

8. FINANCIAL ANALYSIS

The Metropolitan Transit Authority of Harris County, Texas (METRO) has prepared this financial plan for the Southeast Corridor Locally Preferred Alternative (LPA), adopted by the Board of Directors in October 2007.¹ This plan is based upon 49 percent capital funding for the project from the Federal Transit Administration, Section 5309 New Starts funding, and 51 percent from committed METRO local resources.

In November 2003, Houston-area voters approved the METRO Solutions Transit System Plan and granted approval for METRO to issue up to \$640 million in long-term bonds to help fund implementation of the system through 2012. The analysis demonstrated that METRO has the financial capacity to implement the plan through a partnership with the Federal Transit Administration reflecting a 49 percent/51 percent sharing of capital costs in selected corridors.

While this Southeast Corridor is one element of the METRO Solutions system plan, this document provides financial information for the LPA and a cash flow for METRO Solutions plan to demonstrate METRO's ability to afford the program. With its dedicated one-cent sales tax and voter approval of up to \$640 million in bonding, METRO is in an enviable financial position.

The chapter also examines METRO's capital and operating plans, both at the project and agency levels. To determine the financial health of METRO in relation to the proposed project, a 23-year cash flow analysis is presented. The financial feasibility of the LPA was determined by developing a cash flow analysis which demonstrates that METRO can implement the project and still have a substantial positive cash balance at the end of the horizon year 2030.

The financial analysis prepared for the LPA:

- Demonstrates the financial viability of a METRO/Federal Transit Administration (FTA) partnership in implementing the LPA;
- Identifies the financial resources required to fund the capital and operations and maintenance costs associated with the 6.14-mile LPA in the context of the existing light rail transit (LRT) line and bus service; and
- Demonstrates to the FTA the financial capacity of METRO to build, operate, and maintain the LPA while continuing to operate and expand their existing base transit system and complete the other components of the METRO Solutions Plan.

¹ Acronyms and abbreviations are defined at their first use in each chapter. A complete list of acronyms and abbreviations used in this SFEIS is contained in Appendix A.

8.1 Description of the Project

The LPA is an integral part of the METRO Solutions plan. The LPA is a 6.14 mile-project through Houston's southeast community. The Locally Preferred Investment Strategy (LPIS) for the Southeast Corridor adopted by METRO's Board of Directors in November 2003 extends beyond Martin Luther King Boulevard to Hobby Airport (HOU).

After taking into consideration community input, and the continuing conceptual engineering process, it became increasingly clear that a two-way alignment on Capitol Street would result in environmental impacts to the downtown area. As a result, METRO determined that changing the position of the alignment to become operational on both Capitol and Rusk Streets would greatly minimize the environmental impacts in the surrounding areas. Consequently, in March 2008, METRO decided on a change to Capital and Rusk Streets to minimize these impacts.

The LRT services would operate along a line extending from downtown Houston to a terminus on Griggs Road at Beekman Road, connecting the downtown Houston district with the universities area, including Texas Southern University (TSU) and the University of Houston (UH), and the Palm Center. The service would operate in restricted lanes along Capitol Street and Rusk Street west of Avenida de las Americas. Between Hamilton Street and Nagle Street it would operate in a fully exclusive, bi-directional trackway on Texas Avenue. From Texas and Nagle to the intersection of Polk Street and Scott Street, this trackway would irregularly traverse various land parcels. Within this segment, the trackway would occupy the south side of Dallas Street between Roberts and Scott. South of Polk the trackway would be situated in or along Scott Street, Wheeler Street, Martin Luther King Boulevard, and Griggs Road. The service would terminate at Beekman Road. A total of 10 stations would be constructed for passenger access to the system. The proposed LRT vehicle will be identical to the LRT vehicles used on the existing METRO Red Line.

The Southeast Corridor LPA will be an integral part of the regional fixed guideway system and will complement existing and proposed bus services to be implemented by METRO over the 23-year planning horizon extending from Fiscal Year (FY) 2007 to FY 2030. METRO's fiscal year runs from October 1st through September 30th. The LPA project calls for construction to begin in FY 2008, with operation commencing in FY 2013.

The total estimated capital cost of the LPA over the FY 2007 to FY 2030 period is \$604.720 million in Year 2007 dollars and \$680.591 million in Year-of-Expenditure dollars. The project cost includes \$6.8 million in professional services that were incurred in FY 2006.

8.2 Project Sponsor and Funding Partners

8.2.1 Metropolitan Transit Authority of Harris County

METRO, the project sponsor, was created on December 16, 1977 pursuant to Chapter 451 of the Texas Transportation Code. Harris County voters approved METRO's confirmation and tax rate referendum on August 12, 1978. With authorization of a one percent sales tax to fund the agency, this mandate by the voters gave Houston both the financial base and the regional authority to implement transportation solutions to improve mobility and relieve traffic congestion in the area.

The political jurisdictions participating in the METRO service area are:

- Portions of unincorporated Harris County,
- City of Houston,
- City of Bellaire,
- City of Bunker Hill Village,
- City of El Lago,
- City of Hedwig Village,
- City of Hilshire Village,
- City of Humble,
- City of Hunters Creek,
- City of Katy,
- City of Missouri City,
- City of Piney Point,
- City of Southside Place,
- City of Spring Valley,
- City of Taylor Lake Village, and
- City of West University Place.

Today METRO has a well-established bus system, including a peak fleet of approximately 1,250 (includes contract and METROLift vehicles) buses and a regional system of more than 100 miles of high occupancy vehicle (HOV) lanes.

8.2.2 Federal Transit Administration

FTA is proposed to have an important role as a 49.0 percent/51.0 percent shared capital expense funding partner in this corridor. The following FTA grant programs are included in the development of the financial plan:

- Section 5307 – These formula grants are based on various demographic, level of service (LOS), and ridership variables. Factors in the formula that allocate grants to urbanized areas were estimated based on annual growth in total Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 5307 funds adjusted downward to account for a larger transit service and demographic base over which these grants are applied. SAFETEA-LU limits the application of these grants to capital purposes, but preventative maintenance expenses in the operating budget may be considered as “capital” for this purpose.
- Section 5309 New Starts – FTA requires that New Starts Project sponsors secure the adoption of the LPA into the financially constrained regional long range transportation plan as a prerequisite to the sponsor seeking approval from

FTA for Section 5309 New Starts funding for Preliminary Engineering, Final Design, and Construction. The local Metropolitan Planning Organization, Houston-Galveston Area Council (HGAC), has programmed the LPA into the regionally-adopted, financially constrained HGAC *2035 Regional Transportation Plan (RTP)*, adopted August 2007 and the regionally-adopted *FY2008-FY2011 Transportation Improvement Plan (TIP)*, adopted on October 26, 2007. This analysis assumes that METRO and the FTA would share 49 percent /51 percent responsibility for the capital costs of this project, with the FTA share from its Section 5309 New Starts program monies.

- Section 5309 Bus Related – These discretionary grants are applied to the purchase of buses and bus-related assets.
- Congestion Mitigation/Air Quality (CMAQ) – This grant program is applied to capital projects and to support operation of some transit services.

8.3 Summary of the Financial Plan

Although METRO must consider the financial implications of the entire METRO Solutions Phase 2 plan through 2012, the financial plan presented in this chapter demonstrates the independent impact of the Southeast Corridor project or LPA on METRO's cash flow. Table 8-1 summarizes the uses and sources of funds proposed for the LPA and for the rail and bus systems that will be in operation during the FY 2007 – FY 2030 period. The table indicates the total estimated capital costs and revenues as well as total operations and maintenance costs and revenues.

8.3.1 Uses of Funds

As shown in Table 8-1, the total cost of the LPA, systemwide bus program, METRO Solutions Phase 2 plan, and METRO's non-transit programs is estimated to be \$37.026 billion (year of expenditure (YOE) \$) over the FY 2007 to FY 2030 period. Of this total, \$21.727 billion are for non-transit bus, bus, METRO Solutions, the Southeast Corridor project's capital costs and debt service payments (collectively referred to as capital), and \$15.299 billion are for on-going non-transit bus, and LRT operations and maintenance costs.

Of the \$16.708 billion in estimated capital costs, 3 percent is for the Southeast Corridor project. Of project capital costs, 26 percent is for bus capital, 6 percent is for the non-transit programs (general mobility and transitways), and 42 percent is for all other METRO Solutions components. Of the \$15.299 billion in operating and maintenance (O&M) costs, 70 percent are for bus and existing LRT O&M, 2 percent for Southeast Corridor project O&M, and 2 percent for non-transit O&M (traffic management).

8.3.2 Sources of Funds

The revenues required to fund the LPA are forecasted to be available from federal and local sources. Over and above this level, the project sponsor will use a portion of its \$1.072 billion ending balance in 2030 that will be available for the elements to

**Table 8-1. Proposed Sources and Uses of Funds FY 2005 to 2030
(Year of Expenditure Dollars)**

Capital Costs	Total	% of Total
Bus	\$5,750,474,000	26%
Southeast Corridor LRT (49%/51% federally funded project only)	\$567,614,000	3%
All other METRO Solutions components	\$9,172,241,022	42%
Non-Transit (General Mobility and Transitways)	\$1,218,470,000	6%
Total Capital Costs	\$16,708,799,022	
Debt Service Payments		
Debt Service Issued Beginning FY 2007	\$5,017,737,299	
Debt Service on Bonds Issued Prior to FY 2006	\$-	
Total Debt Service Payments	\$5,017,737,299	23%
Total Capital Costs and Debt Service Payments	\$21,726,536,321	100%
Operating Costs		
Bus and Existing LRT	\$10,660,337,000	70%
Southeast Corridor LRT (49%/51% federally funded project only)	\$300,504,000	2%
All other METRO Solutions components	\$3,979,881,000	26%
Non-Transit (Traffic Management)	\$358,382,000	2%
Total O&M Costs	\$15,299,104,000	100%
Total Capital, Debt Service, And O&M Costs	\$37,025,640,321	
Revenues		
Federal		15%
FTA Section 5307 Urbanized Area Formula Grant/CMAQ/Misc	\$2,519,048,000	
FTA Section 5309 New Starts	\$3,085,084,000	
Other Federal Discretionary plus prior FTA Sec 5307	\$93,636,000	
Subtotal, Federal	\$5,697,768,000	
Local		
Sales Tax	\$23,714,458,000	85%
Farebox Revenues	\$3,715,679,000	
Miscellaneous Grants	\$45,173,403	
Interest Income	\$168,819,763	
Bond Proceeds	\$4,162,000,000	
Subtotal, Local	\$31,806,130,166	
Total Revenues	\$37,503,898,166	
Beginning Balance in 2007	\$193,792,000	
Ending Balance in 2030	\$1072,050,515	

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1(YOE\$), January 2008.

fund the remainder of the METRO Solutions plan. These other available and unexpended revenues accrue annually and are comprised of an annual cash balance plus the excess of annual revenues over expenses.

The revenues used for capital are derived from local and federal sources. Local sources include sales tax revenues, farebox revenues, and interest income. Federal sources include FTA Section 5309 New Starts funds. METRO is requesting FTA to participate as a 49.0 percent/51.0 percent shared capital expense partner, using Section 5309 New Starts program monies, to fund the Southeast Corridor project.

8.3.3 Reliance on Existing Sources of Funding

In 1978, voters approved a one percent sales tax dedicated to transit. In November 2003, voters in the METRO service area demonstrated their commitment to the METRO Solutions plan, including transit improvements to the Southeast Corridor, with majority approval of plan. With voter approval, authorization was given for the issuance of up to \$640 million in bonds to fund the overall plan through 2012. The local sales tax and the new local funding provided by the bonding authorization will enable METRO to implement and operate the plan through 2012. No bond funds will be used for the Southeast Corridor project.

8.3.4 Summary

METRO's financial plan for the Southeast Corridor project reflects a partnership between METRO and the FTA. This financial analysis confirms the ability of METRO to fund the capital and operating costs of its existing and expanded bus services and the LPA, through a shared capital expense responsibility. In this financing partnership, FTA's contribution will be 49.0 percent of the overall capital cost.

8.4 Capital Plan

This section describes METRO's capital spending plan and funding sources for the proposed project. Project estimated capital cost and expenditure schedules, funding sources, contingencies for potential cost over-runs and funding short falls, and METRO's project-related debt burden are reviewed and analyzed. Finally, the project-specific capital plan is incorporated in METRO's agency-wide capital plan, which serves as the foundation for the project capital plan.

8.4.1 Proposed Capital Plan for the LPA

The proposed capital plan integrates annual projections of capital expense and revenues. The capital plan includes the Southeast Corridor project, the METRO Solutions Plan, maintenance of METRO's fixed assets in good repair, and routine replacement of buses and other assets. The plan addresses detailed estimates of annual construction costs and includes contingencies for cost increases. It applies local tax and internally generated revenues and various sources of federal funding. Finally, the plan recognizes the practical limitations of METRO's capital capacity and provides clear financial performance indicators addressing the level of working capital necessary and achieved in the plan.

8.4.1.1 Capital Costs and Schedule

Unit costs used in the preparation of the capital cost estimates for the New Starts Report were based on the actual costs experienced on the MetroRail LRT line on Main Street. These LRT unit costs were developed in 2004 dollars and escalated to 2007 dollars.

Recognizing that the Consumer Price Index (CPI) may not reflect the changes in prices for the construction industry METRO has reviewed the trends going back as far as 1990 to determine how significant the differences are between the various

construction indices and the Houston CPI. The construction indices selected are from *Engineering News Record* because of their availability, ease of use and widespread acceptance.

The indices selected are as follows:

- Dallas Building Cost Index (BCI)
- Dallas Construction Cost Index (CCI)
- National Construction Cost Index
- National Building Cost Index

Table 8-2 shows the compounded rate of change for various indices of the time periods shown:

Table 8-2. Compounded Rate of Change

Index	1990 to 2007	2003 to 2007	2006 to 2007
Dallas BCI	3.11%	5.48%	4.67%
Dallas CCI	2.63%	5.30%	1.01%
National CCI	3.11%	4.45%	2.77%
National BCI	3.03%	4.38%	2.66%
Houston CPI	2.51%	2.81%	3.51%

*Engineering News Record, Winter 2007.

As demonstrated in Table 8-2, the various construction indices are consistently higher than the consumer price index through 2007. Recognizing this difference, it is prudent to reevaluate the use of the CPI inflation factor used for escalation of construction costs.

Historical data were used to estimate future inflation. The average annual National Construction Cost Index from 1990 to 2007 was 3.11 percent. As a conservative approach, we have assumed the same average performance from 2007 to 2030 at 3.25 percent.

Units were confirmed based on preliminary engineering drawings prepared for the corridor. Capital costs estimates in 2007 and year of expenditure dollars were documented in the FTA's Standard Cost Category (SCC) worksheets and submitted to FTA in October 2006. The cost estimates were reviewed by the Project Management Oversight Contractor.

Table 8-3 through Table 8-5 summarize the capital cost estimate. Table 8-3 summarizes the project capital cost in constant 2007 Dollars. Table 8-4 summarizes the project estimated capital cost in Year of Expenditure Dollars. The annual cash flow of Project estimated capital costs in Year of Expenditure Dollars is presented in Table 8-5, based on the proposed project implementation schedule.

Table 8-3. LPA Project Cost Estimate in Constant 2007 Dollars

Item	Quantity	Unit	Total
Guideway and Trackwork	6.26	Miles	74,820,000
Stations, Stops, Terminals, Intermodal	10	Stations	19,879,000
Support Facilities		Facility	24,000,000
Sitework and Special Conditions	6.26	Miles	122,498,000
Systems	6.26	Miles	52,982,000
Right-of-Way	6.26	Miles	43,679,000
LRT Vehicles	29	Vehicles	92,800,000
Professional Services	1	Lump Sum	150,586,000
Unallocated Contingency	1	10%	23,476,000
Total			604,720,000

Source: Southeast Corridor FTA Standardized Cost Categories Spreadsheets, April 17, 2008.

Table 8-4. LPA Project Cost Estimate in Year of Expenditure Dollars

Item	Quantity	Unit	Total
Guideway and Trackwork	6.26	Miles	82,739,000
Stations, Stops, Terminals, Intermodal	10	Stations	22,024,000
Support Facilities		Facility	26,502,000
Sitework and Special Conditions	6.26	Miles	135,542,000
Systems	6.26	Miles	59,957,000
Right-of-Way	6.26	Miles	45,891,000
LRT Vehicles	29	Vehicles	119,293,000
Professional Services	1	Lump Sum	162,326,000
Unallocated Contingency	1	10%	26,317,000
Total			680,591,000

Source: Southeast Corridor FTA Standardized Cost Categories Spreadsheets, April 17, 2008.

Table 8-5. LPA Project Capital Cost Estimate and Schedule in Year of Expenditure Dollars

Item	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13-FY17	FY18	Total
Guideway and Trackwork			2,065,000	23,435,000	24,215,000	25,002,000	8,003,000	0		82,738,000
Stations, Stops, Terminals, Intermodal				6,396,338	6,604,218	6,818,856	2,204,585	0		22,023,997
Support Facilities			1,032,500	7,462,394	7,704,922	7,955,331	2,346,823	0		26,501,970
Sitework & Special Conditions			3,097,500	38,378,000	39,625,000	39,777,000	14,665,000	0		135,542,500
Systems			1,032,500	5,330,000	15,410,000	15,911,000	22,274,000	0		59,957,500
Right-of-Way		4,100,000	12,390,000	29,401,000				0		45,891,000
LRT Vehicles			4,130,000	4,264,225	13,208,437	13,637,711	11,264,749	0	72,788,140	46,505,122
Professional Services	6,826,000	20,000,000	27,983,000	27,717,463	28,618,280	29,548,374	21,633,474	0		162,326,590
Unallocated Contingency			1,032,500	3,198,169	7,704,922	7,955,331	6,426,000	0		26,316,922
Period Total	6,826,000	24,100,000	52,763,000	145,600,588	143,090,779	146,605,604	88,817,631	0	72,788,140	680,591,742
Cumulative Total	6,826,000	30,926,000	83,689,000	229,289,588	372,380,366	518,985,970	607,803,601	0	680,591,742	

Source: Southeast Corridor FTA Standardized Cost Categories Spreadsheets, April 17, 2008.

8.4.2 LPA Funding Sources

Funding sources for implementation of LPA through 2012 include a mix of federal and local funds. METRO is asking FTA to participate as a partner in funding the LPA as a 49.0 percent/51.0 percent shared capital expense.

This section of the project capital plan identifies the proposed sources of funds for constructing the LPA and details the non-federal share of funds for the project. Table 8-6 provides a summary of the federal and non-federal sources of funding proposed for design and construction of the LPA.

Table 8-6. LPA Sources of Capital Funding FY2006 – FY2030 In Year of Expenditure Dollars (\$,000)

	METRO	% of Total
LRT Capital Costs	\$680,591	100.00%
LRT Capital Funding		
<i>Federal Sources</i>		
Sec 5309 New Starts	\$333,490	49.00%
Total Federal Sources	\$333,490	49.00%
<i>Local Sources *</i>		
Sales Tax	\$347,101	51.00%
Total Local Sources	\$347,101	51.00%
Total, LRT Capital Funding		100.00%

Source: Southeast Corridor FTA Standardized Cost Categories Spreadsheets, April 17, 2008.

METRO's capital reserve levels, projected future tax revenues, operating revenues, and FTA grants for purposes other than New Starts funding are projected to be sufficient to support existing transit services and non-transit programs, expansion of other transit services, and ongoing capital rehabilitation and replacement while maintaining a prudent level of working capital.

Table 8-7 summarizes the annual schedule of LPA capital funding to be provided over the FY 2006 to FY 2012 period in which the LPA is implemented and funded. The costs are provided in Year of Expenditure dollars.

8.4.2.1 FTA Section 5309 New Starts

FTA Section 5309 New Starts program is assumed to fund 49.0 percent of the preliminary and final engineering and construction cost of the LPA. New Starts funds totaling \$325.2 million (\$YOE) are assumed to be provided through a Full Funding Grant Agreement (FFGA). Analyzing the LPA alone, funds would be received at specified annual levels on Table 8-7 over the FY 2006 to FY 2012 period.

**Table 8-7. LPA Schedule of Capital Funding Fiscal Year 2006 through Fiscal Year 2012 and 2018
(Year of Expenditure \$,000)**

	2006	2007	2008	2009	2010	2011	2012	2018	TOTAL
Capital Costs									
Southeast Corridor LRT Project	\$6,826,000	\$24,100,000	\$52,763,000	\$145,600,588	\$143,090,779	\$146,605,604	\$88,817,631	\$72,788,140	\$680,591,742
Total Capital Costs	\$6,826,000	\$24,100,000	\$52,763,000	\$145,600,588	\$143,090,779	\$146,605,604	\$88,817,631	\$72,788,140	\$680,591,742
Capital Revenues Expended									
Federal									
FTA Section 5309 New Starts									
FTA Section 5309 (New Starts)	\$3,344,740	\$11,809,000	\$25,853,870	\$71,344,288	\$70,114,481	\$71,836,746	\$43,520,639	\$35,66,189	\$333,489,953
Subtotal, FTA Section 5309 New Starts	\$3,344,740	\$11,809,000	\$25,853,870	\$71,344,288	\$70,114,481	\$71,836,746	\$43,520,639	\$35,66,189	\$333,489,953
Total, Federal Capital Revenue	\$3,344,740	\$11,809,000	\$25,853,870	\$71,344,288	\$70,114,481	\$71,836,746	\$43,520,639	\$35,66,189	\$333,489,953
Local									
Sales Tax Revenue									
Sales Tax Revenue	\$3,481,260	\$12,291,000	\$40,208,000	\$96,721,000	\$90,210,000	\$29,734,000	\$45,296,992	\$37,121,952	\$347,101,788
Subtotal, Sales Tax Revenue	\$3,481,260	\$12,291,000	\$40,208,000	\$96,721,000	\$90,210,000	\$29,734,000	\$45,296,992	\$37,121,952	\$347,101,788
Total, Local Capital Revenue	\$3,481,260	\$12,291,000	\$40,208,000	\$96,721,000	\$90,210,000	\$29,734,000	\$45,296,992	\$37,121,952	\$347,101,788
Total Capital Revenues Expended	\$6,826,000	\$24,100,000	\$66,061,870	\$168,065,288	\$160,324,481	\$101,570,746	\$88,817,631	\$72,788,140	\$680,591,742

Source: Southeast Corridor LPA FTA Standardized Cost Categories Spreadsheets, December 19, 2007. METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, April 17, 2008.

8.4.2.2 Local Sales Taxes

Dedicated transit sales tax will be a key source of local funding for the Southeast Corridor project and the rest of the METRO Solutions Phase 2. Tax revenues will provide annual capital and operating funding.

Sales tax revenues are assumed to grow approximately five percent annually. This growth is consistent with the prior 14 years. The projected sales tax growth is derived from the methodology used by Dr. Barton Smith (See *METRO Forecasts of Economic Growth, Inflation, and Interest Rates: March June 15, 2005*) who has consistently and reliably conducted sales tax forecasting for METRO for many years.

8.4.2.3 Bond Proceeds

The implementation of METRO Solutions Plan through 2012 will require METRO to use bond financing. METRO has voter approval to issue up to \$640 million in bonds. METRO will not require bond proceeds to help fund this individual project.

8.4.3 Twenty-Three Year Capital Plan

Table 8-8 summarizes the overall 23-year capital plan within which the LPA will be implemented. Bus capital and operating assumptions and costs used in this analysis are derived from short and long range plans. Estimated capital costs are reported in Year of Expenditure dollars, with both real growth and a base rate of inflation included.

8.4.4 Other Capital Costs

For the purpose of this analysis for FTA, capital costs included in the transit capital plan other than LPA costs include bus capital, transitway (HOV), and General Mobility project costs. Over the FY 2007 – FY 2030 period, bus capital costs are \$23.223 million (YOE \$), METRO Solutions capital costs (other than the Southeast LPA) are \$9.740 billion (YOE \$), and transitway and General Mobility costs are \$1.218 billion (YOE \$). These costs include existing and proposed services by METRO.

8.4.5 Agency-Wide Funding Sources

No new revenue sources have been assumed in the financial plan nor are they required. The capital plan includes all existing local and federal sources of revenue. Principal sources include a dedicated local sales tax, federal formula and discretionary grants, and other miscellaneous income. Unlike costs, all of which increase with inflation, the only local revenue source assumed to increase with inflation is the local sales tax collected in the METRO service area. (Federal funds are assumed to increase as approved in the SAFETEA-LU authorization period).

Table 8-8. Proposed METRO Capital Plan including Southeast Corridor LPA FY 2007-2030

	2007	2008	2009	2010	2011	2012
CAPITAL COSTS						
BUS						
Bus Capital	\$130,314,000	\$150,534,000	\$146,696,000	\$162,315,000	\$142,720,000	\$166,064,000
Subtotal, Bus Capital	\$130,314,000	\$150,534,000	\$146,696,000	\$162,315,000	\$142,720,000	\$166,064,000
LRT						
Southeast Corridor LRT Project	\$30,926,000	\$52,763,000	\$145,600,588	\$143,090,779	\$146,605,604	\$88,817,631
All Other METRO Solutions LRT Components	\$101,127,000	\$379,379,341	\$766,420,538	\$894,383,512	\$475,476,638	\$330,005,514
Subtotal, LRT Capital	\$132,053,000	\$432,142,341	\$912,021,126	\$1,037,474,291	\$622,082,242	\$418,823,145
Non-Transit						
General Mobility and Transitways	\$106,873,000	\$128,228,000	\$138,098,000	\$148,124,000	\$158,330,000	\$168,883,000
Subtotal, Non-Transit	\$106,873,000	\$128,228,000	\$138,098,000	\$148,124,000	\$158,330,000	\$168,883,000
DEBT SERVICE						
Debt Service Payment	\$0	\$5,677,650	\$32,097,340	\$80,457,879	\$104,043,529	\$110,167,879
Subtotal, Debt Service	\$0	\$5,677,650	\$32,097,340	\$80,457,879	\$104,043,529	\$110,167,879
TOTAL CAPITAL COSTS	\$369,240,000	\$716,581,991	\$1,228,912,466	\$1,428,371,170	\$1,027,175,771	\$863,939,024
REVENUES						
FEDERAL Capital Sources						
FTA Section 5307 Urbanized Area Formula Grant						
Section 5307 Formula Grant /CMAQ/Miscellaneous	\$58,146,000	\$97,132,000	\$102,842,000	\$91,646,000	\$108,588,000	\$121,468,000
Subtotal, FTA Section 5307 Urbanized Area Formula Grant	\$58,146,000	\$97,132,000	\$102,842,000	\$91,646,000	\$108,588,000	\$121,468,000
FTA Section 5309 New Starts						
Section 5309 (New Start)	\$0	\$0	\$41,068,000	\$112,746,000	\$288,005,000	\$284,402,000
Subtotal, FTA Section 5309 New Starts	\$0	\$0	\$41,068,000	\$112,746,000	\$288,005,000	\$284,402,000
Other Federal						
Other Federal	\$43,177,000	\$41,740,000	\$8,719,000	\$0	\$0	\$0
Subtotal, Other Federal	\$43,177,000	\$41,740,000	\$8,719,000	\$0	\$0	\$0
TOTAL, FEDERAL Capital Sources	\$101,323,000	\$138,872,000	\$152,629,000	\$204,392,000	\$396,593,000	\$405,870,000
LOCAL Capital Sources						
Transit Sales Tax	\$267,917,000	\$576,220,190	\$407,793,665	\$299,489,369	\$393,050,771	\$391,495,024
Miscellaneous Grants	\$0	\$1,489,801	\$1,489,801	\$1,489,801	\$1,532,000	\$1,574,000
Bond and Commercial Paper Proceeds	\$0	\$0	\$667,000,000	\$923,000,000	\$236,000,000	\$65,000,000
TOTAL, LOCAL Capital Sources	\$267,917,000	\$577,709,991	\$1,076,283,466	\$1,223,979,170	\$630,582,771	\$458,069,024
TOTAL REVENUES	\$369,240,000	\$716,581,991	\$1,228,912,466	\$1,428,371,170	\$1,027,175,771	\$863,939,024

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

Table 8-8. Proposed METRO Capital Plan including Southeast Corridor LPA FY 2007-2030 (continued)

	2013	2014	2015	2016	2017	2018	2019
CAPITAL COSTS							
BUS							
Bus Capital	\$176,897,000	\$176,132,000	\$178,293,000	\$190,548,000	\$208,999,000	\$225,591,000	\$227,592,000
Subtotal, Bus Capital	\$176,897,000	\$176,132,000	\$178,293,000	\$190,548,000	\$208,999,000	\$225,591,000	\$227,592,000
LRT							
Southeast Corridor LRT Project	\$0	\$0	\$0	\$0	\$0	\$72,788,140	\$0
All Other METRO Solutions LRT Components	\$312,163,534	\$467,191,721	\$464,516,475	\$225,126,270	\$141,620,127	\$201,594,860	\$441,679,000
Subtotal, LRT Capital	\$312,163,534	\$467,191,721	\$464,516,475	\$225,126,270	\$141,620,127	\$274,383,000	\$441,679,000
Non-Transit							
General Mobility and Transitways	\$179,551,000	\$190,383,000	\$0	\$0	\$0	\$0	\$0
Subtotal, Non-Transit	\$179,551,000	\$190,383,000	\$0	\$0	\$0	\$0	\$0
DEBT SERVICE							
Debt Service Payment	\$115,130,518	\$130,262,848	\$148,698,985	\$266,008,773	\$392,524,128	\$266,537,190	\$137,557,050
Subtotal, Debt Service	\$115,130,518	\$130,262,848	\$148,698,985	\$266,008,773	\$392,524,128	\$266,537,190	\$137,557,050
TOTAL CAPITAL COSTS	\$783,742,052	\$963,969,569	\$791,508,460	\$681,683,043	\$743,143,255	\$766,511,190	\$806,828,050
REVENUES							
FEDERAL Capital Sources							
FTA Section 5307 Urbanized Area Formula Grant							
Section 5307 Formula Grant /CMAQ/Miscellaneous	\$83,546,000	\$85,843,000	\$88,238,000	\$90,744,000	\$93,358,000	\$96,065,000	\$98,879,000
Subtotal, FTA Section 5307 Urbanized Area Formula Grant	\$83,546,000	\$85,843,000	\$88,238,000	\$90,744,000	\$93,358,000	\$96,065,000	\$98,879,000
FTA Section 5309 New Starts							
Section 5309 (New Start)	\$173,513,000	\$113,932,000	\$123,614,000	\$102,392,000	\$166,588,000	\$200,000,000	\$109,708,000
Subtotal, FTA Section 5309 New Starts	\$173,513,000	\$113,932,000	\$123,614,000	\$102,392,000	\$166,588,000	\$200,000,000	\$109,708,000
Other Federal							
Other Federal	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal, Other Federal	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL, FEDERAL Capital Sources	\$257,059,000	\$199,775,000	\$211,852,000	\$193,136,000	\$259,946,000	\$296,065,000	\$208,587,000
LOCAL Capital Sources							
Transit Sales Tax	\$394,066,052	\$414,532,569	\$436,947,460	\$486,789,043	\$481,388,255	\$468,584,190	\$490,324,050
Miscellaneous Grants	\$1,617,000	\$1,662,000	\$1,709,000	\$1,758,000	\$1,809,000	\$1,862,000	\$1,917,000
Bond and Commercial Paper Proceeds	\$131,000,000	\$348,000,000	\$141,000,000	\$0	\$0	\$0	\$106,000,000
TOTAL, LOCAL Capital Sources	\$526,683,052	\$764,194,569	\$579,656,460	\$488,547,043	\$483,197,255	\$470,446,190	\$598,241,050
TOTAL REVENUES	\$783,742,052	\$963,969,569	\$791,508,460	\$681,683,043	\$743,143,255	\$766,511,190	\$806,828,050

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

Table 8-8. Proposed METRO Capital Plan including Southeast Corridor LPA FY 2007-2030 (continued)

	2020	2021	2022	2023	2024	2025
CAPITAL COSTS						
BUS						
Bus Capital	\$208,723,000	\$258,781,000	\$234,311,000	\$280,632,000	\$326,028,000	\$345,090,000
Subtotal, Bus Capital	\$208,723,000	\$258,781,000	\$234,311,000	\$280,632,000	\$326,028,000	\$345,090,000
LRT						
Southeast Corridor LRT Project	\$0	\$0	\$0	\$0	\$0	\$0
All Other METRO Solutions LRT Components	\$411,677,000	\$221,236,000	\$171,612,000	\$550,010,000	\$885,379,000	\$820,125,000
Subtotal, LRT Capital	\$411,677,000	\$221,236,000	\$171,612,000	\$550,010,000	\$885,379,000	\$820,125,000
Non-Transit						
General Mobility and Transitways	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal, Non-Transit	\$0	\$0	\$0	\$0	\$0	\$0
DEBT SERVICE						
Debt Service Payment	\$146,062,980	\$167,211,810	\$271,661,775	\$152,166,540	\$174,025,008	\$204,843,810
Subtotal, Debt Service	\$146,062,980	\$167,211,810	\$271,661,775	\$152,166,540	\$174,025,008	\$204,843,810
TOTAL CAPITAL COSTS	\$766,462,980	\$647,228,810	\$677,584,775	\$982,808,540	\$1,385,432,008	\$1,370,058,810
REVENUES						
FEDERAL Capital Sources						
FTA Section 5307 Urbanized Area Formula Grant						
Section 5307 Formula Grant /CMAQ/Miscellaneous	\$101,807,000	\$104,860,000	\$107,996,000	\$111,225,000	\$114,539,000	\$117,941,000
Subtotal, FTA Section 5307 Urbanized Area Formula Grant	\$101,807,000	\$104,860,000	\$107,996,000	\$111,225,000	\$114,539,000	\$117,941,000
FTA Section 5309 New Starts						
Section 5309 (New Start)	\$7,185,000	\$0	\$9,468,000	\$73,173,000	\$174,313,000	\$239,699,000
Subtotal, FTA Section 5309 New Starts	\$7,185,000	\$0	\$9,468,000	\$73,173,000	\$174,313,000	\$239,699,000
Other Federal						
Other Federal	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal, Other Federal	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL, FEDERAL Capital Sources	\$108,992,000	\$104,860,000	\$117,464,000	\$184,398,000	\$288,852,000	\$357,640,000
LOCAL Capital Sources						
Transit Sales Tax	\$508,495,980	\$540,334,810	\$558,025,775	\$595,253,540	\$609,359,008	\$629,131,810
Miscellaneous Grants	\$1,975,000	\$2,034,000	\$2,095,000	\$2,157,000	\$2,221,000	\$2,287,000
Bond and Commercial Paper Proceeds	\$147,000,000	\$0	\$0	\$201,000,000	\$485,000,000	\$381,000,000
TOTAL, LOCAL Capital Sources	\$657,470,980	\$542,368,810	\$560,120,775	\$798,410,540	\$1,096,580,008	\$1,012,418,810
TOTAL REVENUES	\$766,462,980	\$647,228,810	\$677,584,775	\$982,808,540	\$1,385,432,008	\$1,370,058,810

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

Table 8-8. Proposed METRO Capital Plan including Southeast Corridor LPA FY 2007-2030 (continued)

	2026	2027	2028	2029	2030	TOTAL
CAPITAL COSTS						
BUS						
Bus Capital	\$352,228,000	\$366,438,000	\$344,353,000	\$366,423,000	\$384,772,000	\$5,750,474,000
Subtotal, Bus Capital	\$352,228,000	\$366,438,000	\$344,353,000	\$366,423,000	\$384,772,000	\$5,750,474,000
LRT						
Southeast Corridor LRT Project	\$0	\$0	\$0	\$0	\$0	\$663,640,813
All Other METRO Solutions LRT Components	\$798,540,000	\$0	\$0	\$0	\$0	\$9,076,214,460
Subtotal, LRT Capital	\$798,540,000	\$0	\$0	\$0	\$0	\$9,739,855,272
Non-Transit						
General Mobility and Transitways	\$0	\$0	\$0	\$0	\$0	\$1,218,470,000
Subtotal, Non-Transit	\$0	\$0	\$0	\$0	\$0	\$1,218,470,000
DEBT SERVICE						
Debt Service Payment	\$229,934,571	\$718,258,871	\$679,373,225	\$283,163,096	\$201,870,843	\$5,017,737,299
Subtotal, Debt Service	\$229,934,571	\$718,258,871	\$679,373,225	\$283,163,096	\$201,870,843	\$5,017,737,299
TOTAL CAPITAL COSTS	\$1,380,702,571	\$1,084,696,871	\$1,023,726,225	\$649,586,096	\$586,642,843	\$21,726,536,571
REVENUES						
FEDERAL Capital Sources						
FTA Section 5307 Urbanized Area Formula Grant						
Section 5307 Formula Grant /CMAQ/Miscellaneous	\$121,432,000	\$125,026,000	\$128,728,000	\$132,538,000	\$136,461,000	\$2,519,048,000
Subtotal, FTA Section 5307 Urbanized Area Formula Grant	\$121,432,000	\$125,026,000	\$128,728,000	\$132,538,000	\$136,461,000	\$2,519,048,000
FTA Section 5309 New Starts						
Section 5309 (New Start)	\$256,967,000	\$249,759,000	\$158,522,000	\$100,000,000	\$100,000,000	\$3,085,084,000
Subtotal, FTA Section 5309 New Starts	\$256,967,000	\$249,759,000	\$158,522,000	\$100,000,000	\$100,000,000	\$3,085,084,000
Other Federal						
Other Federal	\$0	\$0	\$0	\$0	\$0	\$93,636,000
Subtotal, Other Federal	\$0	\$0	\$0	\$0	\$0	\$93,636,000
TOTAL, FEDERAL Capital Sources	\$378,399,000	\$374,785,000	\$287,280,000	\$232,538,000	\$236,461,000	\$5,697,768,000
LOCAL Capital Sources						
Transit Sales Tax	\$668,948,571	\$707,486,871	\$733,949,225	\$414,477,096	\$347,534,843	\$11,821,595,168
Miscellaneous Grants	\$2,355,000	\$2,425,000	\$2,497,000	\$2,571,000	\$2,647,000	\$45,173,403
Bond and Commercial Paper Proceeds	\$331,000,000	\$0	\$0	\$0	\$0	\$4,162,000,000
TOTAL, LOCAL Capital Sources	\$1,002,303,571	\$709,911,871	\$736,446,225	\$417,048,096	\$350,181,843	\$16,028,768,571
TOTAL REVENUES	\$1,380,702,571	\$1,084,696,871	\$1,023,726,225	\$649,586,096	\$586,642,843	\$21,726,536,571

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

8.4.5.1 Federal Funds

METRO receives federal grants from a number of funding categories, including Section 5307 – Urbanized Area Formula funds; Section 5309 – New Starts; Section 5309 – Discretionary Bus; Section 5309 – Fixed Guideway Modernization (FGM); Section 5308, Clean Vehicle Program; Congestion Mitigation / Air Quality Improvements (CMAQ); and Surface Transportation Program (STP).

In FY 2007, METRO received \$56.9 million of Section 5307 formula funds and \$8.4 million of Section 5309 Fixed Guideway Modernization funds. The base year analysis for this project takes an extremely conservative view of these grant funding sources, only a 2.5 percent growth rate in allocations for FY2007 – 2011. The resulting allocations projection is estimated in the cash flow in accordance with project schedules. FY2012 through FY 2030 Section 5307 formula funds and Section 5309 FGM funds increase by the rate of inflation over those years.

Section 5309 Discretionary Bus grants in the base case cash flow are all project specific and are estimated in the cash flow in accordance with the project schedules. Some of the grants have already been awarded. Applications have not been submitted for the other grants.

Federal Highway Administration (FHWA) CMAQ funds are highway funds that can be flexed from highways to transit to fund projects that will improve air quality and reduce congestion. When programmed by the Transportation Policy Council of the Houston-Galveston Area Council, the CMAQ grant program may be applied to capital projects and to support operations of some transit services. The STP funds may be applied to transit capital projects. This cash flow includes CMAQ and STP funds that are programmed in the FY 2008-2011 TIP.

8.5 Operations and Maintenance Plan

For the purpose of FTA evaluation, this section describes the operating plan for the LPA and METRO Solutions Plan. The operating plan documents five years of historic data (where available) and presents 23-year forecasts to demonstrate the capability of the agency to operate and maintain the system while continuing to provide and enhance existing transit service.

8.5.1 Operating Revenues

Operating revenues are presented in METRO's Cash Flow Model in three line items: sales tax receipts, farebox revenue, and external interest income.

METRO's primary source of operating revenue is a dedicated 1 percent tax on all sales in the METRO service area. When METRO was created, service area voters approved the tax via referendum. METRO has collected the tax since 1979 and will continue to do so. This tax currently provides METRO nearly \$500 million per year, and over the period from 1989 to 2007, sales tax revenues increased 4.38 percent (annual compounded rate). The growth rate of the sales tax receipts to METRO is forecasted by Dr. Barton A. Smith in *METRO Forecasts of Economic Growth, Inflation, and Interest Rates: September 2007*. The annual forecast of sales tax

receipts in Year of Expenditure dollars, is provided in the Cash Flow Model (refer to Table 8-13 in Section 8.4).

The second source of operating revenues is farebox revenues. In 1985, METRO's fare was \$0.55 cents. Over the years the fare has been increased by \$0.10, \$0.20, and with the last in 1994 by \$0.15, which resulted in the current fare of \$1.00. There have been no fare increases since 1994. METRO has hired an outside consultant to review its fare policy, structure, and levels. In conjunction with the implementation of new fare collection technology in 2008, METRO plans to make changes to its fare structure and levels to begin regular improvement of its fare recovery ratio. Passengers on the LPA will pay the local fare. Table 8-9 presents ridership, average fare, and fare revenue projections over the planning horizon, for existing and proposed transit services.

Over the 23-year period ridership is projected to increase by over 193 percent. Fares are scheduled to increase by \$0.10 every five years from FY 2008. The fare revenues (in year of expenditure dollars) would increase by over 383 percent. Forecast 2030 total systemwide ridership of 306.201 million annual boardings is comprised of fixed-route bus ridership forecast of about 204.382 million annual boardings, 82.419 million annual light rail boardings and about 7.007 million annual commuter rail boarding, 8.222 million annual signature system boarding, and approximately 4.171 million annual boardings for other METRO services such as METROLift, and special events. The pattern of ridership growth in the first five years is driven by planned service improvements, while the pattern in the later years is driven by expected population growth. As a comparison, population growth in the region is forecasted to grow over the same 23-year period by 64 percent.²

The growth in the forecasted systemwide average fare is driven by two factors. First, base fares will be increased. With the implementation of its new fare collection technology (in place as of 1/1/2008), regular adjustments to fare levels and structure will be easier to implement. And in support of its expanded rapid transit system, METRO plans to raise fares regularly. For purposes of this analysis, a 10 cent (which is a 10% change for the first adjustment, a declining percentage thereafter) base fare increase is assumed every five years throughout the planning period. While these fare increases will be more frequent than very recent METRO history, the fare adjustments will still be conservative compared to METRO's history during its first fifteen years. Second, METRO's fare structure includes a base local fare and significantly higher fares for its Park & Ride services. METRO's Park & Ride fares are distance-based fares for four geographic zones. METRO expects the service mix to change over the 23-year period. Even absent fare increases, this changing service mix will significantly increase the average systemwide fare.

The third source of operating revenues for METRO is external interest income. In the past, METRO developed a significant cash reserve as its operating revenues exceeded the needs of both the operating and capital budgets. METRO invests this

² Population and employment forecasts provided by H-GAC are included in Appendix A of the Making The Case report of the Southeast Corridor New Starts Report, December 2007.

**Table 8-9. LPA Projected Ridership and Fare Revenue
(Year Of Expenditure \$)**

	2007	2008	2009	2010	2011	2012
ANNUAL TRIPS						
Fixed Route Bus System Annual Boardings	90,758,000	94,331,000	97,904,000	101,477,000	105,050,000	108,623,000
LRT System Annual Boardings	11,605,000	11,877,000	12,149,000	12,421,000	12,693,000	25,511,400
Southeast Corridor LPA Annual Boardings	0	0	0	0	0	0
CRT System Annual Boardings	0	0	0	0	0	810,900
Signature System Annual Boardings	0	2,064,600	3,442,043	3,541,814	3,641,585	4,704,356
Subtotal Bus and Rail Annual Boardings	102,363,000	108,272,600	113,495,043	117,439,814	121,384,585	139,649,656
Percent Change from Prior Year	0.00%	5.77%	4.82%	3.48%	3.36%	15.05%
Special Bus Services Annual Boardings	2,443,000	2,539,000	2,635,000	2,731,000	2,827,000	2,923,000
TOTAL System Annual Boardings	104,806,000	110,811,600	116,130,043	120,170,814	124,211,585	142,572,656
Percent Change from Prior Year	0.00%	5.73%	4.80%	3.48%	3.36%	14.78%
FARE REVENUES						
Total Fares	\$53,267,000	\$64,200,000	\$69,386,000	\$73,923,000	\$77,873,000	\$90,802,000
Annual % Change		20.5%	8.1%	6.5%	5.3%	16.6%
AVERAGE FARE (per Trip)	\$0.51	\$0.58	\$0.60	\$0.62	\$0.63	\$0.64
Annual % Change		13.99%	3.13%	2.96%	1.92%	1.59%

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case # 800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008. Based on METRO's long-range travel demand forecasts prepared December 2007.

**Table 8-9. LPA Projected Ridership and Fare Revenue
 (Year Of Expenditure \$) (continued)**

	2013	2014	2015	2016	2017	2018
ANNUAL TRIPS						
Fixed Route Bus System Annual Boardings	122,629,365	127,171,193	131,713,022	136,254,850	140,796,678	145,338,507
LRT System Annual Boardings	43,848,537	45,389,674	46,930,811	48,471,947	50,013,084	58,052,221
Southeast Corridor LPA Annual Boardings	6,822,000	7,074,667	7,327,333	7,580,000	7,832,667	8,085,333
CRT System Annual Boardings	1,742,053	1,803,939	1,865,825	1,927,711	1,989,596	4,542,322
Signature System Annual Boardings	4,853,126	5,001,897	5,150,668	5,299,439	5,448,209	6,184,680
Subtotal Bus and Rail Annual Boardings	173,073,081	179,366,703	185,660,325	191,953,947	198,247,569	214,117,730
Percent Change from Prior Year	23.93%	3.64%	3.51%	3.39%	3.28%	8.01%
Special Bus Services Annual Boardings	3,019,000	3,115,000	3,211,000	3,307,000	3,403,000	3,499,000
TOTAL System Annual Boardings	176,092,081	182,481,703	188,871,325	195,260,947	201,650,569	217,616,730
Percent Change from Prior Year	23.51%	3.63%	3.50%	3.38%	3.27%	7.92%
FARE REVENUES						
Total Fares	\$123,105,000	\$128,105,000	\$132,576,000	\$137,046,000	\$141,516,000	\$157,656,000
Annual % Change	36.2%	3.6%	3.5%	3.4%	3.3%	11.4%
AVERAGE FARE (per Trip)	\$0.70	\$0.70	\$0.70	\$0.70	\$0.70	\$0.72
Annual % Change	10.24%	-0.01%	-0.01%	-0.01%	-0.01%	3.23%

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case # 800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008. Based on METRO's long-range travel demand forecasts prepared December 2007.

**Table 8-9. LPA Projected Ridership and Fare Revenue
(Year Of Expenditure \$) (continued)**

	2019	2020	2021	2022	2023	2024
ANNUAL TRIPS						
Fixed Route Bus System Annual Boardings	149,880,335	154,422,163	158,963,992	163,505,820	168,047,648	172,589,477
LRT System Annual Boardings	59,926,589	61,800,956	63,675,324	65,549,691	67,424,059	69,298,427
Southeast Corridor LPA Annual Boardings	8,338,000	8,590,667	8,843,333	9,096,000	9,348,667	9,601,333
CRT System Annual Boardings	4,731,944	4,921,565	5,111,187	5,300,808	5,490,429	5,680,051
Signature System Annual Boardings	6,363,589	6,542,499	6,722,408	6,902,317	7,082,226	7,263,136
Subtotal Bus and Rail Annual Boardings	220,902,457	227,687,183	234,472,910	241,258,636	248,044,363	254,831,089
Percent Change from Prior Year	3.17%	3.07%	2.98%	2.89%	2.81%	2.74%
Special Bus Services Annual Boardings	3,595,000	3,691,000	3,787,000	3,883,000	3,979,000	4,075,000
TOTAL System Annual Boardings	224,497,457	231,378,183	238,259,910	245,141,636	252,023,363	258,906,089
Percent Change from Prior Year	3.16%	3.06%	2.97%	2.89%	2.81%	2.73%
FARE REVENUES						
Total Fares	\$162,624,000	\$167,592,000	\$172,561,000	\$177,530,000	\$197,707,000	\$203,090,000
Annual % Change	3.2%	3.1%	3.0%	2.9%	11.4%	2.7%
AVERAGE FARE (per Trip)	\$0.72	\$0.72	\$0.72	\$0.78	\$0.78	\$0.78
Annual % Change	-0.01%	-0.01%	-0.01%	8.32%	-0.01%	-0.01%

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case # 800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008. Based on METRO's long-range travel demand forecasts prepared December 2007.

**Table 8-9. LPA Projected Ridership and Fare Revenue
 (Year Of Expenditure \$) (continued)**

	2025	2026	2027	2028	2029	2030
ANNUAL TRIPS						
Fixed Route Bus System Annual Boardings	177,131,305	181,673,133	186,214,962	190,756,790	195,298,618	204,382,275
LRT System Annual Boardings	71,172,794	73,047,162	74,921,530	76,795,897	78,670,265	82,419,000
Southeast Corridor LPA Annual Boardings	,93,854,000	10,106,667	10,359,333	10,612,000	10,864,667	11,370,000
CRT System Annual Boardings	5,869,672	6,059,293	6,248,915	6,438,536	6,628,157	7,007,400
Signature System Annual Boardings	7,442,045	7,571,954	7,701,863	7,831,772	7,961,682	8,221,500
Subtotal Bus and Rail Annual Boardings	261,615,816	268,351,542	275,087,269	281,822,995	288,558,722	302,030,175
Percent Change from Prior Year	2.66%	2.57%	2.51%	2.45%	2.39%	4.67%
Special Bus Services Annual Boardings	4,171,000	4,171,000	4,171,000	4,171,000	4,171,000	4,171,000
TOTAL System Annual Boardings	265,786,816	272,522,542	279,258,269	285,993,995	292,729,722	306,201,175
Percent Change from Prior Year	2.66%	2.53%	2.47%	2.41%	2.36%	4.60%
FARE REVENUES						
Total Fares	\$208,472,000	\$213,625,000	\$218,776,000	\$240,508,000	\$246,057,000	\$257,152,000
Annual % Change	2.7%	2.5%	2.4%	9.9%	2.3%	4.5%
AVERAGE FARE (per Trip)	\$0.78	\$0.78	\$0.78	\$0.84	\$0.84	\$0.84
Annual % Change	-0.01%	-0.06%	-0.06%	7.34%	-0.05%	-0.09%

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case # 800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008. Based on METRO's long-range travel demand forecasts prepared December 2007.

reserve in interest-bearing accounts and other conservative, statute-allowed investments, generating the interest income line item. Interest income approached \$60 million a year in the early 1990s when METRO's reserve was very large. With the Regional Bus Program (RBP) close to completion this reserve has been significantly reduced. In FY 2007, interest income is forecasted at about \$5.5 million consisting only interest on its working capital. As much of the current capital program nears completion, interest income will again begin to grow. By FY 2030, this revenue source will grow to \$17.7 million in Year of Expenditure dollars (refer to Table 8-13).

While METRO funds its operations and maintenance programs from its operating revenues, these operating revenues far exceed the annual cost of operations and maintenance. The remainder of the operating revenues is then available to fund a portion of the capital program. METRO is not subject to any rules or limitations on how it may divide the use of its operating revenues between its operating and capital budgets.

8.5.2 Operating and Maintenance Costs

METRO uses a cost allocation methodology—rather than a cost build-up methodology-- for estimating its systemwide operations and maintenance costs that are used as inputs to the cost-effectiveness and operating efficiencies criteria. This methodology uses actual METRO operating experience as the foundation for the estimates. The methodology is described in more detail below. The O&M costs for bus and LRT are summarized for 2007-2030 in Table 8-1.

8.5.2.1 Bus O&M Costs

METRO has an extensive and expanding bus and paratransit service that has remained the backbone of the METRO's program even as light rail has been implemented on the METRORail Red Line. Within any new fixed guideway corridors, the bus and LRT systems will be integrated to improve operating efficiencies. Therefore, selected bus routes will be restructured to eliminate segments that duplicate new fixed guideway service. Recognizing that light rail lines provide limited-stop, frequent service to stations, other adjacent or parallel bus routes will be restructured to provide local frequent service between Southeast Corridor LRT stations. With the addition of more light rail service, METRO's mix among its various types of bus service and LRT service will change, but the operating characteristics of each service type, and hence its unit O&M costs - should remain similar to today's services and service assumptions.

METRO has several systems that collect financial data and operating statistics. The agency uses the information to measure operating performance each month, to prepare the annual operating budget, and to support short and long range planning activities. METRO categorizes operating costs as either Transit or Traffic Management. METRO's Transit O&M costs include the costs to operate its fixed-route bus service, its specialized services such as METROLift and METROVan, and light rail service. Traffic Management O&M costs include the cost to operate such non-transit functions as incident management on freeways. Transit and Traffic

Management O&M costs for the existing and future systems are included in the Cash Flow Model, provided as Table 8-13.

METRO has a Cost Allocation Model in which actual operating expenditures and service levels are tracked by three major categories – Operations, Maintenance, and General Administration – and many subcategories. The Cost Allocation Model also allocates expenditures across many transit modes, such as METRO-operated local service or Contractor-operated Park-and-Ride service. This tracking method provides METRO the current cost of providing each service type and allows the accurate cost estimation for future levels of service. The model has since been run for FY 2006 audited financial data.

Historical unit costs, or cost factors, for FY 2006 were derived from METRO’s Cost Allocation Model over 9 transit modes (METRO Local, METRO Express, METRO Park-and-Ride, Contract Local, Contract Park-and-Ride, METROLift, Special Events, Charter, and METRORail). With a few exceptions, operations cost are allocated on scheduled vehicle hours, maintenance costs on scheduled vehicle miles, and General and Administrative expenses on the number of vehicles during peak service. The costs for each mode are then summed and divided by revenue hours to derive a single factor. Fully allocated bus cost factors are based on METRO’s audited financial and operating data from FY2006. They are presented in Table 8-10.

Table 8-10. Bus Cost Factors (2007 Dollars)

Transit Mode	Operating Cost per Revenue Hour
METRO Local	\$90.02
Contract Local	\$81.25
METRO Express	\$105.68
METRO P&R	\$159.35
Contract P&R	\$99.76
METROLift	\$42.64
Special Events	\$52.64

Source: METRO Cost Allocation Model (2006 Actuals).
 Cost factors expressed in 2007 dollars.

A component’s operating cost in a future year is a cost factor multiplied by a service factor multiplied by an inflation index. The inflation index is the Houston Area Consumer Price Index (CPI) as drawn from *METRO Forecasts of Economic Growth, Inflation, and Interest Rates: September 2007*. Since the determination of which service will be contracted in the future is unknown, the composite cost for METRO-operated and contract-operated services for local and Park & Ride are used. The factors that are used for the estimation of changes in bus O&M costs for the project financial analysis are listed in Table 8-11. Since the financial plan uses 2007 dollars for its constant dollar estimates, the O&M cost factors are stated in 2007 dollars.

**Table 8-11. Variable O&M Cost Factors
(FY 2006 Actuals stated in 2007 dollars)**

Variable Cost/ Revenue Hour	FY 2006
Local	\$90.14
Express	\$108.16
P&R	\$149.34

Source: METRO Cost Allocation Model (2006 Actuals).

8.5.2.2 LRT O&M Costs

The estimation of light rail operating factors is analogous to traditional bus service. Service factors are highly influenced by the alignment definition (directional route miles, number of stations, yard/shop/operations and facilities), in addition to the travel demand forecasts (peak vehicles required, vehicle miles, and vehicle hours). The LRT O&M cost factors are based on audited actual operating costs for FY 2006 for the METRORail Red Line, inflated to 2007 by an inflation index. The inflation index is the Houston Area Consumer Price Index (CPI) as drawn from *METRO Forecasts of Economic Growth, Inflation, and Interest Rates: September 2007*. The FY 2006 operating costs for LRT represents more nearly three full years of operating experience at METRO with light-rail transit.

During the METRO Solutions financial analysis, changes in rail service O&M costs were estimated using a five-factor model—the summation of operating cost/revenue train hour, operating cost/revenue car mile, operating cost/peak vehicle, operating cost/station, and operating cost/guideway mile. The LRT cost factors for one-car trains (based on the METRORail Red Line) are presented in Table 8-12.

Table 8-12. LRT O&M Cost Factors (2007 Dollars)

	LRT (one-car trains)
Cost/Revenue Train Hour	\$94.26
Cost/Revenue Car Mile	\$5.10
Cost/Peak Vehicle	\$239,131
Cost/Station	\$101,618
Cost/Guideway Mile	\$337,679

Source: METRO Cost Allocation Model (2006 Actuals).

Because the costs are broken down by service factor (train hours, stations, etc.), costs estimates derived from the model will reflect the costs that differ in operating characteristics from the line on which the factors are based. METRO's Red Line is operated with mostly one-car consists (some two-car trains are used during peak periods). Demand projections for the Southeast Corridor LRT require two-car trains. The O&M cost model accounts for the increased O&M costs that come from increasing train consists from one-car (as is most service on METRO's current Red Line) to two-car. The two-car consists increase the projected car miles and, therefore, costs that are projected based on forecast car miles increases as well.

Examples of O&M costs that are driven by the number of projected car miles are traction power and preventive maintenance.

Input variables for application of this model were obtained from the alignment definition and travel demand model, which provide directional route miles, number of stations, peak vehicles required, vehicle miles, and train hours.

Train hour costs include items such as operator wages and training and fare collection costs. Car mile costs include all vehicle maintenance and electric power costs. Station costs include station maintenance and security, and guideway costs include maintenance of way expenses.

IN 2030, the annual cost to operate and maintain the SE LPA will be \$12.5 million (\$YOE).

8.6 Cash Flow Analysis

For the purpose of FTA evaluation, this section presents the summary cash flow analysis for the LPA.

METRO developed its Cash Flow Model as its primary tool for long range financial management and forecasting in the early 1990s. The model has been updated and enhanced many times over the past decade. The model includes summary-level line items for all of the Authority's revenues and expenditures, including a history of all revenues and expenditures from FY 1989 through FY 2006 and forecasted revenues and expenditures from FY 2007 - FY 2030.

Where available (for example, capital expenditures covered by the Capital Improvement Program), the summary-level line items are supported by detailed schedules for each year. The Cash Flow Model information is developed in Year of Expenditure dollars. The model includes the ability to track debt and debt service. The model allows METRO to track its forecasted ending balances to identify years in which the expenditure stream may need to be revised or additional revenues developed. METRO's historical cash flow dating 1989 to 2006 demonstrates how this model has enabled METRO to track cash flow, debt and debt service.

Table 8-13, METRO's Cash Flow Model for the LPA, shows the projected revenues and expenditures for METRO's capital and O&M programs, including the LPA project in year of expenditure dollars. The table indicates the adequacy of the combined revenues available to METRO to cover the cost of the system, both cumulatively and by year.

8.6.1 Financial Capacity

Evaluation of the financial feasibility of the LPA requires examination of several capital and operating financial indicators. The capital and operating financial indicators described below were considered in the evaluation of financial feasibility.

**Table 8-13. Cash Flow Analysis
(Year of Expenditure \$)**

	2007	2008	2009	2010	2011	2012
BEGINNING BALANCE	193,792	127,712	85,230	85,705	116,584	89,378
SOURCES						
Sales Tax Receipts	481,721	515,243	552,393	592,496	610,862	675,531
Farebox Revenue	53,627	64,200	69,386	73,923	62,578	90,802
Miscellaneous & Operating Grants	0	1,490	1,490	1,490	2,058	1,574
External Interest Income	5,521	4,244	3,416	3,447	4,437	4,025
Internal Interest Income (Expense)	0	0	0	0	0	0
State & County Grants	0	0	0	0	0	0
Federal Grants, Formula/CMAQ/Misc.	58,146	97,132	102,842	91,646	85,505	121,468
Federal Grants, Discretionary	43,177	41,740	8,719	0	0	0
METRO Solutions - Federal Grants - Bus & Rail	0	0	41,068	112,746	136,628	284,402
Bond Proceeds-Net	0	0	633,600	0	0	0
Commercial Paper Proceeds	0	0	33,400	923,000	34,000	65,000
Interfund Inflow (Outflow)	0	0	0	0	0	0
Balance Sheet Adjustment	0	0	0	0	0	0
Total Sources	641,832	724,049	1,446,314	1,798,748	1,349,371	1,242,802
TOTAL FUNDS AVAILABLE	835,624	851,760	1,531,544	1,884,453	1,463,178	1,332,180
USES						
Operating Expenses - Transit	328,087	318,094	326,761	330,778	334,801	343,346
Operating Expenses - Traffic Mgt.	10,585	10,854	11,166	11,496	11,823	12,150
Capital Costs						
Gen. Mobility 25% Fund Projects	106,873	128,811	138,098	148,124	158,330	168,883
Regional Bus Plan	-1,913	0	0	0	0	0
Transitways & Related Facilities	0	-583	0	0	0	0
Buses, Support Fac. & Equip, Land	126,875	149,592	143,075	154,740	142,720	166,064
Advanced Transit Plan	5,352	942	3,621	0	0	0
METRO Solutions Bus & Rail Capital	0	432,142	912,021	1,037,474	622,082	418,823
METRO Solutions Contingency	0	0	0	0	0	0
Commercial Paper Interest Cost	0	5,678	14,497	36,422	60,008	66,133
Excess Balance Used To Pay Down CP	0	0	0	0	0	0
Short Term Notes						
Principal Paid	0	0	0	0	0	0
Interest/Fees Paid	0	0	0	0	0	0
Bond Debt Service	0	0	17,600	44,035	44,035	44,035
Total Uses	707,912	1,045,530	1,566,839	1,770,645	1,373,800	1,219,435
ENDING BALANCE	127,712	85,230	85,705	113,808	89,378	112,745

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

**Table 8-13. Cash Flow Analysis
(Year of Expenditure \$) (continued)**

	2013	2014	2015	2016	2017	2018
BEGINNING BALANCE	112,745	117,726	128,809	143,477	134,242	156,857
SOURCES						
Sales Tax Receipts	718,204	761,531	804,797	848,567	893,632	939,498
Farebox Revenue	123,635	128,105	132,576	137,046	141,516	157,656
Miscellaneous & Operating Grants	1,617	1,662	1,709	1,758	1,809	1,862
External Interest Income	4,599	4,809	5,144	5,554	5,822	6,426
Internal Interest Income (Expense)	0	0	0	0	0	0
State & County Grants	0	0	0	0	0	0
Federal Grants, Formula/CMAQ/Misc.	83,546	85,843	88,238	90,744	93,358	96,065
Federal Grants, Discretionary	0	0	0	0	0	0
METRO Solutions - Federal Grants - Bus & Rail	173,513	113,932	123,614	102,392	166,588	200,000
Bond Proceeds-Net	131,000	348,000	141,000	0	0	0
Commercial Paper Proceeds	0	0	0	0	0	0
Interfund Inflow (Outflow)	0	0	0	0	0	0
Balance Sheet Adjustment	0	0	0	0	0	0
Total Sources	1,236,114	1,443,882	1,297,078	1,186,061	1,302,725	1,401,507
TOTAL FUNDS AVAILABLE	1,348,859	1,561,608	1,425,887	1,329,539	1,436,967	1,558,363
USES						
Operating Expenses - Transit	434,907	455,997	477,704	500,037	522,996	613,046
Operating Expenses - Traffic Mgt.	12,484	12,833	13,197	13,577	13,971	14,380
Capital Costs						
Gen. Mobility 25% Fund Projects	179,551	190,383	0	0	0	0
Regional Bus Plan	0	0	0	0	0	0
Transitways & Related Facilities	0	0	0	0	0	0
Buses, Support Fac. & Equip, Land	176,897	176,132	178,293	190,548	208,999	225,591
Advanced Transit Plan	0	0	0	0	0	0
METRO Solutions Bus & Rail Capital	312,164	467,192	464,516	225,126	141,620	274,383
METRO Solutions Contingency	0	0	0	0	0	0
Commercial Paper Interest Cost	67,456	67,456	67,456	65,142	57,788	50,118
Excess Balance Used To Pay Down CP	0	0	0	113,742	247,610	129,293
Short Term Notes						
Principal Paid	0	0	0	0	0	0
Interest/Fees Paid	0	0	0	0	0	0
Bond Debt Service	47,674	62,807	81,243	87,126	87,126	87,126
Total Uses	1,231,133	1,432,800	1,282,409	1,195,297	1,280,110	1,393,937
ENDING BALANCE	117,726	128,809	143,477	134,242	156,857	164,426

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

**Table 8-13. Cash Flow Analysis
(Year of Expenditure \$) (continued)**

	2019	2020	2021	2022	2023	2024
BEGINNING BALANCE	164,426	172,455	185,016	188,614	197,161	206,281
SOURCES						
Sales Tax Receipts	986,699	1,035,420	1,085,142	1,135,782	1,187,247	1,239,437
Farebox Revenue	162,624	167,592	172,561	177,530	197,707	203,090
Miscellaneous & Operating Grants	1,917	1,975	2,034	2,095	2,157	2,221
External Interest Income	6,734	7,055	7,473	7,715	8,062	8,426
Internal Interest Income (Expense)	0	0	0	0	0	0
State & County Grants	0	0	0	0	0	0
Federal Grants, Formula/CMAQ/Misc.	98,879	101,807	104,860	107,996	111,225	114,539
Federal Grants, Discretionary	0	0	0	0	0	0
METRO Solutions - Federal Grants - Bus & Rail	109,708	7,185	0	9,468	73,173	174,313
Bond Proceeds-Net	106,000	147,000	0	0	201,000	485,000
Commercial Paper Proceeds	0	0	0	0	0	0
Interfund Inflow (Outflow)	0	0	0	0	0	0
Balance Sheet Adjustment	0	0	0	0	0	0
Total Sources	1,472,561	1,468,034	1,372,070	1,440,586	1,780,571	2,227,026
TOTAL FUNDS AVAILABLE	1,636,987	1,640,489	1,557,086	1,629,200	1,977,732	2,433,307
USES						
Operating Expenses - Transit	642,898	673,760	705,537	738,279	771,984	806,683
Operating Expenses - Traffic Mgt.	14,806	15,250	15,706	16,176	16,658	17,152
Capital Costs						
Gen. Mobility 25% Fund Projects	0	0	0	0	0	0
Regional Bus Plan	0	0	0	0	0	0
Transitways & Related Facilities	0	0	0	0	0	0
Buses, Support Fac. & Equip, Land	227,592	208,723	258,781	234,311	280,632	326,028
Advanced Transit Plan	0	0	0	0	0	0
METRO Solutions Bus & Rail Capital	441,679	411,677	221,236	171,612	550,010	885,379
METRO Solutions Contingency	0	0	0	0	0	0
Commercial Paper Interest Cost	47,487	47,487	47,175	44,368	41,874	41,874
Excess Balance Used To Pay Down CP	0	0	15,328	122,584	0	0
Short Term Notes						
Principal Paid	0	0	0	0	0	0
Interest/Fees Paid	0	0	0	0	0	0
Bond Debt Service	90,070	98,576	104,709	104,709	110,293	132,151
Total Uses	1,464,532	1,455,473	1,368,472	1,432,040	1,771,451	2,209,267
ENDING BALANCE	172,455	0	0	0	0	0

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

**Table 8-13. Cash Flow Analysis
(Year of Expenditure \$) (continued)**

	2025	2026	2027	2028	2029	2030	2007-2030
BEGINNING BALANCE	224,040	244,527	250,028	242,803	252,619	611,027	193,792
SOURCES							
Sales Tax Receipts	1,292,246	1,347,305	1,404,709	1,464,560	1,526,960	1,592,019	23,714,458
Farebox Revenue	208,472	213,625	218,776	240,508	246,057	257,152	3,715,679
Miscellaneous & Operating Grants	2,287	2,355	2,425	2,497	2,571	2,647	45,173
External Interest Income	8,961	9,556	9,857	9,908	10,344	17,669	168,820
Internal Interest Income (Expense)	0	0	0	0	0	0	0
State & County Grants	0	0	0	0	0	0	0
Federal Grants, Formula/CMAQ/Misc.	117,941	121,432	125,026	128,728	132,538	136,461	2,519,048
Federal Grants, Discretionary	0	0	0	0	0	0	93,636
METRO Solutions - Federal Grants - Bus & Rail	239,699	256,967	249,759	158,552	100,000	100,000	3,085,084
Bond Proceeds-Net	381,000	331,000	0	0	0	0	2,904,600
Commercial Paper Proceeds	0	0	0	0	0	0	1,657,400
Interfund Inflow (Outflow)	0	0	0	0	0	0	0
Balance Sheet Adjustment	0	0	0	0	0	0	0
Total Sources	2,250,606	2,282,240	2,010,552	2,004,753	2,018,470	2,105,948	37,903,898
TOTAL FUNDS AVAILABLE	2,474,646	2,526,766	2,260,580	2,247,556	2,271,089	2,716,974	38,097,690
USES							
Operating Expenses - Transit	842,401	877,853	914,359	951,936	990,630	1,037,848	14,940,722
Operating Expenses - Traffic Mgt.	17,660	18,183	18,721	19,275	19,846	20,433	358,382
Capital Costs							
Gen. Mobility 25% Fund Projects	0	0	0	0	0	0	1,219,053
Regional Bus Plan	0	0	0	0	0	0	-1,913
Transitways & Related Facilities	0	0	0	0	0	0	-583
Buses, Support Fac. & Equip, Land	345,090	352,228	366,438	344,353	366,423	384,772	5,734,897
Advanced Transit Plan	0	0	0	0	0	0	17,490
METRO Solutions Bus & Rail Capital	820,125	798,540	0	0	0	0	9,739,855
METRO Solutions Contingency	0	0	0	0	0	0	0
Commercial Paper Interest Cost	41,874	41,874	32,017	12,701	1,621	0	958,508
Excess Balance Used To Pay Down CP	0	0	484,371	464,801	79,671	0	1,657,400
Short Term Notes							0
Principal Paid	0	0	0	0	0	0	0
Interest/Fees Paid	0	0	0	0	0	0	0
Bond Debt Service	162,970	188,061	201,871	201,871	201,871	201,871	2,401,830
Total Uses	2,230,120	2,276,739	2,017,777	1,994,937	1,660,062	1,644,924	37,025,641
ENDING BALANCE	244,527	250,028	242,803	252,619	611,027	1,072,051	1,072,051

Source: METRO Cash Flow Model, Sources and Uses of Funds, Office of Management & Budget, Case #800-1, Scenario I – FTA Submittal (Phase 2 & 3), January 14, 2008.

8.6.2 Capital Financial Indicators

METRO has historically maintained a working capital reserve to cover operating and capital expenses. The absolute minimum cash balance is defined by Metro's Board approved debt policy. The required ending balance is 15% of annualized operating expenditures for the following fiscal year. However, in practice, the cash flow model ending balance is set at 25 percent of the following year's total operating expenditures. The use of a 25 percent target for modeling purposes was discussed with the Finance and Audit Committee for their approval.

8.6.3 Operating Financial Indicators

The financial analysis also addressed the farebox ratio (the portion of operating expenses covered by fares and other operating revenues). Consideration of operating financial indicators is important in the evaluation of financial feasibility because METRO has no legal limit on the application of its tax revenues on operations. As a practical matter, absent any debt financing, the first use of tax revenues is to support operations, with remaining funds applied to the ongoing capital improvement program and fixed guideway investment.

Historically, METRO has had a fairly low farebox ratio – only 16 percent in 2007. This ratio is expected to increase, averaging 25 percent over the 24-year period as METRO begins to implement regular fare increases.

Table 8-13 present the projection of passenger fares, total operating revenues, and operating cost. Projected values of both the farebox ratio and overall operating ratio are consistent with current and recent values.

8.6.4 Current Ratio

In FY 2006, METRO's annual report shows investments totaling \$406.3 million as current assets and in the FY 2005 investments totaling \$204.3 million as current assets. Table 8-14 shows the current ratios based on the FY 2006 and the FY 2005 classifications by METRO's external auditors:

Table 8-14. Current Ratio Calculations

	\$ in millions	
	FY 2005	FY 2006
Total Current Assets	\$204.3	\$406.3
Total Current Liability	\$84.1	\$199.5
Current Ratio	2.43	2.04

Source: Annual Report 2006, The Metropolitan Transit Authority of Harris County, Texas, page F-10.

A copy of METRO's basic financial statements as of September 30, 2005 and September 30, 2006 is represented in Figure 8-1.

Figure 8-1. Statement of Net Assets As of September 30, 2005 and September 30, 2006

Metropolitan Transit Authority of Harris County, Texas Statement of Net Assets September 30, 2006 and 2005		
	2006	2005
Assets		
Current Assets		
Cash	\$ 5,657,135	\$ 2,671,602
Investments	245,227,457	86,949,555
Receivables		
Sales Tax	78,514,236	67,495,967
Federal Government - Federal Transit Administration	18,970,115	12,653,593
Joint Projects - City Of Houston	2,727,697	4,174,036
Interest	2,409,928	408,545
Bus Passes	948,510	409,295
Other	2,256,053	1,427,099
Total Receivables	105,826,539	86,568,535
Materials and Supplies Inventory	29,758,196	23,278,027
Other Current Assets	4,800,989	4,723,719
Restricted Investments	4,370,072	-
Total Current Assets	395,640,388	204,191,438
Non Current Assets		
Capital Assets, Net	1,506,044,662	1,499,727,161
Prepaid Pension	10,633,336	-
Prepaid Lease Payments	299,649,081	321,306,789
Total Non Current Assets	1,816,327,079	1,821,033,950
Total Assets	2,211,967,467	2,025,225,388
Liabilities		
Current Liabilities		
Trade Payables	82,133,081	43,667,990
Accrued Wages, Vacation and Payroll Taxes	18,655,986	22,040,633
Liabilities for Injuries and Damages	4,953,276	4,933,521
Commercial Paper	89,000,000	-
Other Current Liabilities	4,683,614	13,454,665
Total Current Liabilities	199,425,957	84,096,809
Non Current Liabilities		
Liabilities for Injuries and Damages	13,055,519	12,120,851
Deferred Rental Payments	299,649,081	321,306,789
Total Non Current Liabilities	312,704,600	333,427,640
Total Liabilities	512,130,557	417,524,449
Net Assets		
Invested in Capital Assets	1,506,044,662	1,499,727,161
Unrestricted	193,792,248	107,973,778
Total Net Assets	\$ 1,699,836,910	\$ 1,607,700,939

The accompanying notes are an integral part of the financial statements.

**Figure 8-1. Statement of Net Assets As of September 30, 2005 and September 30, 2006
(continued)**

Metropolitan Transit Authority of Harris County, Texas Statement of Revenues, Expenses and Changes in Net Assets For the Years Ended September 30, 2006 and 2005		
	2006	2005
Operating Revenues:		
Transportation Fares	\$ 54,186,016	\$ 50,137,041
Operating Expenses:		
Scheduled Services - Fixed Route		
Bus & Rail Operations - Direct	126,865,459	125,262,654
Contract Service	38,906,779	36,332,284
Materials	4,299,865	4,241,837
Preventative Maintenance	41,755,975	39,384,631
Central Shop & Maintenance Support	12,956,132	13,480,763
Safety & Training	532,939	3,791,481
Subtotal Scheduled Services - Fixed Route	225,317,149	222,493,650
Non-scheduled Services - Special		
Metrolift	30,547,646	28,884,037
Metrovan	3,578,916	2,563,513
Special Events	3,506,689	3,636,986
Subtotal Scheduled Services - Fixed Route	37,633,251	35,084,536
Service Support		
Service Planning & Evaluation	348,891	1,177,777
Marketing	3,861,995	4,260,466
Transit Security	10,607,564	9,188,740
Insurance Claims	3,141,878	3,021,310
Ticket & Fare Collection	971,469	1,227,181
Facility Maintenance	13,940,679	11,283,070
Subtotal Service Support	32,872,476	30,158,544
Traffic Management - Services	9,549,401	11,011,559
Organizational Support		
Business, Community & Governmental Development	447,374	528,487
Administrative, Financial and Personnel	17,122,603	15,665,098
Information Systems	2,188,249	2,929,732
Purchasing	1,223,727	1,747,664
Oversight, Audit & Legal	2,288,331	2,856,902
Subtotal Organizational Support	23,270,284	23,727,883
Depreciation and Amortization	107,030,889	107,970,694
Total Operating Expenses	435,673,450	430,446,866
Operating Loss	(381,487,434)	(380,309,825)
Nonoperating Expenses (Expenses):		
Sales Tax	467,645,812	394,015,831
Investment Income	7,923,445	1,803,936
Other Expenses (Income)	446,526	(874,336)
Local Infrastructure Assistance	(115,616,319)	(134,178,117)
Loss on Sale or Disposal of Assets	(10,245,545)	(2,392,293)
Total Nonoperating Revenues (Expenses)	350,153,919	258,375,021
Loss Before Contributions	(31,333,515)	(121,934,804)
Capital Contributions	123,469,486	150,607,114
Changes in Net Assets	92,135,971	28,672,310
Net Assets - Beginning of the Year	1,607,700,939	1,579,028,629
Net Assets - End of the Year	\$ 1,699,836,910	\$ 1,607,700,939

The accompanying notes are an integral part of the financial statements.

**Figure 8-1. Statement of Net Assets As of September 30, 2005 and September 30, 2006
(continued)**

	2006	2005
Metropolitan Transit Authority of Harris County, Texas Statement of Cash Flows For the Years Ended September 30, 2006 and 2005		
Cash Flows from Operating Activities:		
Cash Received from Customers	\$ 53,391,275	\$ 50,993,013
Cash Payments to Employees	(206,547,126)	(205,247,493)
Cash Payments to Suppliers for Goods and Services	(149,711,123)	(101,591,735)
Net Cash Used by Operating Activities	(302,866,974)	(255,846,215)
Cash Flows from Noncapital Financing Activities:		
Sales Tax	457,764,968	393,998,687
Cash Payments for Local Infrastructure Assistance	(97,902,757)	(137,726,657)
Cash Payments/Proceeds for Nonoperating Activities	1,746,867	(1,428,925)
Net Cash Provided by Noncapital Financing Activities	361,609,078	254,843,105
Cash Flows from Capital and Related Financing Activities:		
Grants	117,176,461	149,388,539
Cash Received from Commercial Paper	89,000,000	-
Proceeds from Sale of Assets	3,061,650	1,519,426
Capital Purchases	(125,835,353)	(163,545,119)
Net Cash Flows for Capital and Related Financing Activities	83,402,758	(12,637,154)
Cash Flows from Investing Activities:		
Proceeds from Sale and Maturities of Investments	4,053,929,896	2,039,978,121
Purchase of Investments	(4,199,889,819)	(2,030,999,504)
Investment Income	6,800,594	3,064,837
Net Cash Flows from Investing Activities	(139,159,329)	12,043,454
Net Cash Increase (Decrease)	2,985,533	(1,596,810)
Cash at Beginning of Year	2,671,602	4,268,412
Cash at End of Year	\$ 5,657,135	\$ 2,671,602
Reconciliation of Operating Loss to Net Cash Used in Operating Activities:		
Operating Loss	\$ (381,487,434)	\$ (380,309,825)
Adjustments to Reconcile Operating Loss to Net Cash Used in Operating Activities:		
Depreciation and Amortization	107,030,889	107,970,694
Changes in Assets and Liabilities:		
Increase (Decrease) in Accounts Receivable	(539,215)	617,298
Increase (Decrease) in Accounts Receivable-Other	(779,513)	954,335
Increase in Inventory	(7,641,022)	(5,375,553)
Decrease (Increase) in Accrued Payroll	(858,013)	(336,748)
Increase (Decrease) in Accounts Payable	(18,592,665)	20,633,584
Cash Used by Operating Activities	\$ (302,866,974)	\$ (255,846,215)
Non Cash Investing Activities		
The Net Decrease in Fair Value of Investments	\$ (254,333)	\$ (445,031)

The Accompanying Notes Are An Integral Part Of The Financial Statements.

Source: Annual Report 2006, The Metropolitan Transit Authority of Harris County, page F-10.

8.6.5 Sensitivity and Risk Analysis

Decision makers committing public resources to large-scale infrastructure investments must be informed as to the likely range of financial results that may occur. For this reason, a risk analysis is undertaken to explore the range of possible outcomes in the financial analysis. The achievement of any financial projection may be affected by fluctuating economic conditions and depends on the occurrence of future events that cannot be assured. Therefore, actual results achieved may vary from point estimates and the variations could be material.

There are a number of uncertainty variables that cannot be directly controlled by management and governing bodies. These include inflation; interest rates; construction costs; ridership; and federal, state, and local grant funding levels. Undertaking a risk analysis reveals the combinations of management actions that result in financial outcomes that provide for the feasible implementation of the project, even in the more pessimistic of futures.

8.6.5.1 Sensitivity Analysis

Sensitivity analyses were conducted to test the financial capacity of METRO to build and operate the proposed LPA as part of the METRO Solutions Plan and continue to operate their existing transit systems in light of potential changes in three key variables:

- The annual rate of growth of the sales taxes;
- The annual rate of growth of O&M costs; and
- The level of estimated METRO Solutions Plan capital costs.

METRO is projected to have the financial capacity to build and operate the METRO Solutions Plan and other transit services even if projections for key variables negatively change.

8.6.5.2 Conclusion and Implications in This Analysis

The foremost conclusion is that METRO has the financial capacity to build and operate the METRO Solutions and to build the Southeast Corridor project in the context of implementing METRO Solutions. This conclusion is shown to be valid with the current assumptions on revenues and costs and with possible negative variations in those factors in the future.

The financial results presented in this report are intended to chart a general course of action regarding project implementation, transit service expansion, and initiation of activities to establish new funding and financing approaches. The financial analysis results should not be applied or referred to any party in connection with the issuance of securities.

