

REVIEW OF THE FY 2011 AND FY 2012 MIAMI-DADE TRANSIT PRO FORMA



REPORT
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Prepared for:
Miami-Dade County Citizens' Independent Transportation Trust



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I. Executive Summary

Background and Purpose

In previous assignments, IMG, with Planning and Economics Group (the project team), reviewed and analyzed the 30-year Miami-Dade Transit (MDT) Pro Forma (the “MDT Pro Forma” or the “Pro Forma”) assumptions. The Team also built a financial “Risk Assessment Model,” an Excel tool capable of running cash flow sensitivity analysis of the 30-year forecast.

The current project was conducted in two phases. First, the project team reviewed the official FY 2011 Pro Forma and constructed a model (the “CITT Model”) to replicate and confirm the results, and also to allow for sensitivity tests. As part of the review of the FY 2011 Pro Forma, a number of meetings were held with Office of Strategic Business Management (OSBM) and MDT to understand assumptions. The second phase of the project team’s work focused on a detailed review of the draft FY 2012 MDT Pro Forma, which included numerous changes in key assumptions and input data. The project team updated the CITT Model to check Pro Forma results and to conduct sensitivity and scenario analysis of the Pro Forma under a variety of assumptions. The project team highlighted the findings of the analysis at a CITT Strategic and Financial Committee Workshop on August 31, 2011. This report details the findings of the analysis.

Methodology

The methodology for this assignment consisted of the following steps:

1. Conducted meetings and conference calls with OSBM and MDT staff to understand the structure and assumptions of the Pro Forma.
2. Obtained budget and other financial information from CITT/OSBM/MDT to analyze Pro Forma assumptions.
3. Obtained National Transit Database (NTD) operating history for MDT and peer transit agencies.
4. Obtained history of electricity and fuel price growth rates for purposes of sensitivity analysis.
5. Updated the CITT Financial Model to validate Pro Forma calculations and perform scenario/sensitivity analysis.
6. Built an MDT “Pro Forma Case” based on MDT’s FY 2012 Proposed Budget as the starting point for analysis.
7. Used the CITT Model to analyze sensitivities to assess the financial strength of the Pro Forma.

Key Findings and Conclusions

The analysis shows that MDT’s financial situation is precarious. In particular, the project team noted the following:

- MDT faces a significant operating challenge that relies on “proposed” new revenue sources to balance its budget – fare increases, 2 cents local option gas tax, and additional 0.02 percent property tax millage (MIL).



- The Pro Forma itself shows that the senior debt minimum debt service coverage ratio (DSCR) of 1.50X may be violated as soon as 2016¹, and subordinated debt coverage violates bond covenants in 2017 at 1.24X (compared to 1.25X minimum DSCR).
- The Pro Forma assumes bonds are issued every other year (except 2016) to fund PTP capital expenditures.
- Capital expenditures in the Pro Forma are a placeholder targeted to ensure a minimum DSCR of 1.25X, (the Master Bond Ordinance definition excludes operating cash flows), and are not based on projected capital needs.
- Bus capital expenditures in the Pro Forma are not based on the existing MDT bus fleet. The Pro Forma includes \$400 million in bus replacement expenditures, compared to \$1.24 billion needed to maintain a 14-year replacement cycle.
- Bus replacement assumes leasing of equipment rather than purchase with long-term debt. This financial strategy transfers the cost from debt service payment to operating expense.
- Following the legal requirements of the Master Bond Ordinance, the Pro Forma debt service coverage calculation is based only on surtax receipts and debt service and excludes MDT operating cash flows. When MDT operating expenses are taken into account, capital expenditures of up to \$200 million must be deferred.
- The MDT Pro Forma appears to be optimistic with regard to key assumptions.
 - Surtax revenue grows at 4.5 percent after 2016, higher than the 15-year historical average of 3.62 percent.
 - The MDT Pro Forma assumes MDT operating expense (OPEX) growth rates that are lower than historical averages for MDT. For example, fuel and electricity expenses grow at an annual rate of 1.00 percent each, compared to historical averages closer to 7.00 and 2.50 percent for fuel and electric, respectively.
- The sensitivity analysis also shows that cash flow forecast can be greatly improved if MDT OPEX growth can be controlled and growth rates are kept to reasonable levels.

The approach and findings are discussed in more detail in the sections that follow.

¹ The definition of DSCR according to the Master Bond Ordinance 05-48 takes surtax revenue, less distribution to the cities, and interest income and divides by debt service payments. The minimum required DSCR is 1.50X. However, the County can raise



II. Summary of the MDT Pro Forma and its Assumptions

The MDT Pro Forma is an Excel spreadsheet with nine worksheets. It contains a 30-year forecast of MDT operations and People's Transportation Plan (PTP) public works expenditures. Based on assumptions summarized in a separate, accompanying 2-page Word document, the 30-year sources and uses of cash flow are summarized in the Pro Forma.

The project team originally reviewed the FY 2011 Pro Forma. An updated FY 2012 Pro Forma was received in draft form in August 2011. The financial analysis examined both Pro Forms. Assumptions and other data inputs for the 2012 Pro Forma were discussed with MDT and OSBM staff, in lieu of a separate assumption document. A comparison of the FY 2011 and draft FY 2012 Pro Forms was conducted and differences noted.

Key differences of the FY 2012 Pro Forma are the following:

- Surtax growth is assumed at 4.5 percent for FY 2012 and starting in FY 2017 for the rest of the projection period
- Capital Reserve is included as a separate project in the Five Year Capital Plan
- Payments to the newly incorporated municipalities is included as a separate line item
- Lease rather than purchase option is included for replacement parts of bus fleet
- Reduced labor expenses, including benefits, are incorporated

The Team found that the Pro Forma had the following limitations:

- It provides limited capability to analyze the financial forecast under variable assumptions and scenarios:
 - Many assumptions are hard-coded throughout the spreadsheet (sometimes these hard-codes are embedded within formulaic rows);
 - Sometimes, there is a lack of formula consistency within rows.
- It does not split fare revenues or operating expenses by mode
- Certain forecast items lack detailed documentation, such as:
 - Fuel and electricity are increased by 1 percent a year while the 15-year historical average growth has been around 7 percent for fuel and 2.5 percent for electricity;
 - Bus lease expenditures total \$400 Million; if based on an industry standard of 14-year useful life, it would total \$1.24 Billion.



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Some of the essential assumptions of the MDT FY 2011 and draft FY 2012 Pro Formas are summarized in the table below:

Variable	Assumption	
	FY 2011	FY 2012
Fare Increases	Fare increases in 2013 and 2017 and every 3 years thereafter; each fare increase is \$0.25	Fare increases in 2014 and 2018 and every 3 years thereafter; each fare increase is \$0.25
Surtax Revenue Growth	Surtax revenue growth rate of 1.00 percent in FY 2011, 3.00 percent in FY 2012, and 5.00 percent per year thereafter	Surtax revenue growth rate of 4.50 percent in 2012, 3.00 percent for 2013-2016, and 4.50 percent thereafter
Proposed Revenue Sources	Includes "proposed" revenue sources such as 2 cents of Local Option Gas Tax and additional mil revenue	Unchanged from FY 2011
Bus Operating Level	Assumes constant levels of employment and bus service over 30-year forecast period (29.1 million revenue miles for bus)	Unchanged from FY 2011 - Except assumes 29.2 million revenue miles for bus
OPEX Growth	Average annual growth rate for MDT operating expenses of 3.6 percent	Unchanged from FY 2011
Rail and Public Works Department (PWD) Finance	Financed with 30-year debt at 6% interest rate	Unchanged from FY 2011
Bus Financing	Replacement buses financed with long term debt - 30 years at 6 percent interest rate	Replacement buses financed as 10-year lease-to-own at 6% interest rate

The following Pro Forma outputs can be observed:

- The Pro Forma tracks surtax cash flow; however it omits cash balances.
- Minimum debt service coverage ratio (DSCR) of 1.24X for PTP bonds violates bond covenant thresholds of 1.50X (sr. debt) and 1.25X (sub debt), with assumed bond issues.
- System fare recovery ratio hovers around 23-25 percent before falling after FY 2036. In previous Pro Forma the recovery ratio hovered around 21 percent, similar to historical trends.
- Annual cash flows are negative for seven of eight years from 2016-2023; however the accumulated difference (cumulative net cash flow) remains positive during the forecast period.



III. The CITT Financial Model: Pro Forma Case

The project team built a new spreadsheet model to validate Pro Forma results and perform sensitivity analysis: the CITT Financial Model. This is similar to the approach the project team has taken in the past when it was engaged to build and operate the CITT Risk Assessment Model.

The “Pro Forma Case”

As a starting point for the analysis, the CITT Model was used to analyze an initial case, the “MDT Pro Forma Case” or simply the “Pro Forma Case” (referred to as Case 1 to distinguish it from other sensitivity cases). This case used most of the basic assumptions of the Pro Forma, but with a few methodological differences discussed below:

1. Surtax Interest Earnings Methodology

The Pro Forma calculates interest on surtax earnings by taking annual surtax revenue and multiplying it by the earnings interest rate. In reality, the interest will only be earned on that part of the surtax revenue that stays in the balance.² Therefore, the Pro Forma overstates the amount of interest that will be earned in two ways. First, surtax funds are earned over the course of the year; therefore, the funds are, on average, available to earn interest for six months, not a full year. Second, the Pro Forma ignores the outflows from the Surtax balance during the year for MDT and Public Works expenses. The CITT Model assumes that monthly surtax receipts, net of the municipal contribution, will earn interest during the quarter before payments are made. This is in addition to interest earned on the beginning cash balance for the period.

2. Long-Term Debt Service Payment Calculation Methodology

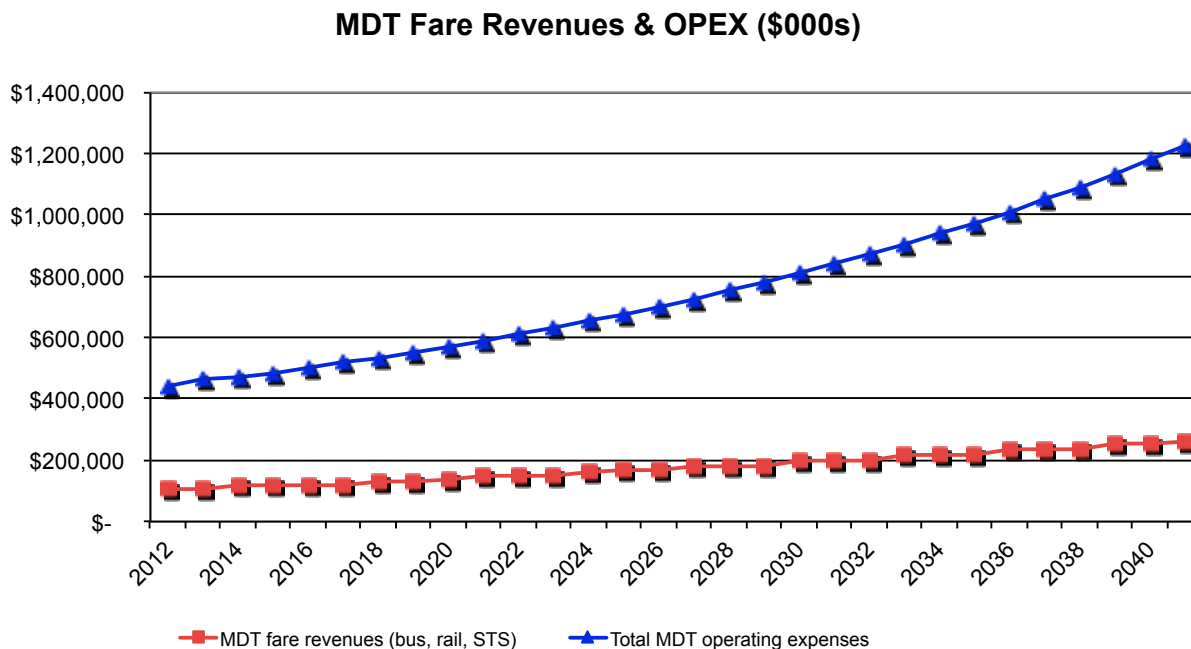
In years 2012-2015, the Pro Forma apparently does not capture the full amount of capitalized interest when calculating debt service payments, effectively understating obligations. Even though interest appears to be capitalized for two years for these bond issues (debt service payments don’t start until the third year after issuance), the capitalized interest amount assumed is equal to one year of principal and interest only, rather than two years of interest. The CITT Model adjusts for this difference in capitalized interest. Additionally, the debt service payments for these bond issues are calculated based on a 32-year term (two years of capitalized interest and 30 years of amortization). It is unclear whether the Pro Forma is estimating an aggregate debt service payment “wrapping structure” with an ending balloon payment (which would take place beyond the 30-year forecast period of the Pro Forma). The Pro Forma Case preserved this assumption of a 32-year debt term. However, it should be noted that actual surtax-backed bond issues have been structured based on a 30-year debt term, and it is not clear a market for 32-year debt exists.

² Note that OSBM reported that the interest earnings rate assumed in the Pro Forma of 1% is lower to account for this issue.



The graphs that follow show the various assumptions and outputs of the Pro Forma Case:

Figure 1: MDT Operations



This figure shows that OPEX grows faster than fare revenue during the forecast period. While fares cover 23.4 percent of OPEX in 2012, this is expected to drop to 21.1 percent by 2041. The Pro Forma calculates fare revenues by growing revenues from existing fares (before any increase) at a rate of 1.00 percent; then, it calculates the impact of fare increases separately with an implicit assumption for overall fare elasticity embedded in this formula. This method for calculating fare revenue is not exactly clear to the project team. The CITT Model calculates fare revenue by accepting inputs for average fare, ridership, and assumed fare elasticity.



Figure 2: Net Cash Flows

Annual net cash flow is projected to be negative from 2016-2024, and positive only in the later years of the forecast.

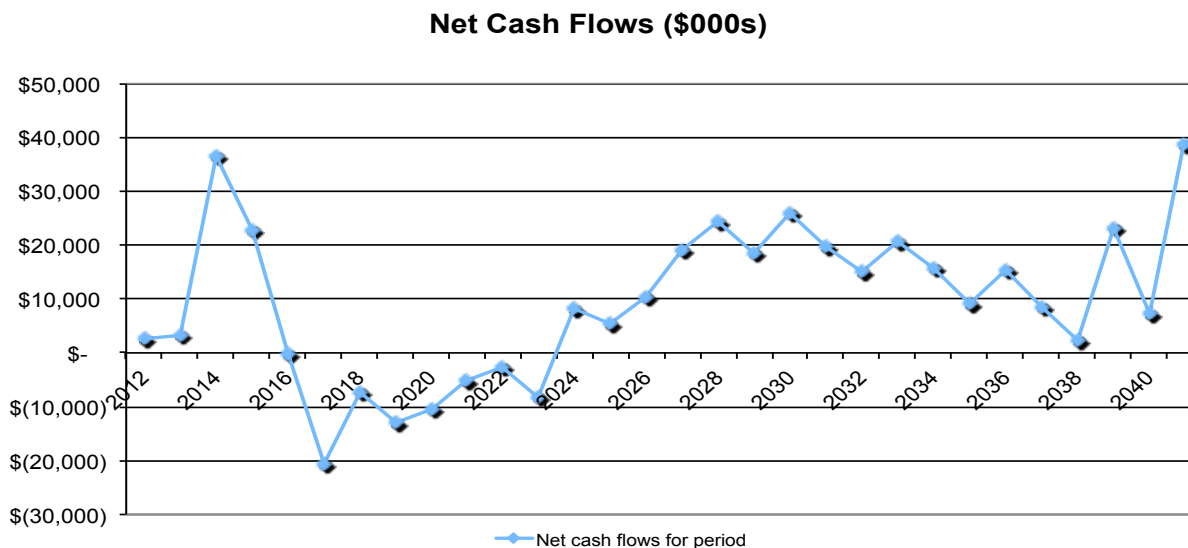


Figure 3: PTP Surtax Cash Balance

The surtax cash balance goes negative in 2023, reaching a minimum of negative \$1.7 million. This is an improved result over the FY 2011 Pro Forma which showed a negative \$144 million balance in FY 2028

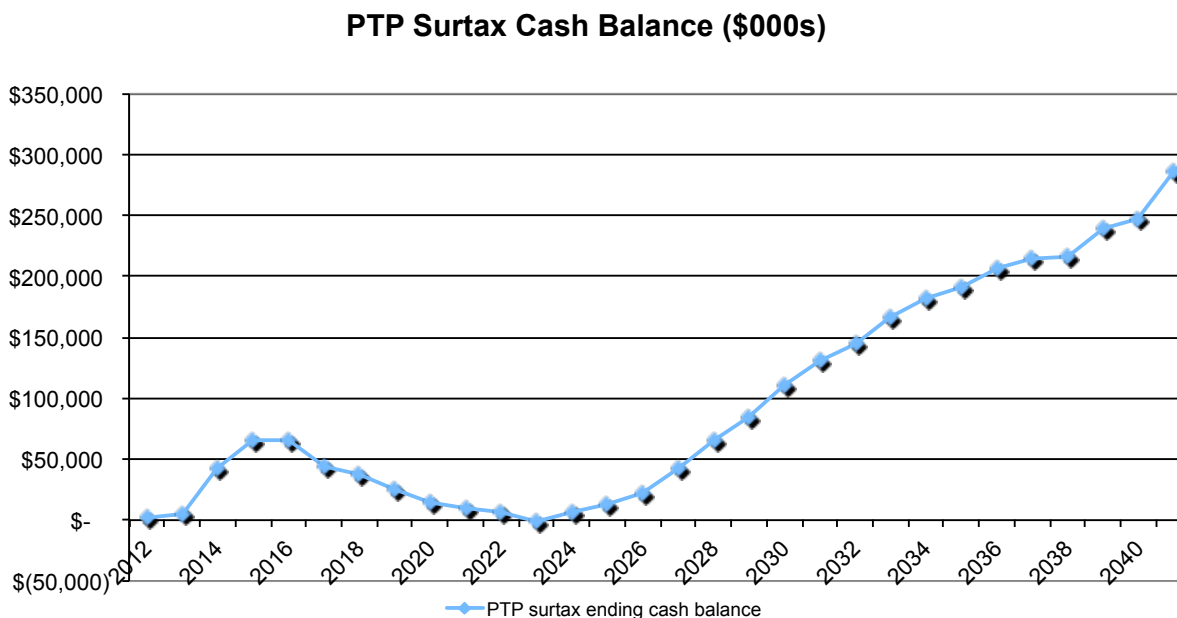




Figure 4: Debt Service Coverage Ratio (DSCR)

DSCR violates minimum senior DSCR requirement of 1.50X from 2016 through 2025, and approaches the minimum sub debt requirement of 1.25X in 2017.

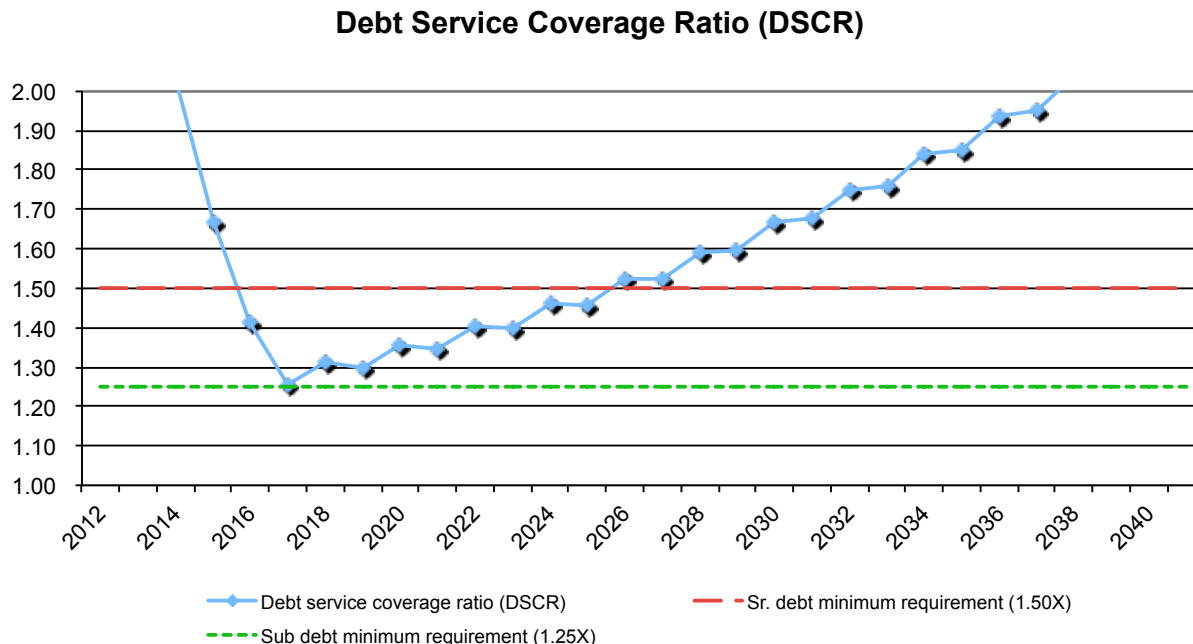


Figure 5: Farebox Recovery Ratio

The MDT system fare recovery ratio gradually decreases over time since operating expense growth is based on percentage increases while fare increases are always \$0.25 at a time.

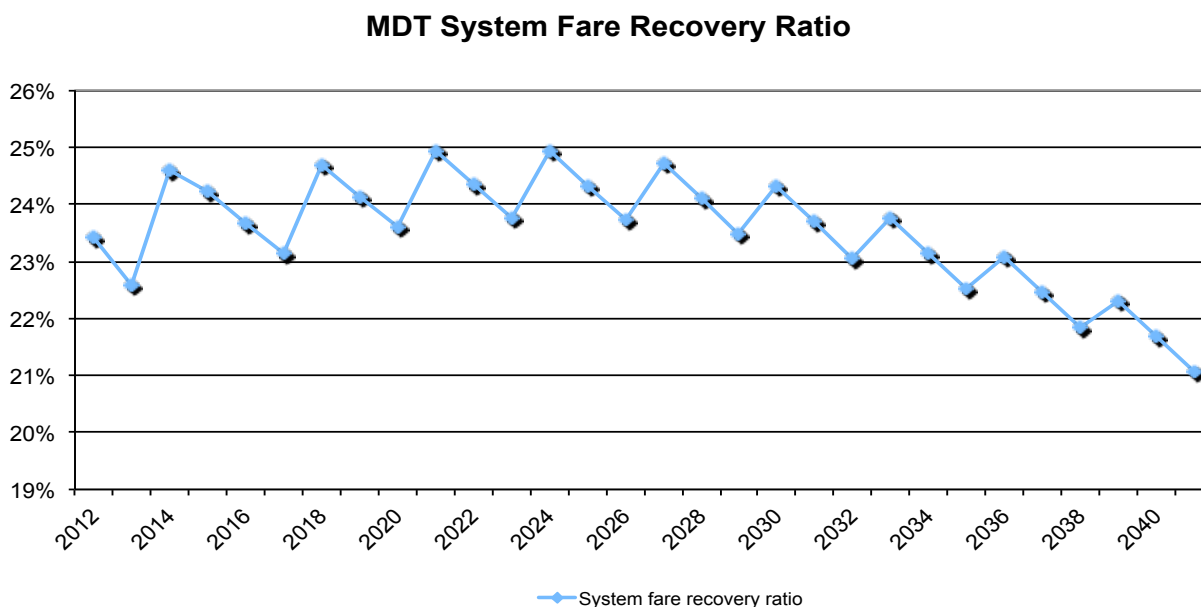
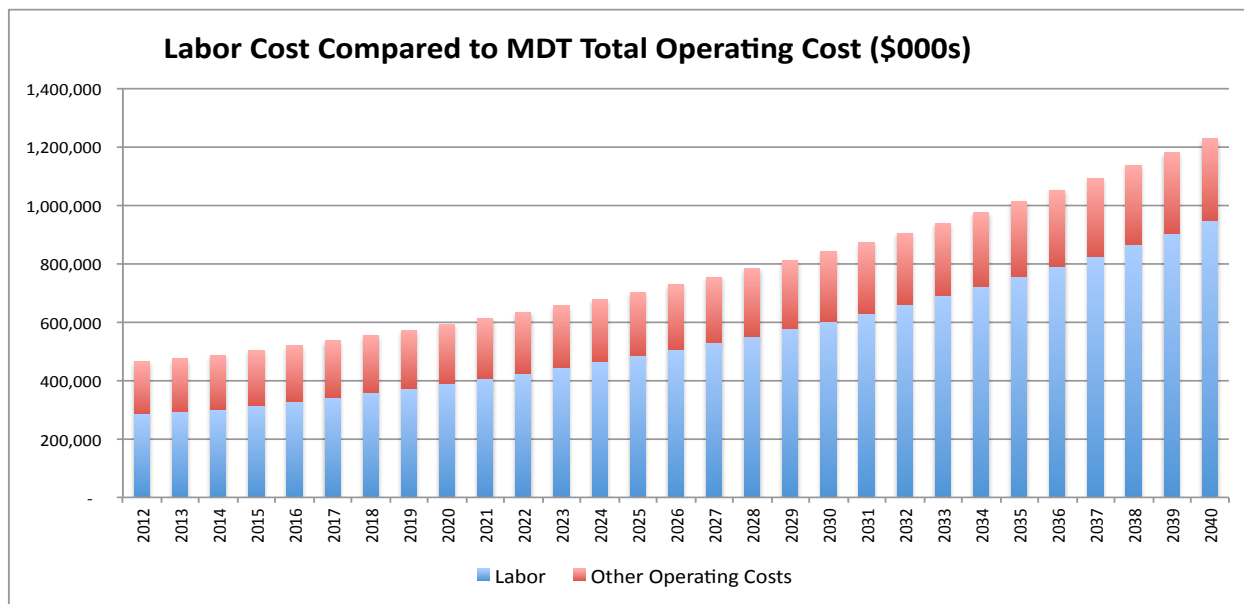




Figure 6: Labor Costs

Labor costs are the primary component of MDT operating expenses (OPEX). According the Pro Forma forecast, labor costs will rise from 62% of total MDT OPEX in 2012 to 77% by 2040, reflecting that labor costs are the fastest growing operating expense.





IV. The CITT Financial Model: Sensitivity Analysis

In addition to the Pro Forma Case, the Team analyzed the following sensitivity cases:

- Case 2. Capital affordability based on surtax revenue @ 1.25x coverage
- Case 3. Capital affordability based on all PTP cash flow
- Case 4. Grow surtax revenue at 3.62% long-term rate instead of 4.50%
- Cases 5a and 5b. Total MDT operating expense growth sensitivities
- Cases 6a and 6b. Fuel and electric expense growth sensitivities
- Case 7. Bus acquisition forecast based on existing bus fleet (14-year life)

The results of each case analysis are provided below.

Case 2. Capital affordability based on surtax revenue @ 1.25X coverage

Case 2 attempts to answer the question “How much capital can the system afford if debt service coverage ratio (DSCR) minimum is 1.25X?” This case includes only surtax revenues in the DSCR calculation.

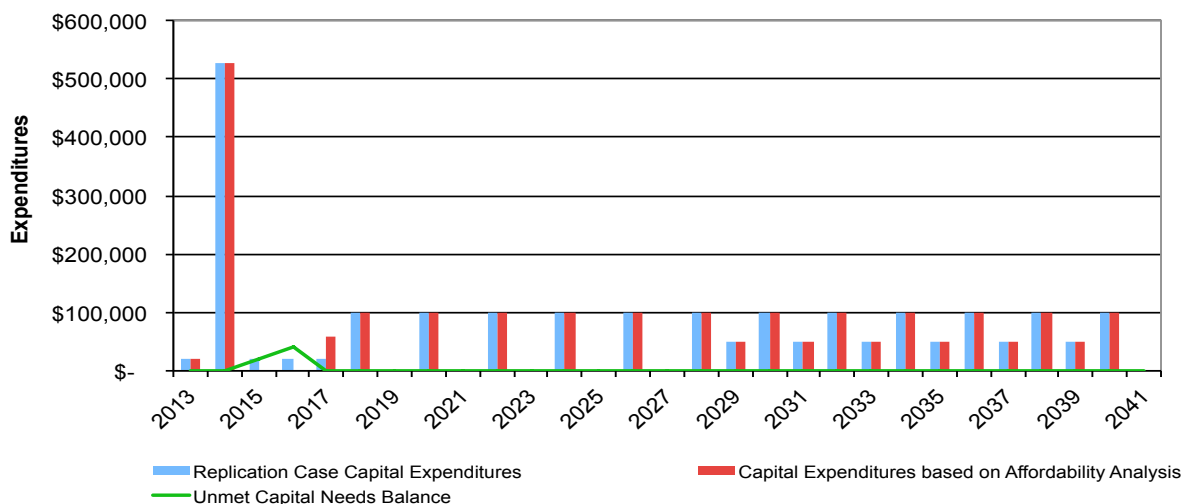
Further, it follows the following methodology:

- Defer capital expenditures when DSCR falls to the minimum
- Track the balance of unmet capital needs and incur those expenditures only when debt capacity is finally available
- Does not include additional inflationary costs of deferring capital expenditures.

Case 2 shows that DSCR constraints may require up to \$60 million of capital expenditures to be deferred from 2014 to 2017. After 2017, further deferrals are not required. This is an improvement over the FY 2011 Pro Forma, which showed up to \$149 million of capital expenditures deferred over the same time period.

Figure: Case 2

Capital Affordability Analysis (\$000s) - PTP Surtax Coverage Driven





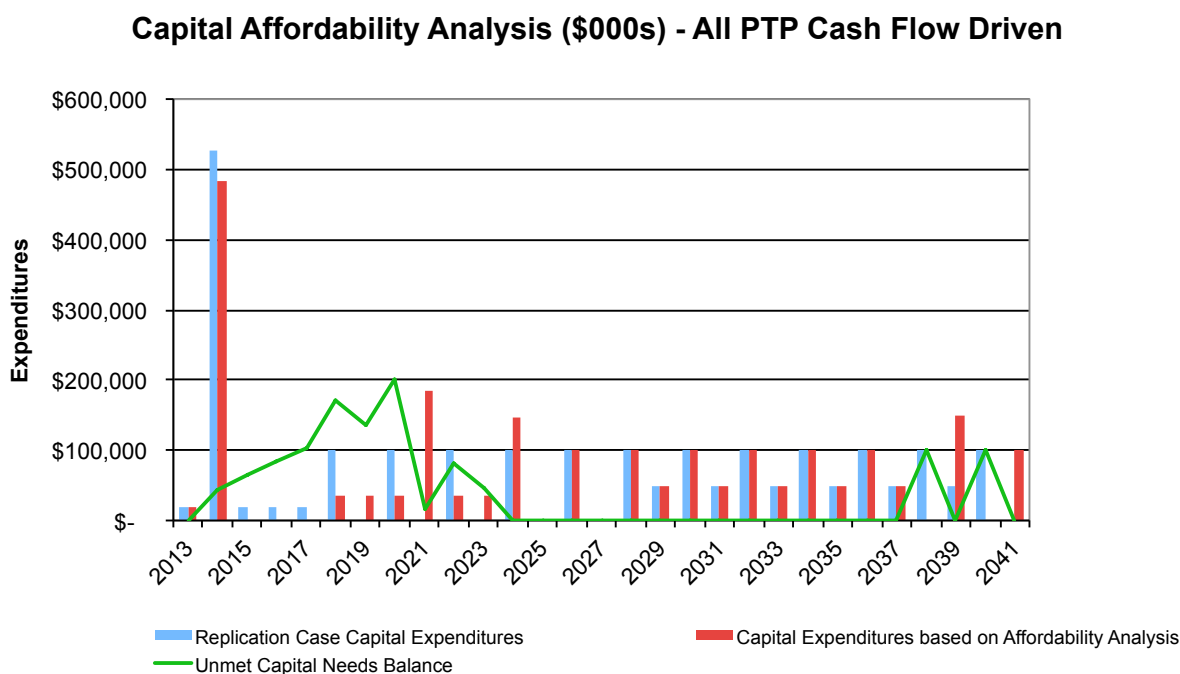
Case 3. Capital affordability based on all PTP cash flow

Case 3 attempts to answer the question “How much capital can the system afford assuming base case MDT operating costs and revenues and payment of all debt service?” Like Case 2, it follows the following methodology:

- Includes all MDT operating revenues and expenses
- Defer capital expenditures when DSCR falls to the minimum
- Track the balance of unmet capital needs and incur those expenditures only when debt capacity is finally available
- Does not include additional inflationary costs of deferring capital expenditures.

Case 3 shows that when all MDT operating cash flows are taken into account, over \$200 million in PTP capital expenditures may have to be deferred in the 2013 to 2024 timeframe. The out-years of the analysis from 2038-2041 also have a deferral of \$100 million. The FY 2011 Pro Forma showed a worse scenario with up to \$334 million in PTP capital expenditures being deferred during the same timeframe. However, there were no deferred capital expenditures in the outer years.

Figure: Case 3



Case 4. Grow surtax revenue at 3.62% long-term rate instead of 4.50%

Case 4 shows that if surtax revenue grows at the 15-year historical average of 3.62% instead of 4.50% as in the Pro Forma, then senior debt service coverage is below 1.50x in 16 years compared to 10 in the Pro Forma case. In addition, the 1.25x subordinate DSCR requirement is violated in 2016.



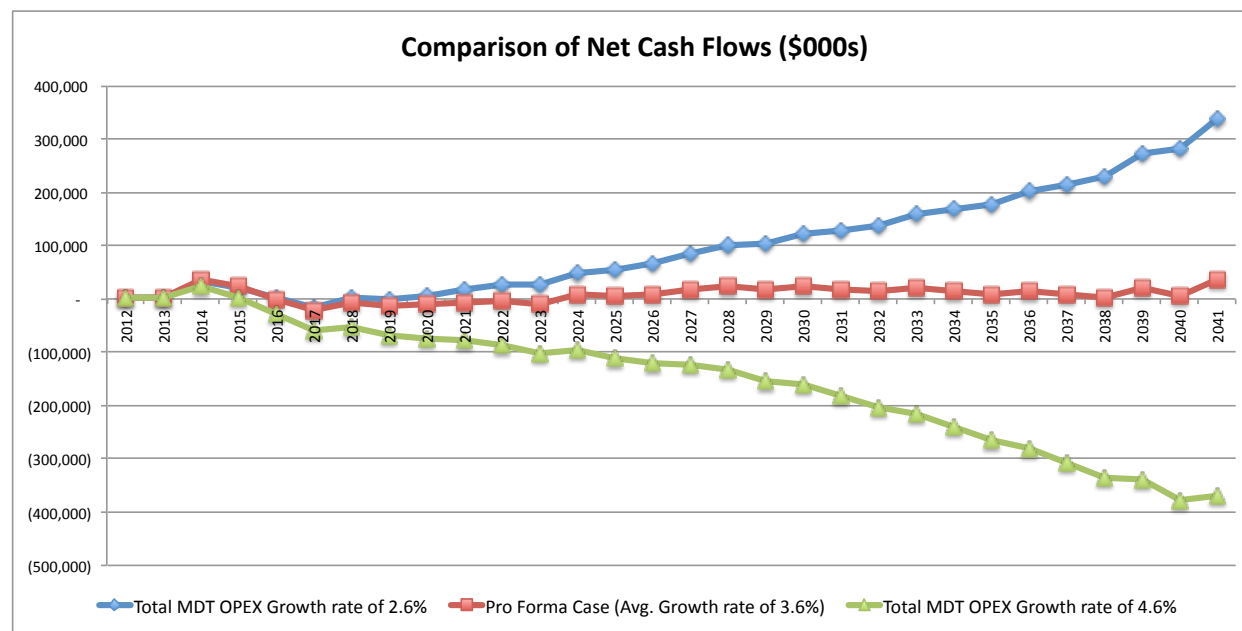
Table: Case 4

	Pro Forma Case	Surtax Growth Rate of 4.62%
Minimum Debt Service Coverage Ratio (DSCR)	1.25	1.24
Year of Minimum DSCR	2016	2016
Number of years of violation of minimum DSCR of 1.50x	10	16
First year minimum is violated	2016	2016

Cases 5a and 5b. Total MDT operating expense growth sensitivities

Cases 5a & 5b assume OPEX growth of 2.6% & 4.6% respectively starting in year 3, as opposed to average growth of 3.6% in the Pro Forma Case. These cases show that net cash flows are highly sensitive to OPEX growth rates. A one percent difference in annual OPEX growth results in over \$300 million in cash flow change by 2040. It is worth noting that a salary sensitivity case was examined but not included because labor is the largest component of operating cost and the results of the sensitivity analysis resemble the results of the operating expense growth sensitivity analysis

Figure: Pro Forma and Cases 5a and 5b Comparison of Operating Expense Impacts on Net Cash Flows





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The table below shows that operating expenses at MDT and similar agencies have generally increased substantially over the past three years. In order to meet even the pessimistic OPEX growth rates in case 5b, MDT will have to improve on its history and the trends at peer agencies.

Table: Historical OPEX Growth for MDT and Peers

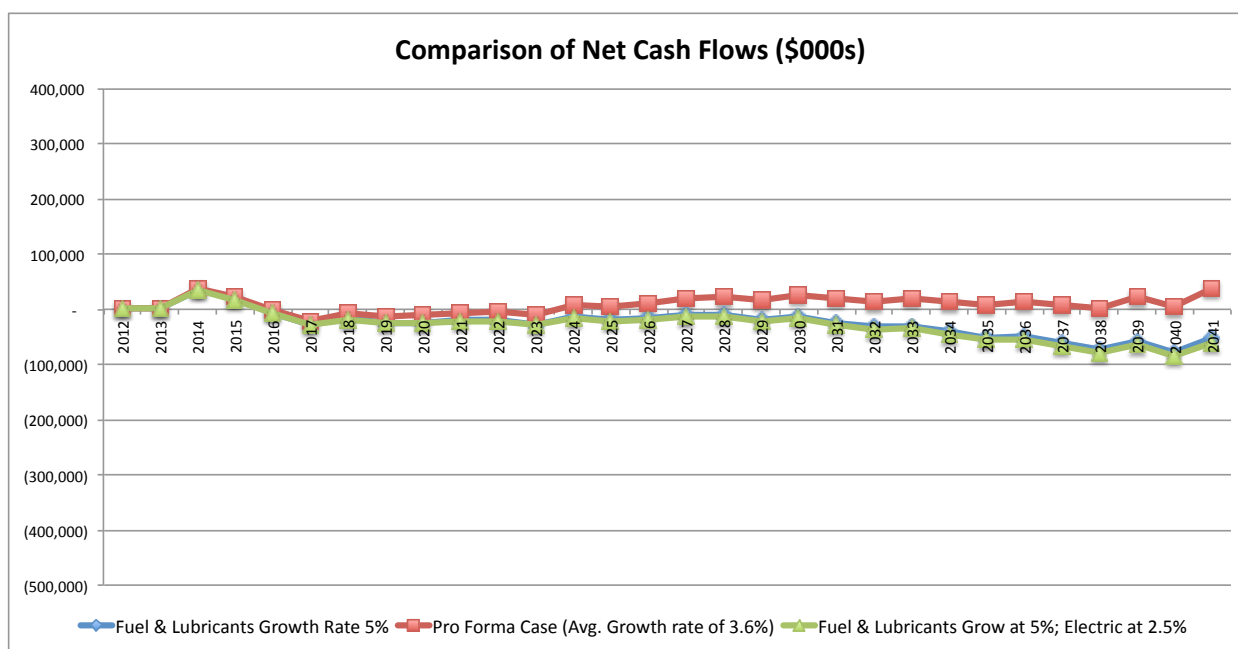
	Bus (3-year average)		Rail (3-year average)	
	OPEX/ Vehicle Revenue Mile	OPEX/ Unlinked Trip	OPEX/ Vehicle Revenue Mile	OPEX/ Unlinked Trip
Miami-Dade Transit (MDT)	9.93%	5.15%	14.88%	1.84%
Los Angeles County MTA (LACTA)	6.53%	4.96%	7.20%	2.15%
Metropolitan Atlanta RTA (MARTA)	-1.71%	7.42%	6.77%	1.35%
Washington Metropolitan Area Transp. Auth. (WMATA)	8.01%	14.06%	3.11%	3.41%

Source: National Transit Database

Cases 6a and 6b. Fuel and electric expense growth sensitivities

Case 6a assumes fuel grows at 5.00% instead of 1.00%, whereas Case 6b assumes fuel and electric grow at 5.00% and 2.50% respectively. The results show that if fuel or electric expenses grow at higher rates, net cash flows are usually negative, even in the out years of the forecast.³ The analysis also demonstrates that fuel costs are much more impactful than electric costs. Unfortunately, both costs are largely outside of the control of MDT, so conservative forecasts are warranted.

Figure: Pro Forma and Cases 6a and 6b Comparison of Fuel and Electric Expense Impacts on Net Cash Flows



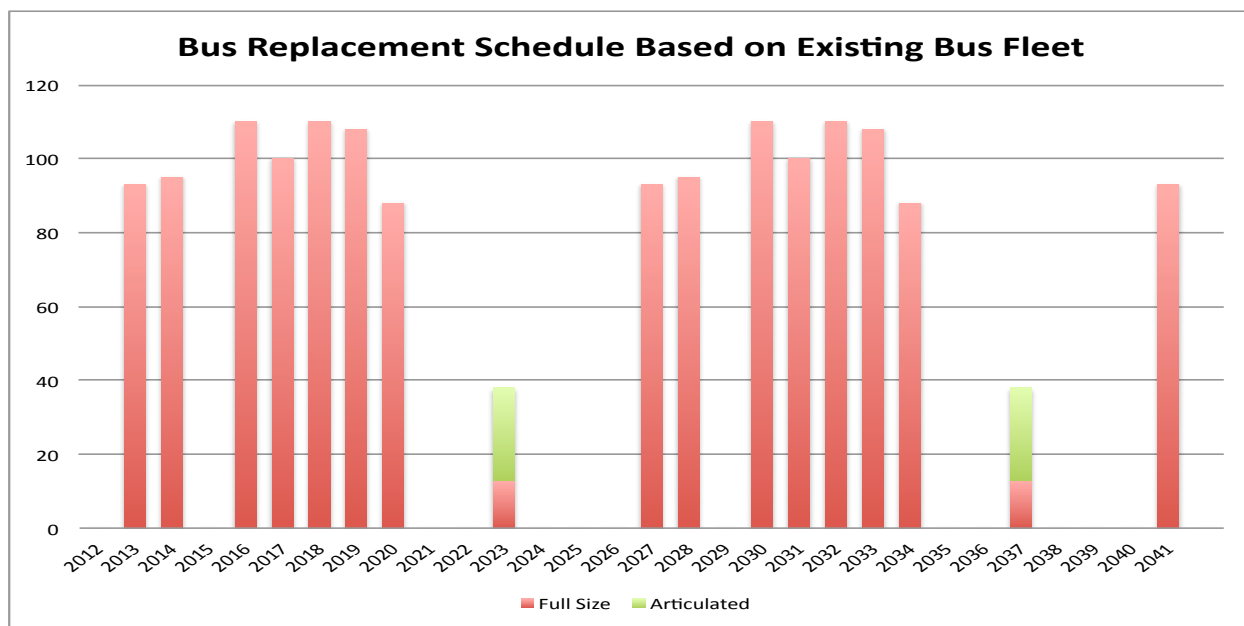
³ 15-year historical average growth has been around 7% for fuel and 2.5% for electricity (industrial sector).



Case 7. Bus acquisition forecast based on existing bus fleet

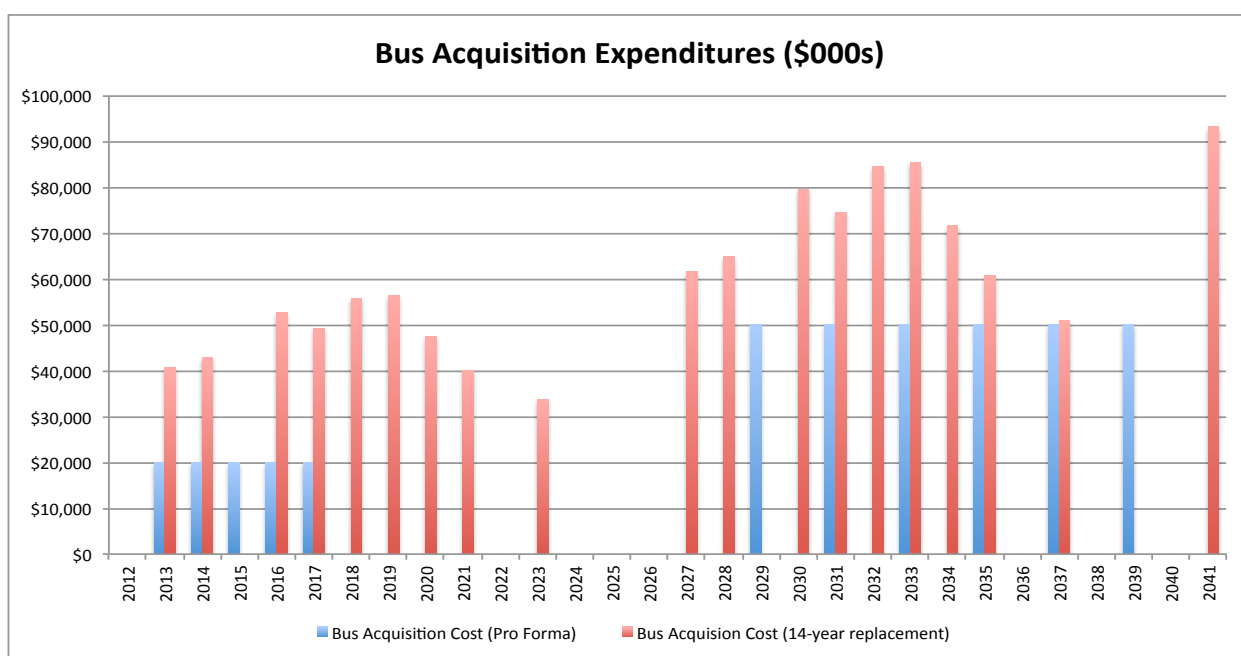
If bus acquisition costs are projected based upon a 14-year replacement timeframe applied to the current bus fleet, the 30-year costs would rise to \$1.24 B compared to \$400 M in the Pro Forma.

Figure: Case 7 Bus Replacement Forecast



The graph below compares the bus acquisition costs of this scenario to those of the Pro Forma. The project team understands that the leasing alternative only applies to replacement of existing bus fleet. The leasing alternative does not include buses required for premium service enhancements or other functions.

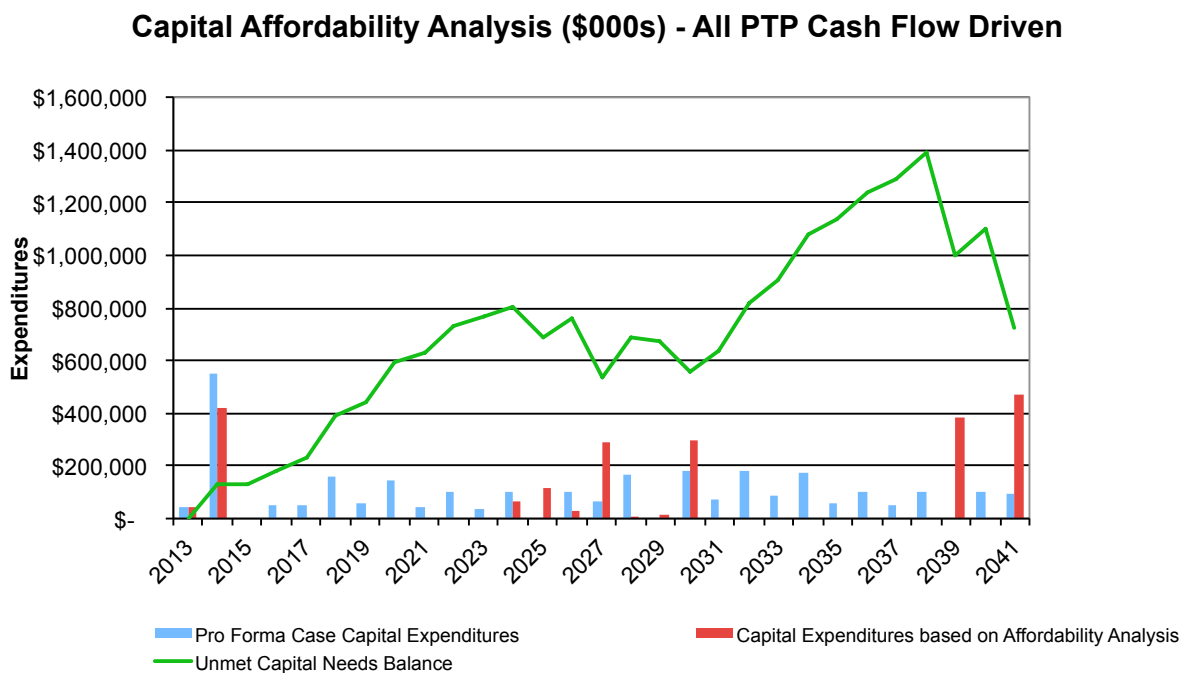
Figure: Case 7 Bus Acquisition Costs vs. Pro Forma





Since the financing for buses is assumed to be a lease in the 2011-2012 Pro Forma, changing bus costs does not affect the senior debt service coverage ratio. However, when all PTP cash flow is examined, the impact is dramatic. As seen in the chart below, nearly \$1.4 billion of capital costs would have to be deferred through 2038, compared to just \$200 million in deferrals if Pro Forma bus cost forecasts are used (see Case 3 above).

Figure: Case 7 Capital Affordability





V. Conclusions

The analysis shows that MDT's financial situation is precarious. The project team noted the following:

1. The Pro Forma shows that the senior debt minimum debt service coverage ratio (DSCR) of 1.50X may be violated as soon as 2016⁴. The Pro Forma assumes bonds are issued every other year to fund PTP capital expenditures. However, due to coverage ratio constraints, MDT may not be able to issue additional debt after a certain year.
2. The Pro Forma includes revenues that have not yet been approved, specifically the institution of a 2-cent local option gas tax and additional General Fund revenue from increasing the millage rate.
3. In order to maintain a minimum DSCR of 1.25X, (the Master Bond Ordinance definition excludes operating cash flows), up to \$40 million of capital expenditures must be deferred.
4. The MDT Pro Forma appears to be optimistic with regard to key assumptions.
 - a. For example, surtax revenue grows a long-term rate of 4.50 percent, compared to the 15-year historical average of 3.62 percent
 - b. The MDT Pro Forma assumes MDT operating expense (OPEX) growth rates that are lower than historical averages for MDT (in particular, growth rate assumptions for fuel and electricity may be too low).
5. When operating cash flows are included, in order to meet surtax debt service payments, capital expenditures of up to \$206 million must be deferred
6. The growth rate of operating costs is probably the most critical assumption in the Pro Forma. The Pro Forma assumes that MDT OPEX will grow significantly slower in the future than it has in the past. If this turns out not to be the case, the financial deficits will be far wider than projected.
 - a. Labor is the major component of OPEX, including salaries, retirement, fringe benefits, and overtime. Some of these costs are within MDT's capacity to control through collective bargaining, while others, such as health care costs, may be more difficult.
 - b. The Pro Forma assumes a decrease in FY 2012 labor costs per the County Mayor's initiative to reduce labor costs and increase health care contributions to 10 percent from 5 percent
7. The Pro Forma does not effectively track the gap in funding availability. By focusing on senior debt service coverage ratio (DSCR), it removes MDT operating costs from the critical part of the analysis. However, public policy dictates the continued operation of the MDT system.
8. Regarding capital costs, the Pro Forma does not show a complete picture in two ways:
 - a. Bus replacement costs are based on placeholders where funds are available, rather than the 14-year useful lifespan of buses. Using the latter increases bus expenditures by \$824 million over 30 years.
 - b. By using leases rather than debt to acquire buses, the Pro Forma removes bus capital costs from DSCR calculations and treats the lease costs as operating expenditures. This is financially practical, but means that DSCR is not a true measure of MDT's ability to afford its capital needs (see conclusion 3 above).
9. The sensitivity analysis also shows that if MDT OPEX growth can be controlled and growth rates are kept to reasonable levels, then this will greatly improve the cash flow forecast.

⁴ The definition of DSCR according to the Master Bond Ordinance takes surtax revenue and interest income and divides by debt service payments. The minimum required DSCR is 1.50X. However, MDT can raise subordinated debt at a minimum DSCR of 1.25X.



VI. Appendix

A. Data Resources

1. *The 2010 MDT Pro Forma (Excel file) and accompanying Word document description of assumptions.*
2. *National Transit Database (NTD) website: transit profile summaries for Miami-Dade Transit, Los Angeles County MTA (LACMTA), Metropolitan Atlanta RTA (MARTA), and Washington Metropolitan Area Transportation Authority (WMATA).*
3. *Department of Energy: Electric Price 15-Year History (Industrial).*
4. *Energy Information Administration: U.S. Weekly Retail Gasoline Price (All Grades All Formulations) 15-Year History.*
5. *Other MDT Budget and Financial Information provided to us by OCITT, MDT, and OSBM, or obtained from Miami-Dade County website.*

B. CITT Model – Capabilities and Structure

Key capabilities of the new CITT Model are:

- Following accepted modeling best practices, assumptions are separated from calculations. Further, assumptions are separated by time-based and non-time-based assumptions for clarity. For example, debt structuring details are clearly delineated and can be easily altered. Such a modeling practice not only helps to prevent error but makes it easier for a user to identify what the underlying assumptions are and change them as necessary.
- The CITT Model allows the user to enter varying assumptions and examine resulting outputs. It also has the capability of forecasting revenues and expenses by mode.
- The CITT Model calculates fare revenue by accepting inputs for average fare, ridership, and assumed fare elasticity.
- The model is structured so that two types of debt issuances can be assumed—long-term debt for rail and public works and medium-term debt for bus capital.
- The model is designed to calculate a PTP bus capital forecast based on the existing bus fleet assumptions. The CITT Model allows the user to alter this forecast by assuming a different useful life for the buses.
- The CITT Model contains a worksheet that allows the user to analyze how much capital the system can actually afford based on assumed cash flow coverage constraints.



The CITT Model: Model Structure

The CITT Model comprises 11 worksheets. The worksheets in the order that they currently appear are as follows:

Name of Worksheet	Type of Worksheet
NTAssump	Input
TimeAssump	Input
SourcesAndUses	Calculation & Output
CapitalAffordability	Calculation & Output
Debt Coverage	Calculation & Output
Medium-Term Debt	Calculation
Long-Term Debt	Calculation
Reserves	Calculation
Existing Bus Fleet	Input
ComparisonTable	Output
Graphs	Output

Input Worksheets

All non-time based assumptions are entered in the “NTAssump” worksheet. These include assumptions related to initial year expenses, revenues, and PTP bus capital in addition to debt structuring assumptions. “TimeAssump” allows the user to enter time-based forecasting assumptions. Finally, “Existing Bus Fleet” contains the number of buses in the existing fleet by type as well as the year in which they were acquired.

Calculation Worksheets

The “Medium-Term Debt” and “Long-Term Debt” worksheets calculate the debt service (or lease for Medium Term) payment schedules for newly issued surtax revenue bonds. “Reserves” tracks the debt service reserve fund for the newly issued surtax revenue bonds. The CITT Model assumes that each type of bond issue (medium-term or long-term) has a separate reserve fund. “Sources and Uses” calculates and displays a comprehensive picture of MDT operations and the PTP cash flows together. It also tracks the surtax cash balance during the forecast period. The “Capital Affordability” worksheet allows the user to analyze how much capital the system could afford if debt service coverage ratio constraints were strictly enforced (see the Sensitivity Analysis section below for these sensitivities). Finally, the “Debt Coverage” worksheet tracks an alternative debt service coverage ratio that includes operating cash flows in its definition (this differs from the legal definition of DSCR as mentioned above).

Output Worksheets

The “ComparisonTable” worksheet compares the 30-year cash flows of the MDT Pro Forma with those of the CITT Model Pro Forma Case. The “Graphs” worksheet contains various graphs that allow the user to analyze the active scenario—these include Net Cash Flows, Fare Recovery, Cash Balance, DSCR, and others.