggest that MDT will strongly benefit from a travel demand ridership study to determine how much bus and rail service to deliver, where to implement specific routes, and how to best meet the demand with constrained assets.

MDT Capital Improvement Program & Costs

MDT has two major components to its ongoing capital improvement program: (1) bus purchase for service expansion and ongoing replacement and, (2) new rail construction and the rehabilitation of the existing system. Each component of the capital program is described below. In addition to these system related capital improvements, MDT has included \$470 million in public works capital improvements to be funded between 2004 and 2013. The costs of these improvements have been incorporated into this financial analysis.

Exhibit 2A included in the Appendix A describes the long-term cash flow assumptions underlying the rail and bus capital programs, respectively.

Bus Capital Improvements

Consistent with the PTP, MDT expanded its bus fleet peak vehicle requirements by 57 in 2004 and has increased bus service miles by 2.8 million revenue miles.

New Bus Acquisition Costs

MDT planning staff provided the bus requirements associated with the increased bus service through 2007. A “spare ratio” of 20 percent was added to the bus requirements in order to determine total new bus acquisition requirements. Any additional buses in the existing fleet were first applied to meet near term needs and offset purchasing requirements. In this way, “net” purchasing requirements were determined for new bus acquisition for the implementation of the PTP. A summary of new bus purchasing requirements is described below.

	Additional Bus Service Requirements				Net Purchasing Requirements		
FY	Large Bus	Small Bus	Articulated Bus		Large Bus	Small Bus	Articulated Bus
2005	38	66	0		15	42	0
2006	55	60	20		55	60	20
2007	11	133	26		11	133	26
Total	104	259	46		81	235	46

New bus purchase requirements were multiplied by assumed unit cost purchase prices, described below, to estimate bus purchase costs through 2007. These bus purchase costs are based upon MDT's recent experience with bus acquisition.

Exhibit 17 <u>2005 Bus Purchase Costs</u>		
<u>40-ft. Buses</u>	<u>30-ft. Buses</u>	<u>Articulated Buses</u>
\$302,357	\$240,000	\$390,000

New bus acquisition and related capital costs extend through 2007, at which point all new planned bus service has been implemented. Total new bus acquisition costs through 2007 are summarized below.

Exhibit 18 <u>Total New Bus Purchase Costs</u>	
	<u>2005-2007</u>
New Bus Purchase Costs	\$ 82,342,628

Replacement & Renewal Bus Acquisition Costs

MDT's existing fleet was documented according to the model and date of purchase to determine an ongoing renewal and replacement bus acquisition schedule. Based on the quality of the buses, a 12 year life for each vehicle was assumed for replacement purposes. New bus acquisition was factored into long term replacement needs and an annual replacement schedule was developed through 2034.

Annual replacement bus acquisition costs were determined according to the replacement schedule and using the bus purchase unit costs described above. Total costs for the second 10-year period show an increase as the expanded bus fleet needs replacement after 12 years of operations. A summary of total bus replacement purchase costs is presented below.

Exhibit 19 <u>Total Bus Replacement Purchase Costs</u>				
	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Bus Replacement Costs	\$ 246,900,945	\$ 348,370,542	\$ 346,036,326	\$ 941,307,814

Rail Capital Improvements

Three rail corridors are currently contemplated in this financial analysis with project capital costs ranging from \$340 million (2004 dollars) to \$1.45 billion (2004 dollars). The combined three rail corridors comprise a total capital cost estimated to be \$2.92 billion (2004 dollars). This represents a large capital rail program which will raise two primary questions from the Federal Transit Administration (FTA). First will be the related question of operating this size of a system and identifying the sufficient and recurring resources to meet the annual operating requirements when the corridors come on line. The second issue pertains to the amount of annual funds that Miami Dade could expect to receive from the FTA and the total amount of Federal funding that Miami-Dade could expect over 20 years. It should be noted that the EH/MIC corridor is currently being implemented using only MDT and state funding sources. As such, only the North corridor and FIU-MIC corridor

would be seeking Federal funding. However, as the pro forma indicates, the operation of the system would still be of concern to Federal officials. Because the Transit System is an integrated system, existing operations are just as important in the process to obtain federal and state funding. It is not realistic to assume that the new corridors would operate independently from the existing services. System operations are only one of the concerns from a federal standpoint.

The expectation of one or two Full Funding Grant Agreement (FFGA – the mechanism through which the FTA negotiates its participation level and the annual reimbursement levels) in support of a \$1billion program, for example, is a reasonable expectation. Within this size program, the FTA could be expected to pay approximately 50 percent (\$500 million) over seven to ten years with an annual amount not likely to exceed \$60 million. As MDT's rail program approaches the total cost of \$2.9 billion, the federal participation assumptions become less certain. This size program would entail Federal participation in the amount exceeding \$1.5 billion (and more when inflationary impacts are accounted for) over 20 years and would require the issuance of numerous and concurrent FFGA's from FTA.

While the FTA does have a history of issuing concurrent FFGA's to agencies with a strong historical performance of rail implementation (e.g. Chicago's CTA has multiple FFGA's currently negotiated with the FTA), the assumption of concurrent FFGA's will need to be further negotiated with FTA. Additionally, the total amount of federal funds over a 20-year period will be the subject of negotiation. Currently, it is assumed that the FTA provides a total of \$368 million through 2014 that is paid directly to project reimbursement, and an additional \$1.2 billion to reimburse commercial paper proceeds that are used in years where the federal funding amount exceeds \$60 million. In total, the FTA is assumed to pay \$1.5 billion to Miami Dade transit between 2005 and 2034. This total corresponds to the 50 percent federal participation level.

Listed below are the three rail projects contemplated in this financial analysis, their capital costs and the construction start dates assumed in this analysis. Only three rail corridors were included in this analysis to fit within an initial set of reasonable implementation assumptions consistent with a 50 percent federal funding contribution level and the actual timing of FFGA's. However, it is important to consider this a dynamic plan which considers many variables. As structured, the program allows for more capital projects to begin after 2016.

Exhibit 20 <u>Rail Program Capital Costs</u>		
<u>Project</u>	<u>Capital Cost / 2004\$</u>	<u>Project Activity Start Date</u>
North Corridor	\$ 919,398,120	2004
FIU to MIC	\$ 1,096,551,195	2005
EH/MIA connector	\$ 292,782,438	2005
Total Cost (2004\$)	\$ 2,308,731,753	

MDT staff provided capital expenditure draw schedules stated in inflated dollars. As capital draws are required for each corridor, an inflationary factor of 3.0 percent was applied to state the capital requirements in inflated dollars.

In addition to new rail capital construction, MDT has included estimated capital needs for rail rehabilitation and other capital projects in their capital program totaling \$1.2 billion (\$515 million for capital needs through 2015 and an additional \$728 million for capital needs beginning in 2030). Also, MDT has assumed \$462 million in capital costs for Public Works related projects through 2013 that are reflected in this financial analysis. A summary of the rail capital costs through 2034 are presented below.

Exhibit 21 MDT Rail Capital Improvement Costs (Inflated \$)*				
Capital Component	2005-2014	2015-2024	2025-2034	30-Year Total
North Corridor	\$ 1,164,274,251	\$ -	\$ -	1,164,274,251
FIU to MIC	1,376,272,339	-	-	-
EH/MIA connector	340,027,186	-	-	-
Other MDTA Capital Projects	498,000,000	18,208,063	728,600,000	-
Public Works Projects	463,000,000	-	-	-
Total	\$ 3,841,573,776	\$ 18,208,063	\$ 728,600,000	

* As described throughout this report, only three capital projects are accounted for in this analysis. It is likely that more capital projects would be built in the period

As described above, a majority of the rail capital costs are incurred during the first 10 years of the rail capital program. Also, capital projects have not been included in this analysis. It is likely that other projects will be implemented within this time frame. Projects were shown to be constructed in the first ten years of the pro forma in an accelerated rail construction schedule so as to provide new rail service as soon as possible. It should be noted, that while a majority of costs are incurred in the first 10 years of the program, Federal reimbursements are assumed to flow through 2034 as FTA reimburses any commercial paper proceeds used to supplement the timing of federal funds.

Although not contemplated in this pro forma, there is additional capacity after 2016 to begin design and construction of other corridors. Through annual updates of the pro forma, with participation from the public and elected officials, other corridors not currently scheduled can begin preliminary engineering.

MDT Capital Improvement Program Funding

There are specific Federal and State funding sources assumed available to support MDT's capital funding program through 2034. Federal and State funding sources and participation levels are described in this section.

Bus Capital Funding Sources

Two federal funding sources are assumed to support bus acquisition through 2034:

- Federal Section 5309 Bus Capital Grant Funds
- Federal Section 5307 Urbanized Area Grant Funds

The Federal Section 5309 bus grant program is a discretionary grant program whereby transit agencies "compete" for funds from a limited pool of grant funds. These funds are specifically designated to support bus acquisition. Based upon historical trends for MDT it is assumed that MDT will receive \$3 million annually through 2008 from this Federal program to support bus purchase needs. Beginning in 2009, the annual funding level is assumed to increase to \$5 million as MDT's bus fleet and funding needs increase.

Federal Section 5307 grant funds are "formula" funds that are apportioned to Miami Dade County based upon regional population density and the amount of service operated by MDT. These funds may be used to meet any capital requirement of MDT, including bus acquisition, and may also be applied to meet "preventative maintenance" needs throughout the system. It is estimated that MDT

will receive approximately \$40 million in Section 5307 funds in 2005. Approximately \$2 million, annually, of those funds are assumed to be used directly for bus acquisition through 2034.

MDT received a capital grant from the State of Florida Department of Transportation (FDOT) in the amount of \$6.6 million in 2004 to meet bus capital needs. This FDOT grant for bus capital is considered a one-time grant and no other State funds are assumed for bus capital through 2034.

Any additional funding needs to meet bus acquisition are assumed to be the responsibility of MDT. MDT can meet the annual funding needs on a cash basis or they can finance the capital requirement with the use of bond proceeds or lease financing. Currently, as explained further below, all “local” bus capital funding requirements are assumed to be financed through a bus financing program.

Exhibit 22 <u>Bus Capital Funding Sources</u>				
<u>Bus Capital Funding Sources</u>	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Federal 5309 Bus Funds	\$ 37,747,000	\$ 45,885,000	\$ 45,963,000	129,565,000
Federal 5307 Grant Funds	18,000,000	17,336,000	18,000,000	55,336,000
State Funds	-	-	-	-
MDT – Bus Financing	273,496,572	285,179,542	282,073,326	840,749,441
Total	\$ 329,243,572	\$ 348,400,542	\$ 346,036,326	

Rail Capital Funding Sources

MDT will compete for discretionary Federal capital funds to support construction of new rail corridors through the Federal Section 5309 Rail Capital Program. Currently the statutory maximum funding level from the Section 5309 Rail Program that can be used to fund a specific construction project is 80 percent. However, as a matter of practice, recent FFGAs issued by the FTA support a Federal participation level of 50 percent, on average. Therefore, a 50 percent funding level from the FTA is assumed in this analysis to be available to support rail capital projects through 2034. Additionally, FTA has advised that an agency should not assume that it would receive no more than \$100 million in a given year. A \$60 million annual cap on Federal funds has been incorporated into MDT’s funding and financing assumptions. Specifically, MDT is assumed to issue commercial paper to bridge the funding gap when Federal funds do not flow sufficiently to meet annual requirements. This is explained in greater detail below.

The remaining capital costs that are not covered by Federal funds are assumed to be split evenly between FDOT (25 percent) and Miami Dade County (25 percent). The 25 percent of project costs paid by Miami Dade County are assumed to be bond financed over 30 years. The financing strategies incorporated into this model are explained in greater detail below. FDOT has already committed to provide \$100 million for the Earlington Heights segment, this accounts for approximately 34.2% of the project cost.

The other two components of MDT’s rail capital program—rail rehabilitation and the Public Works capital improvements—are assumed to be funded with a combination of cash and with proceeds from long term sales tax revenue bonds.

A summary of the rail capital funding sources are described below.

Exhibit 23 <u>Rail Capital Funding Sources</u>				
<u>Rail Capital Funding Sources</u>	<u>2005-2014</u>	<u>2015-2024</u>	<u>2025-2034</u>	<u>30-Year Total</u>
Federal 5309 Grant Funds	\$ 368,033,926	\$ -	\$ -	\$ 368,033,926
State & Other Funds	735,136,657	-	-	735,136,657
Bond Proceeds - Rail Projects	975,705,672	-	-	975,705,672
Bond Proceeds - Other MDTA Projects	432,097,740	18,208,063	728,600,000	1,178,905,803
Bond Proceeds - Public Works Projects	441,926,750	-	-	441,926,750
Cash - Pay Go	20,932,250	-	-	20,932,250
Commercial Paper Proceeds	801,697,561	-	-	801,697,561
Total	\$ 3,775,530,556	\$ 18,208,063	\$ 1,178,281,788	\$ 4,552,338,618

As noted above, MDT is assumed to issue commercial paper annually when federal funds do not flow sufficiently to meet annual requirements. As presented in Exhibit 23, MDT is assumed to issue approximately \$801 million in commercial paper through 2014 to meet federal funding shortfalls. Additionally, it is assumed that federal funds will be used to pay-down the commercial paper program as they become available. Furthermore, it is assumed that federal funds will be available (subject to approval within a FTA Full Funding Grant Agreement) to pay interest costs on the outstanding commercial paper. Consequently, while the total amount of proceeds from the commercial paper program needed to meet construction needs totals approximately \$801 million, the federal reimbursement amount will be higher, assuming that FTA reimburses MDT for interest expenses on the commercial paper program.

Additional MDT Funding Sources

MDT receives subsidy funding from various Federal, State and local funding sources. The five subsidy sources are:

- Federal Section 5307 Urban Formula funds
- Federal Section 5309 Rail Modernization funds
- State Transportation Disadvantaged and Corridor Enhancement funds
- State Block Grant funds
- General Fund subsidy
- Local Option Gas Tax (LOGT)
- Sales tax revenue

As noted previously, Federal Section 5307 grant funds are “formula” funds that are apportioned to Miami Dade County and may be used to meet any capital requirement of MDT, including bus acquisition, and may also be applied to meet “preventative maintenance” needs throughout the system. It is estimated that MDT will receive approximately \$42 million in Section 5307 funds in 2005. These federal funds are assumed to grow at an annual rate of 4.5 percent through 2034.

Federal section 5309 Rail Modernization funds are formula grant funds provided to regions throughout the U.S. that currently have rail systems in place. These funds may be used for capital renewal and ongoing maintenance of the existing rail system. It is estimated that MDT will receive

approximately \$12 million in 2005. These funds are estimated to grow at an annual rate of 3.0 percent through 2014 and 4.0 percent thereafter as MDT begins additional rail operations.

MDT receives state funds to support the transportation disadvantaged and to implement corridor enhancements throughout the system. These funds are primarily used for ongoing maintenance needs. MDT is estimated to receive approximately \$6 million in these funds from the State in 2005, and it is assumed that these funds grow at an annual rate of 1.6 percent through 2034.

State Block Grant funds flow to MDT from FDOT and may only be used to meet operating costs. MDT is estimated to receive \$16.6 million in 2005 in these State funds which are estimated to increase at an annual rate of approximately 1.60 percent.

MDT receives an operating subsidy from the Miami Dade General Fund and is scheduled to receive \$124.6 million in 2005, increased by \$2 million over the previous year. It is assumed that the General Fund Subsidy from the County increases at an annual rate of 3.5 percent through 2034. The base amount which is assumed to increase annually does not include the \$4.57 million received from the General Fund to support Tri-Rail costs. This amount is assumed to remain constant through 2034.

MDT also receives a portion of the LOGT for system support and is estimated to receive \$14.9 million in 2005. It assumed that the LOGT contribution increases at an annual rate of 1.5 percent through 2034.

MDT receives a portion (80 percent) of the sales tax revenue from the newly passed half-cent sales tax in Miami Dade County. Sales tax revenues are estimated to be approximately \$167 million in 2005 and are projected to increase to \$798 million in 2034. This represents an average annual growth rate of approximately 5.5 percent through 2034.

A summary table describing the subsidy sources, their respective 2005 revenue estimates and their annual growth rate through 2034 is presented below.

<u>Exhibit 24</u> <u>Subsidy Funding Sources</u>		
<u>Funding Source</u>	<u>2005 Estimate</u>	<u>Growth Rate</u>
Federal Section 5307 funds	\$42,218,000	4.5%
Federal Section 5309 Rail Mod funds	\$12,000,000	3.0% - 4.0%
State Transp. Disadvantaged funds	\$6,000,000	1.6%
State Block Grant funds	\$16,600,000	1.6%
General Fund subsidy	\$124,611,750	3.5%
Local Option Gas Tax (LOGT)	\$14,981,400	1.5%
Sales tax revenue	\$167,000,000	5.5%

Financing Strategies

MDT has undertaken a significant increase in bus and rail service operations, apart from capital investment, which requires a substantial amount of funding support from available system wide funds. Consequently, in an attempt to accommodate the immediate cash flow needs of MDT, numerous financing strategies have been incorporated into this financial analysis to support MDT's capital program.

Specifically, three financing strategies are used in the financial analysis to amortize capital costs over time and to meet short term funding requirements: (1) sales tax revenue bonds, (2) bus lease financing program and (3) a commercial paper program.

These financing strategies are preliminary in nature and have been incorporated into the PTP pro forma without a thorough understanding of what specific projects need to be funded in MDT's capital program and whether those projects are appropriate for long-term financing. Specifically, PFM has received very little information regarding the specific Public Works projects that are to be funded through MDT. If those projects consist of traffic light improvements and are small scale investments, they may not be appropriate candidates for long-term financing. The financing strategies and amount of bond financing incorporated into the pro forma will likely change as information on specific projects is provided to PFM.

Sales Tax Revenue Bonds

Sales tax revenue bonds are assumed to be issued to finance the local portion of all new rail capital projects, to finance any rehabilitation and ongoing capital needs, and to finance a portion of the Public Works capital improvement projects funded through MDT. The sales tax revenue bonds would be supported by a senior lien pledge against gross annual sales tax revenues. Currently, the financial analysis assumes that revenue bonds are issued in each year that there is a capital requirement. The bonds are structured with level debt service over a 30-year period. Stated below are the general financing assumptions for the sales tax bond program.

- | | |
|------------------------------|---|
| ▪ Security pledge: | Gross sales tax revenues |
| ▪ Term: | 30-years |
| ▪ Structure: | Level debt service |
| ▪ Interest Rate: | Current MMD yield curve (with 50 basis point historical adjustment) |
| ▪ Insurance premium: | 50 basis points |
| ▪ Debt service reserve fund: | Maximum annual debt service |
| ▪ Underwriter spread: | \$6.00 per bond |
| ▪ Cost of issuance: | \$150,000 |

Total sales tax bond proceeds issued within the parameters of this analysis are described above in Exhibit 23.

Bus Financing Program

All bus acquisition is assumed to be financed under a bus financing program that is secured, on a subordinate basis, by gross sales tax revenues and also by Federal 5307 grant funds. The term of the financing is assumed to be 12 years, associated with the average life of a bus, and is structured as level payments. No debt service reserve fund is assumed with the bus financing structure nor are there other costs included (e.g. underwriter's discount) that are generally part of a bond transaction.

The total amount of bus acquisition costs that are assumed to be financed is described above in Exhibit 22.

In 2004 MDT financed approximately \$35 million of bus acquisition and 62 million of rail rehabilitation and other MDT projects through the Sunshine State Governmental Financing Commission (the "Sunshine State loan"). The Sunshine State loan is a variable rate financing with a final maturity of 2019. The debt is currently secured by a junior lien on sales tax revenues. The projects financed have an expected useful life between 12 and 15 years and, as such, the sunshine state loan was a more efficient financing program than long-term (30-year) revenue bonds.

Commercial Paper Program

The financial analysis has incorporated the use of a commercial paper program as a "bridge financing" mechanism to cover the annual shortfalls, if any, in Federal funding during the rail construction program. As noted previously, it is assumed that Federal funds cover 50 percent of new rail construction costs, but cannot exceed \$60 million in a particular year. When the Federal 50 percent exceeds \$60 million in a given year, then proceeds are assumed to be drawn from a commercial paper program and carried until Federal funds are available to repay the commercial paper. Additionally interest is carried forward under this program and, under the Section 5309 grant program, is eligible to be repaid with Federal funds.

A total of \$801 million in commercial paper proceeds are assumed to be drawn to cover Federal funding shortfalls through 2014.

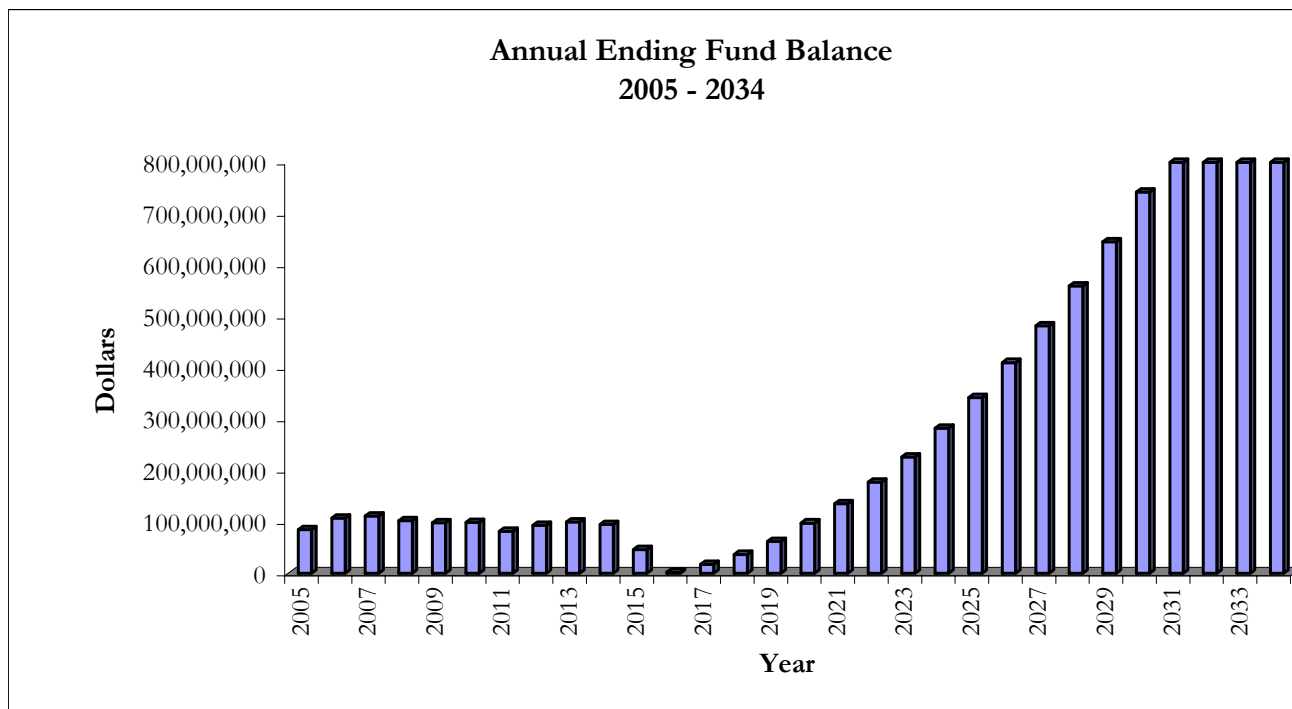
Summary of Program Wide Results

Based upon the program implementation assumptions detailed above, MDT can successfully implement the PTP program and maintain a positive fund balance in every year through 2034. MDT's fund balance is projected to total \$85 million in 2005, and is projected to decrease to \$2.9 million by 2016. In 2019, the fund balance is projected to recover and total \$62 million by the end of that year. A detailed description of the annual fund balance for the 30-year period is included as Exhibit 1A in Appendix A.

While MDT maintains a positive fund balance in each year, the rapidly declining trend towards 2016 highlights the fact that MDT is embarking on a very large program expansion that requires significant resources and the accumulation of early-year sales tax proceeds in anticipation of program expansion. Generally, it is more desirable to see some consistency in the annual ending balance which incorporates operating and capital reserves. Additionally, a program with a more consistent fund balance will use more cash in financing the capital program, as opposed to a majority funded with bond proceeds. In order for MDT to increase the proportion of cash funding towards the PTP plan and smooth out the annual fund balance, a slower phasing of the rail capital program would be required or operating revenues and subsidies would need to be increased further.

The projected annual ending fund balance for each year between 2005 through 2034 is presented below.

Exhibit 25. Annual Ending Fund Balance: 2005 – 2034

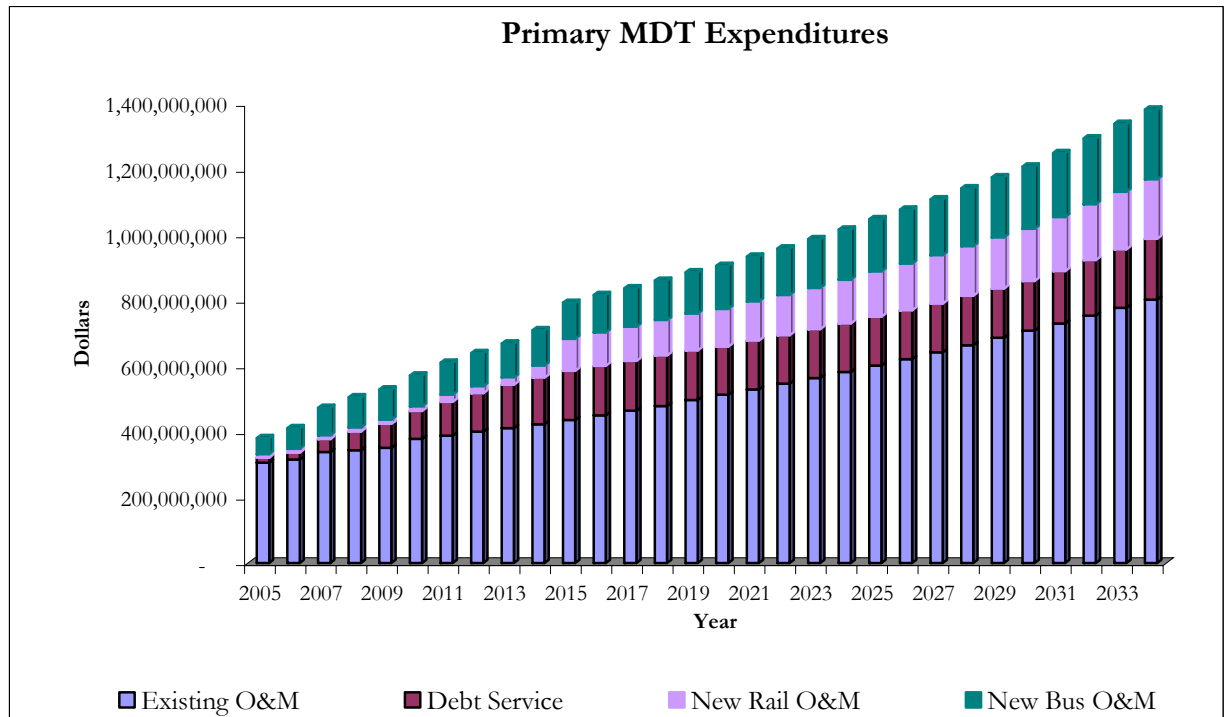


While there are numerous components contributing to the annual results of the PTP, there are a few major factors that drive the near and long term trends for revenues and expenditures and, therefore, impact the successful implementation of the PTP. A brief summary discussion of MDT's primary expenditures and revenues is presented below.

Summary Results: MDT Expenditures

There are two components that drive MDT's costs over the long term: (1) O&M costs for new and existing service and, (2) debt service associated with financing the capital program. MDT is currently planning that all new bus service will be implemented by 2007. Consequently, there is an initial ramp up of O&M costs in the first four years of the pro forma. Additionally, there is a sharp increase in O&M costs as various rail corridors open for service. The North corridor, the Earlington Heights corridor and the FIU to MIC corridor are all assumed to be in full service by 2015. Each year a new corridor begins operations, MDT's O&M costs increase substantially.

Exhibit 26. Primary MDT Cost Factors



Annual debt service requirements begin to quickly increase as the rail capital program progresses. Annual debt service increases from \$3 million in 2006 to \$113 million in 2015 as a substantial portion of the rail program is built and financed. While existing O&M costs rise comparatively sharply through 2006, accounting for the known labor increases, they smooth out through the longer years, growing at a steady 3.6 percent annually.

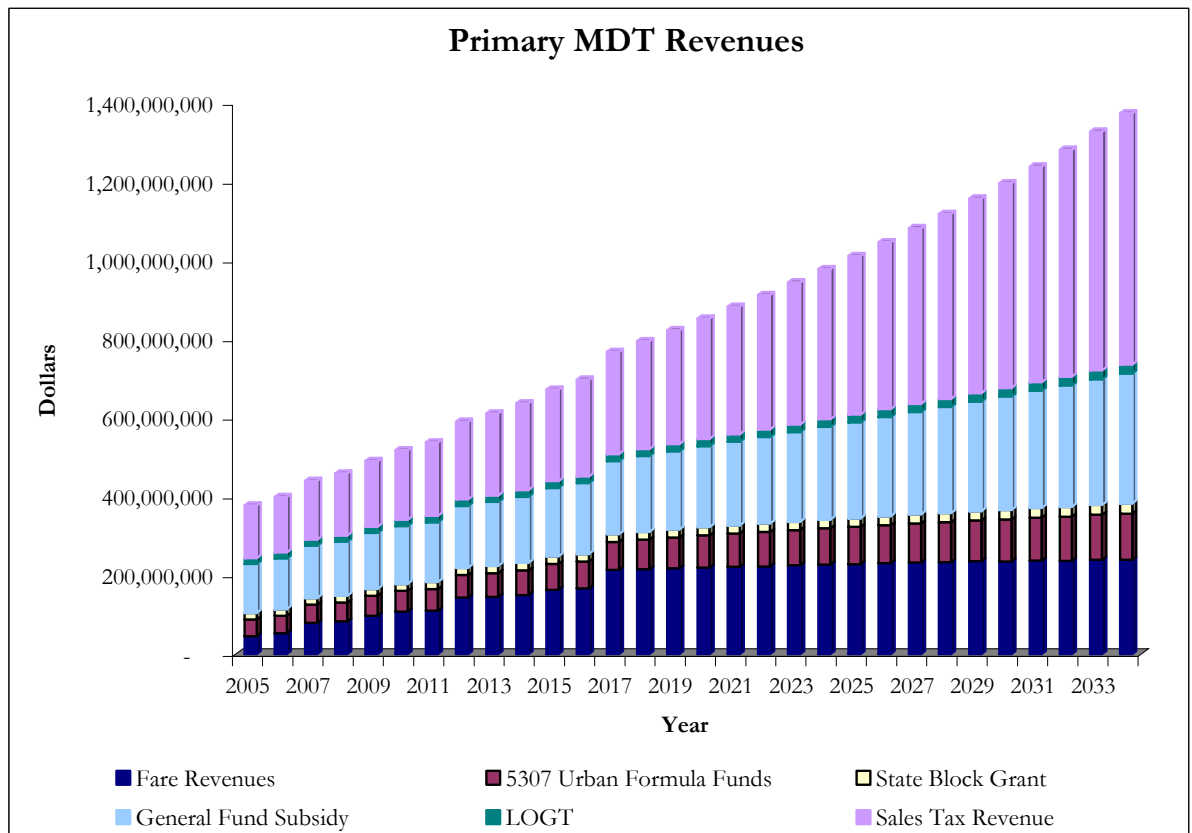
As expenditures increase at a rapid pace during the implementation of the PTP, it is necessary for the major revenue sources to grow at a similar pace in order to provide structural balance and financial feasibility. The primary revenue sources are summarized below.

Summary Results: MDT Revenues

All of MDT's revenue sources are critical to the agency's successful implementation of the PTP. However, certain funding sources, such as federal 5309 grant funds are used for very specific purposes and will be offset by specific costs (i.e. rail capital). They cannot be used to meet operating costs or to fund ongoing rehabilitation costs, and as MDT's recurring costs increase, 5309 grant funds will not be a revenue source to create structural balance. In focusing on MDT's "primary" revenue sources, the emphasis is on flexible, recurring revenue sources that have growth potential. Those primary revenue sources are listed below and presented in Exhibit 27:

- Fare revenues
- Section 5307 Urban Formula funds
- State Block Grant funds
- General Fund subsidy funds
- Local Option Gas Tax funds
- Sales Tax revenue

Exhibit 27. Primary MDT Revenues



Most of the primary revenue sources depicted in Exhibit 27 grow at a steady rate and, generally, keep pace with the growth in annual O&M costs and annual debt service requirements. For example, as O&M costs on existing service are assumed to grow at 3.6 percent annually (beginning in 2007 after the impacts of the current labor contracts), the growth in the General Fund subsidy increases 3.5 percent annually and the Section 5307 Urban Formula funds increase at 4.0 percent annually. This structural balance between growth in primary revenues and recurring costs is essential to the financial health of MDT. The strong growth in annual sales tax revenue at 5.5 percent, growing from a base of \$167 million in 2005, is a crucial component in supporting the implementation of new

service and supporting the increasing debt service costs with the implementation of the capital component of the PTP.

Finally, periodic fare increases serve as a revenue source that is within the control of MDT and County officials to increase on an as-needed basis to meet the funding requirements of new service. As noted above in Exhibit 26, annual costs increase sharply with rising debt service and with each new opening of rail service. Periodic fare increases serve as an effective revenue tool to match the step function increases in O&M costs with similar step function increases in revenues. The implementation of periodic fare increases proves essential to the long term financial feasibility of the PTP program.

It should be noted that while the 30-year projection of program assumptions results in a positive trend, the variance of those assumptions regarding probable outcomes similarly increases as the time-frame is extended. Consequently, while the 30-year projection may provide an order-of-magnitude “snap-shot” of possible results, the reliability of those results becomes increasingly speculative as the time-frame is extended.

Conclusion

As noted previously, based upon specific program implementation assumptions, MDT can successfully implement the PTP program and maintain a positive fund balance in every year through 2034. Detailed alternatives analysis was performed, in collaboration with MDT and County staff, to identify the critical variable components to the PTP implementation and to devise a financially feasible plan. Based upon this analysis, some of the more critical components and assumptions underlying this pro forma are:

Costs

- Cost estimates & timing of rail construction and operations
- Implementation schedule and amount of new bus service
- Long term growth rate of approximately 3.6 percent for O&M costs

Revenues

- Federal funding participation of 50 percent on MDT's large rail capital program
- State & other funding participation of 25 percent of rail capital program
- General Fund subsidy increase of 3.5 percent annually
- Strong sales tax growth of 5.5 percent annually
- Fare increases in years 2007, 2012 and 2017

As the assumptions underlying these critical components change, so too will the financial implications of the current PTP plan. For example, if negotiations with the FTA do not yield sufficient federal funding for each corridor within the current planning time frame, then certain corridors will have to be delayed, or additional non-federal funds will need to be secured. If recurring revenue sources do not keep pace at currently assumed levels, then a new revenue source will need to be identified, or recurring MDT costs will have to be reduced.

As the financial feasibility of this PTP plan is contingent on a host of assumptions, this analysis represents a “snap-shot” of the implementation of the PTP plan. As the implementation of the PTP plan progresses, the assumptions will become better defined and will undoubtedly change and the financing strategies incorporated in this version of the plan will change as well. As assumptions change, this version of the PTP plan will change with them. As noted previously, it is very likely that other corridors will be implemented after 2016, or as funding assumptions become more defined. As such, the financial plan underlying the implementation of the PTP program is a dynamic plan that is part of a larger dynamic process that will most likely need to be re-evaluated and updated on an annual basis.

