CROSS-COUNTY MetroLink Extension

Segment 1
Conceptual Design

Cross-County
MetroLink
Extension

Financial Analysis
Final Technical Report

Prepared for the
East-West Gateway Coordinating Council
in association with the
Bi-State Development Agency
Missouri Department of Transportation

By Parsons Transportation Group
and Associated Consultants

August 1999

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I. INTRODUCTION

PURPOSE OF THIS STUDY

This analysis examines the financial capacity of the St. Louis region to construct and operate the Cross County MetroLink Extension Phase I. The analysis is undertaken in the context of the current operations and capital program of the Bi-State Development Agency, the region's primary transit operator and the proposed owner and operator of the Cross County MetroLink Extension.

ROLE OF THE STUDY PARTICIPANTS

The successful completion of this study required the continuing support and active and constructive participation of the following groups:

- **East-West Gateway Coordinating Council:** EWGCC, as the metropolitan planning organization for the St. Louis region, is responsible for regional transportation planning. EWGCC is the sponsor of the planning study in which this study was undertaken. The EWGCC Board of Directors is the deliberative body in which regional transportation policy is determined.

- **Bi-State Development Agency:** Significant contributions were made to this analysis by Bi-State senior management and staff. In particular, members of the Bi-State finance department were responsible for providing data regarding Bi-State's current budget and capital improvement program and near-term project development information.

ORGANIZATION OF THIS REPORT

The next section describes the financial analysis methodology, including a discussion of the financial indicators applied to determine a feasible solution. This is followed by a discussion of the sources and uses of funds, both capital and operating. Alternative financing approaches are then described, including pay-as-you-go, conventional debt financing, and innovative financing techniques.

The results of the financial analysis are then presented. A baseline scenario is described and the financial indicators are examined. Opportunities to resolve operating budget and capital program concerns are analyzed.

II. FINANCIAL ANALYSIS METHODOLOGY

FINANCIAL ANALYSIS PROCESS

Figure 1 summarizes the transportation financial planning process suggested by the Federal Transit Administration (FTA) for use in Major Investment Studies. Even though Federal funds will not be applied to Cross-County MetroLink Extension Segment I, this process was adopted for use in this study. The process emphasizes a comprehensive approach to the integration of expenses and revenues, both capital and operating, for major transportation investments and was considered prudent given the magnitude of revenues to be applied.

The following four major data inputs are the basis for describing the characteristics of the transit system in the base year and design year and resulting transit system costs and revenues:

- **Construction program:** Annual construction costs for transit facilities were specified in terms of:
  - Total construction cost of transportation improvements
  - Typical construction drawdown schedules, by type of project and major cost element (e.g., right-of-way, construction, equipment, rolling stock, and engineering)

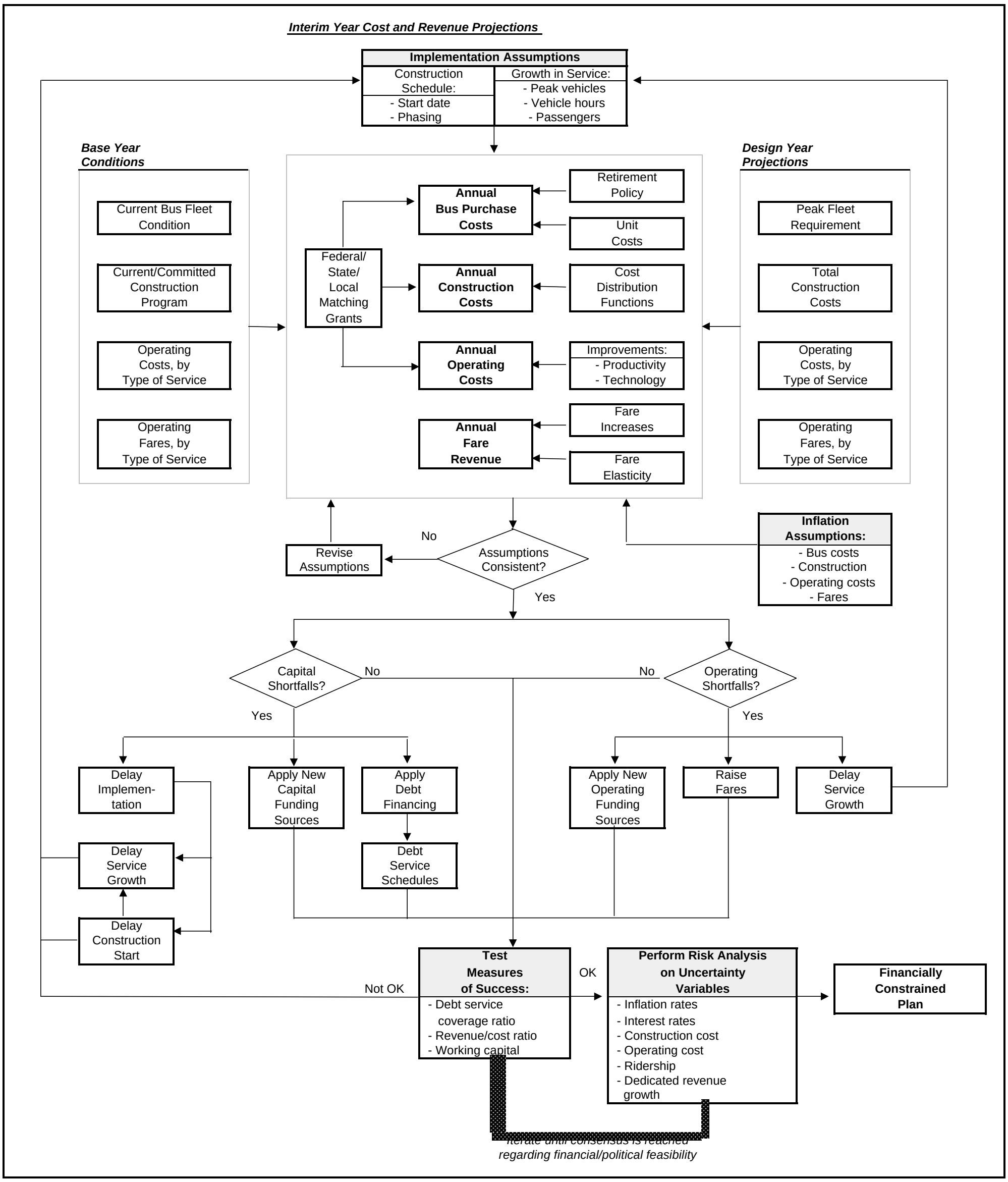
- **Transit fleet:** The financial analysis included a projection of the annual cost for acquiring new buses and rail cars for routine replacement and for service expansion. This required the following information:
  - **Description of the existing fleet:** For each subfleet (buses and rail cars of a specific manufacturer and purchase year), data regarding the subfleet size and anticipated retirement year.
  - **Committed purchases:** For already-programmed purchases, the number, size, cost, and anticipated retirement year of each planned new subfleet.
  - **Proposed future purchase parameters:** For all future subfleets, average car costs, and useful life, and spare requirements. Fleet size requirements are based on the travel demand forecasts and operational analysis.

In each year, the analysis considered the prior year fleet size, subtracted current year retirements, and compared the balance to the current year total fleet requirement (peak plus spares). If a shortfall existed, additional vehicles were "purchased" and these vehicles were considered a part of the fleet for the specified useful life, at which point they were retired.

- **Operating costs:** Budget forecasts developed by Bi-State staff were applied for near-term estimates. Long-term projections were estimated with a cost allocation model calibrated on the FY99 budget. O&M cost estimates were developed for the proposed MetroLink extension and changes to bus services based on the level of service assumptions applied in the travel demand analysis.

- **Operating revenues:** Growth in transit fare revenues is projected on the basis of growth in service which in turn results in growth in ridership. Key inputs to the projection of ridership included:
  - Base year annual fare revenue:
  - Design year annual fare revenue
  - Projected fare increases, by fare instrument (single fare, token, weekly and monthly pass)
  - Estimated fare elasticity, by fare instrument

Figure 1
COMPONENTS OF SOURCES AND USES OF FUNDS ANALYSIS



The computation of costs and revenues is defined by two sets of implementation assumptions:

- **Construction schedule:** including the initial year of revenue service, construction duration, and construction drawdown schedule.

- **Rate of growth in transit service:** including growth in annual hours of service and growth in fleet size which, in turn, drive growth in new vehicle costs, operating costs, and fare revenues.

The analysis is performed in year-of-expenditure (inflated) dollars so that debt financing computations, if required, can be accomplished. In addition to the baseline rate of inflation, inflation assumptions were required for construction and vehicle capital costs and for operating costs and revenues. Throughout the financial planning process, reviews are undertaken to assure that underlying assumptions in the financial analysis are internally consistent.

The sources and uses of funds analysis is then undertaken and year-end balances are reviewed to assure that neither capital nor operating shortfalls occur. For the purpose of this analysis, this was accomplished by considering the following types of actions:

- **Potential responses to capital funding shortfalls:**
  - **Delay service growth and/or delay construction:** Particularly in the case of financial plans relying on debt financing and pre-existing dedicated funding sources, short-term delays in implementation of new services and implementation of new facilities will result in a lesser demand on available funds. This results in an increased ability to finance on a pay-as-you-go basis and less reliance on debt financing. Such delays in capital and operating plans involve a re-computation of interim year cost and revenue projections, adhering to the same set of underlying assumptions regarding vehicle retirement policy, cost distribution functions, operating cost containment, and fare increases.
  - **Apply new capital funding sources:** If existing funding sources are inadequate, additional sources could be assumed. This could include increasing the rate of taxation of an existing tax, implementing a new revenue source, extending the period of implementation of a dedicated revenue source, and/or assuming higher levels of grant funding from federal, state, or local sources.
  - **Apply debt financing:** If a pay-as-you-go financing plan had been previously assumed, the use of debt financing provides the ability to advance project implementation by borrowing against projected future revenues.

- **Potential responses to operating shortfalls:**
  - **Delay service growth:** As with capital shortfalls, delays in the growth of transit service will result in a lesser demand on available funds. This will also result in lower annual operating subsidies. Slowing service growth requires a re-computation of the interim year cost and revenues projections, again adhering to the same set of underlying assumptions. As a practical matter, this option was not pursued as the baseline scenario, described below, included no growth in Bi-State bus service.
  - **Apply new operating funding sources:** New sources of transit

operating revenue reduce the transit operating subsidy. This could include higher revenues from dedicated sources, or the implementation of new or expanded non-farebox revenue sources (e.g., expanded advertising or joint development).
  - **Raise fares:** Transit fare increases typically result in increasing fare revenues but decrease ridership.

- **Alternative financing approaches:** The financial analysis model allows for the evaluation of various financing options, including conventional and innovative financing structures.

A series of financial feasibility tests are examined to assure that the financial plan is feasible and (if debt financing is applied) acceptable to the capital markets.

At this point in the process, the financial analysis has defined a scenario based on a *most likely* set of base and design year cost and revenue projections, underlying policies on vehicle fleet management, implementation of construction projects, operating efficiencies, fares, implementation schedules of facilities and services, and inflation. It must be recognized that many *uncertainties* can affect this most likely scenario. These include factors beyond the control of transportation agencies, their managements and governing boards, and local governments, e.g., inflation and interest rates, construction and operating costs, ridership, and dedicated revenue growth. A *risk analysis* permitted a thorough examination of the implications of uncertainty in the interpretation of the analytical results.

KEY FINANCIAL INDICATORS

Determining "success" in the financial analysis required examination of several capital and operating financial indicators.

Capital Financial Indicators

The financial analysis utilized capital financial indicators that are commonly applied in developing financial plans utilizing tax-exempt municipal securities. The application of these methods was intended to structure the financial plan in a conservative way, addressing the typical concerns of credit analysts and investment bankers. The methodologies applied in computing the measures are consistent with approaches presently applied in structuring Bi-State's financial program.

- **Debt service coverage:** This is the most common test of financial feasibility applied in debt financing. Simply stated, it is the minimum value in each year across the 30-year analysis period of the ratio of projected tax revenue divided by projected debt service. Three specific tests of debt service coverage have been adopted for the purposes of this financial analysis:
  - **Test 1:** This is the ratio of *prior* year revenues divided by *prior* year debt service. A target minimum value of 2.00 was considered.
  - **Test 2:** This is the ratio of *prior* year revenues divided by *current* year debt service plus debt service for bonds to be issued in the current year. This is a more severe test, as revenues and debt service are offset by a year. A target minimum value of 1.50 was considered.
  - **Test 3:** This is the ratio of *current* year revenues divided by *current* year debt service plus debt service for bonds to be issued in the current year. A target minimum value of 2.00 was considered. Typically, of Test 1, 2, and

3 , this ratio will typically fall closest to the target test minimum.

- **Test 3 after operations:** This is a variation of Test 3 in which the portion of the *current* year tax revenues applied to operations are subtracted from *current* tax revenues before dividing by *current* year debt service plus debt service for bonds to be issued in the current year. This value should not fall below 1.00; a value under 1.00 would imply that bonds are being sold to support debt service payments.

- **Portion of tax revenues applied to debt service:** While there exists no statutory limitation as to the application of sales tax proceeds, it is assumed in the financial analysis that tax proceeds are first applied to meet operating costs, with the remaining proceeds then applicable to meet debt service requirements. A target minimum value of 45 percent was considered.

- **Average maturity of outstanding debt:** This is the weighted average term of each series of outstanding debt. It is computed by multiplying the principal payment in each year of the amortization schedule of each debt instrument by the number of years to retirement, summing the resulting amounts for each debt instrument, and then dividing that sum by total principal payments. The value in any given year is not particularly relevant; what is relevant is the trend over time. Credit analysts and investment bankers would prefer to see a declining trend in average maturity over time. Increasing average maturity suggests an excessive reliance on short-term financing which exposes a public agency to interest rate volatility and potentially higher costs.

- **Portion of debt financed with short-term instruments:** In a financing program that includes a mix of short- and long-term debt instruments, this value is the portion of total debt that is short-term financed. Because of legal limitations on the use of short-term borrowing and continuing exposure to interest rate fluctuations, credit analysts and investment bankers would prefer to see long-term financial plans relying on short-term financing to no more than 20 percent of total debt.

Operating Financial Indicators

The financial analysis addressed the following operating financial indicators:

- **Operating shortfall:** This is the variance between projected operating expenses and projected known sources of operating funds.

- **Operating ratio:** This is the ratio of operating revenues (i.e., passenger fares plus parking fees, advertising, commissions, interest income from capital and real estate reserves, and leases) to prior-year operating cost. The ratio in FY99 is 45.6 percent (22.2 percent of operating costs are covered by fares alone).

FINANCIAL ANALYSIS MODEL

The analytical component of the Financial Capacity Study was accomplished through the development and application of the Bi-State Financial Analysis Model. This is a Lotus 1-2-3 spreadsheet which integrates projections of expenses and revenues, both capital and operating, and permits the rapid examination of alternative assumptions regarding policy and uncertainty variables:

- **Policy variables:** These variables are actions that could be taken by Bi-State management to directly control costs and revenues. These include service growth, construction schedules, and pricing.

- **Uncertainty variables:** These include factors beyond the immediate control of Bi-State management such as inflation, interest rates, and ridership.

III. PROJECTED USES OF FUNDS

INTRODUCTION

This section discusses the uses of funds in the financial analysis. It begins with a summary of the improvements in transit service considered in the analysis, including both bus service expansion and MetroLink construction. This section continues with a detailed discussion of the capital and operating uses of funds.

ALTERNATIVE SERVICE SCENARIOS

There were two components of the alternative service scenarios addressed in the financial analysis:

- **Bus service expansion:** The only change to the level of Bi-State bus service considered in the analysis included:
  - Additional bus feeder service
  - Forest Park circulator service

The incremental change in bus revenue vehicle hours amounts to an increase of 8.3 percent above the current level of service.

- **MetroLink construction:** The following MetroLink construction projects were considered:
  - **St. Clair County Extension Phase I:** from the existing Illinois terminal at Fifth & Missouri to Belleville Area College (BAC). This extension is currently under construction.
  - **St. Clair County Extension Phase II:** from BAC to Mid-America Airport. This segment is in final design.
  - **Cross-County MetroLink Extension Phase I:** from Forest Park west through downtown Clayton and then south along the CMT right-of-way to Deer Creek and Lansdowne.

The incremental change in MetroLink revenue car miles associated with all three extensions amounts to an increase of 2.71 times the current level of service.

USES OF FUNDS FOR CAPITAL

The capital expenses addressed in the financial analysis included the following components:

- **MetroLink extensions:** The following table summarizes the engineered costs estimates for each segment of the proposed Cross-County MetroLink Extension Segment I:

Alternative	Capital Cost (FY99 $ Millions)
Combination Alternatives:	
Terminal at Deer Creek	$320.2
Terminal at Lansdowne - (Sunnen Below Grade)	$375.4
Terminal at Lansdowne - (Laclede Station Road)	$378.0
Terminal at Lansdowne - (Downtown Clayton Elevated, with Laclede Station Road)	$380.5
Terminal at Lansdowne - (Galleria Elevated, with Laclede Station Road)	$398.7
Terminal at Lansdowne - (Carondelet-Brentwood At-Grade)	$365.1
Terminal at Lansdowne - (South Side At-Grade)	$392.4
Fully-Grade Separated Alternative:	
Terminal at Lansdowne	$517.9

- **Rail cars:** Thirty-four rail cars (including spares), costing $75 million, will be required to support the proposed level of service.

- **Capital improvement program:** This includes capital investments to assure that fixed assets remain in a state of good repair, that technological and other improvements are made to maintain and improve operating efficiency and effectiveness, and that customer service and convenience is maintained and improved. The CIP is composed of the following major elements:

- **Rehabilitation and replacement:** These requirements address routine renewal of fixed assets beyond the level of maintenance included in the operating budget. This typically includes maintenance actions whose cycle length is greater than every three to five years. Examples include facility rehabilitation, transit center rehabilitation, computer hardware investment and small bus maintenance. The long-term trend projects that these costs will average $28.5 million per year in FY99 dollars.

- **Buses:** The financial analysis projected future bus purchases based on the following assumptions:
  - Age distribution and retirement schedule for the existing Bi-State fleet
  - Assumed retirement age of buses to be purchased in the future

It was assumed that buses would be retired 12 years after year of purchase for both the existing fleet and future purchases. In years that the average age of the bus fleet exceeds 8-years (the current average age), a 10 percent penalty on vehicle-mile-related operating costs is projected (this includes costs for mechanics, front line supervisions, parts, and fuel).

- **Projected growth in bus service:** The only bus service growth assumed in the financial analysis was for additional feeder service to the Cross-County MetroLink extension and for the Forest Park circulator. Total expenditure through FY28 is projected to be $860 million in year-of-expenditure dollars and $486 million in FY99 dollars.

USES OF FUNDS FOR OPERATIONS

Long-term projections of the Bi-State operating budget were made utilizing cost allocation models, which related line-item costs to specific cost drivers. The cost models were calibrated on the Bi-State FY99 revised budget.

MetroLink Operating Cost Model

MetroLink operating costs were projected using a cost allocation model that associated costs with the principal rail transit cost drivers: train-hours, revenue car-miles, route-miles, and stations. The derivation of the MetroLink model is shown below.

FY99 Operating Costs and Operating Statistics MetroLink Cost Center	(Millions)
Train-hour-related costs	
752 Facility Director	$0.130
754 Rail Transportation/Other	$2.209
Total	$2.340
Train-hours	0.069
Cost per train-hour	$33.91
Car-mile-related costs	
754 Rail Transp/Electric Propulsion	$1.000
756 Maintenance of Equipment	$1.683
764 Materials Management	$0.057
766 Risk Management	$0.819
Maintenance Allocated	$0.185
Total	$3.745
Car-miles	2.584
Cost per car-mile	$1.4489
Route-mile-related costs	
758 Systems Maintenance	$2.946
768 Facilities Maintenance	$0.295
770 Maintenance of Way	$1.798
Total	$5.038
Route-miles	16.9
Cost per route-mile	$298,108
Station-related costs	
760 Security/Fare Enforcement	$2.780
762 Passenger Revenue	$0.863
772 Contract Custodial Maint.	$0.147
Total	$3.791
Stations	18
Cost per station	$210,595
Fixed Costs	
Indirect Allocation to MetroLink	$1.706
General & Administrative	$2.579
Total	$4.285
FY99 MetroLink Total	$19.198

Bus and Call-A-Ride Operating Cost Model

The bus and Call-A-Ride cost allocation model was based on the Bi-State FY99 revised budget with fixed and variable costs assigned by Bi-State cost center. A summary of the overall cost allocation by driving variable and by mode is shown below:

	FY99 Operating Costs and Operating Statistics (Millions)	
	Bus	**Call-A-Ride**
Hour-related costs		
Vehicle operators	$33.284	$2.580
Benefits	9.765	0.610
Total	$43.050	$3.190
Vehicle hours	1.609	0.218
Cost per hour	$26.76	$14.84
Vehicle mile-related costs		
Station Maint. Compensation	$6.467	$0.323
Station Maint. Benefits	1.770	0.087
Contract Maintenance	0.136	0.031
Contract Cleaning	0.795	0.112
Workers Compensation	1.227	0.120
Diesel Fuel	3.086	0.187
Natural Gas	0.185	
Oil	0.137	0.010
Grease	0.014	0.001
Anti-Freeze	0.516	0.001
Automatic Trans Fluid	0.042	0.001
Other Lubricants	0.035	0.012
Tires & Tubes	0.761	0.042
Self Insurance	1.268	0.243
Vehicle Parts	8.499	0.275
Cleaning Supplies	0.051	0.001
Fuel & Lubricants Tax	0.685	0.041
Total	$25.209	$1.488
Vehicle miles	23.044	4.0245
Cost per mile	$1.0940	$0.3698
Fixed Costs	$32.703	$3.145
TOTAL	$100.961	$7.823

Projected Operating Costs

The additional operating cost resulting from the proposed MetroLink extension and associated bus service is summarized below:

	Cost Driver Value	FY99 $ Unit Cost	FY99 $ Extended Cost (Millions)
MetroLink			
Train-hours	54,000	$33.91	$1.831
Car-miles	2,441,000	$1.4489	$3.537
Route-Miles	8	$298,108	$2.385
Stations	9	210,595	$1.895
Total			$9.648
Bus			
Vehicle-hours			
New service	138,000		
Mod to existing	-63,000		
Forest Park Circ	58,000		
Total	133,000	$26.76	$3.559
Vehicle-miles	1,907,000	$1.0940	$2.086
Total			$5.645
TOTAL			$15.293

Exhibit A-1 in the Appendix summarizes the projected annual operating statistics for Bi-State bus, MetroLink, and paratransit operations. The growth in service is projected on the basis of the following assumptions:

- **Bus:** Incremental changes to bus service when the Cross County MetroLink Extension Segment 1 begins operating results in a net increase in service levels:

	FY05	FY06
New line haul		0.138
Reduction in existing		-0.063
Forest Park Circulator		0.058
Total Revenue Hours (Millions)	1.238	1.371
Peak Vehicles	524	554
Vehicle Revenue Miles (Millions)	18.845	20.872

- **MetroLink:** The level of service increases with the addition of the Illinois extensions in FY01 and FY03 and the Cross County MetroLink Extension Segment 1 in FY05:

Segment	Route Miles	Sta	Peak Cars	Millions Rev Veh-Mi	Millions Train Hours
5th&Mo-BAC	15.9	8	31	1.849	0.058
BAC-MAA	9.0	2	2	0.120	0.007
Cross Co Seg I	8.0	10	25	2.441	0.054

- **Paratransit:** Service is assumed to grow with expanding regional population. Overall growth from FY98 through FY28 is projected to be 10 percent.

Exhibit A-1 also projects the annual operating costs by mode. Costs for bus, MetroLink, and paratransit service are directly related to the level of service provided for each mode. Fixed costs, representing general and administrative costs, are projected to grow only with inflation and not as a result of any increase in the level of bus, MetroLink, or paratransit service.

Total Bi-State annual operating costs are projected to grow from $128 million in FY99 to $158 million in FY28 in 1999 dollars ($450 million in year-of-expenditure dollars).

LIFE-CYCLE COSTS

Prudent business planning for transit agencies considering undertaken major capital investments includes consideration of so-called "life-cycle" costs. This approach to major investment planning, embraced by the Federal Transit Administration, insures that adequate consideration is made of the full extent of the costs associated with the acquisition and use of transportation facilities and rolling stock. There are three primary components to life-cycle costs:

- **Acquisition costs:** including the cost for the construction of facilities, purchase of rolling stock, and the financing of those assets. Construction costs include the costs for right-of-way, civil works, equipment, and various "adders" or "soft costs" representing engineering and design, construction management, project management, insurance, legal costs, and contingencies. Financing costs include the costs of interest on debt and lease instruments and issuance costs (including

the costs of underwriters, investment bankers, bond counsel, debt service reserve or sureties, and bond insurance.)

- **Operating costs:** including the costs for vehicle operation (street/rail operations, street/line supervision, and fuel/ electricity), vehicle maintenance (service and inspection, maintenance, parts), facility maintenance (cleaning, routine maintenance), and administration.

- **Rehabilitation and replacements:** including the costs to keep the system in a state-of-good-repair. This typically includes long-cycle maintenance activities, overhauls, and other maintenance activities not normally included in operating costs, as described above. Also included is routine replacement of rolling stock, including buses and rail cars, replacing of aging building components such as roofs and paving.

Each of these three components of life cycle costs are included in the financial analysis, including the costs for the Cross County MetroLink Extension Segment I; operating costs for all of Bi-State services, including bus, MetroLink, and paratransit services; and routine rehabilitation and replacement costs. Capital costs for the MetroLink extension and Bi-State operating costs are summarized in previous sections; Exhibit A-2 in the Appendix summarizes the rehabilitation and replacement costs. These include routine replacement costs for:

- **Buildings:** roofs, paving, building systems

- **Track:** rail, ties, fasteners, grade crossings

- **Power:** wire and traction power equipment

- **Bus rotables:** engines, transmissions, compressors, and other components and assemblies used in overhauls

- **Rail cars:** traction motors and other components

- **Other vehicles:** street supervisor cars, tow trucks, and rail maintenance vehicles

- **Fare collection:** fareboxes and counting equipment

- **Computer:** computers and data processing equipment

- **Communication:** replacement of vehicle radios and base stations

- **Office furniture**

The financial analysis addresses various one-time only capital projects associated with the MetroLink expansion program. These include park and ride lots and transfer centers.

The financial analysis also includes the costs to replace buses in the Bi-State fleet. As each subfleet reaches its retirement year (12 years from year of purchase), those buses will be replaced; any growth or decline in the level of bus service is accommodated in the annual projection of new buses required.

Exhibit A-2 also presents the annual life-cycle capital costs (for MetroLink extensions, one-time only projects, and rehabilitation and replacement) in year of expenditure dollars.

IV. PROJECTED SOURCES OF FUNDS

INTRODUCTION

The financial analysis addressed the current sources of funding to Bi-State, projecting growth on the basis of inflation, underlying demographic growth, and assumed continuation of Federal grant programs.

SOURCES OF FUNDS FOR CAPITAL

The financial analysis applied projection of the following sources of capital funds:

- **Missouri Transportation Sales Tax Act:** The Act authorizes a ½ percent sales tax in the City of St. Louis and St. Louis County, the proceeds of which ($17.82 million and $34.70 million in FY99, respectively). Although the Missouri General Assembly authorized the tax ostensibly to support the Bi-State transit system, funds are spent at the discretion of the City and County and can be used for non-transit purposes. The City usually transfers all tax proceeds to Bi-State; the County has opted to retain a portion of the funds for its own uses, setting a $30 million per year cap on its transfers to Bi-State, with additional payments to cover special service costs. The Bi-State budget assumes that 7 percent of these tax revenues are applied to capital.

- **County Public Transit Sales Tax Trust Fund (Proposition M):** Approved by voters in October 1994 for an initial five-year period and permanently extended in 1995, a ¼ percent sales tax is levied within the City of St. Louis and St. Louis County to support bus, light rail, commuter rail and passenger services. Proceeds from this tax as reported in FY 1999 budget amounted to $9.43 million and $39.2 million for the City and County, respectively. Bi-State's FY 1999 budget assumes the use of 67 percent of total collections from this source for transit capital investment (MetroLink expansion). This allocation is assumed in this financial analysis until FY21, when the portion applied to capital is reduced to 55 percent.

  Annual sales tax revenues are projected through year FY28 and are forecasted according to the projected increase in CPI inflation. The inflationary factor is based upon estimated changes in the national Consumer Price Index as forecasted by DRI/McGraw Hill Inc.

- **State of Illinois Capital Grants:** The Illinois Department of transportation provides the direct grants to Bi-State for capital needs in the Metro East transit districts. Grant funds are derived from long-term general obligation bonds issued under the Illinois Transportation Bond Act. The grants are used to match federal funds applied to capital projects in Illinois. This limited capital funding is usually applied to bus replacements and facility improvements. While no commitments have been made, these funds could also provide local match for the St. Clair MetroLink extension. Funding levels in the financial analysis will be based on an assumed percent participation by the State of Illinois. Projections to date have assumed 20 percent.

Funds that Bi-State historically received for services in Madison County are no longer available. The Madison County Transit District now operates its own transit system and receives no Bi-State services.

- **St. Clair County Transit District MetroLink Sales Tax:** A one-half percent tax, authorized under the Local Mass Transit District Act, has been collected since January 1995. By statute, the sales tax funds can only be used for costs associated with constructing and operating the St. Clair Corridor MetroLink extension. That statute has been interpreted to include the costs of the bus network feeding the MetroLink extension.

- **Federal grants:** The financial analysis model addresses the following sources of Federal grants:
  - **Section 5307:** These formula grants are based on various demographic, level of service, and ridership variables. The Transportation Equity Act for the 21st Century (TEA-21) calls for significant increases in nationwide funding; growing by 49 percent from FY98 to FY03. Factors in the formulae that allocate grants to urbanized areas were estimated based on annual growth in total TEA-21 Section 5307 funds adjusted downward to account for a larger transit service and demographic base over which these grants are applied.

    TEA-21 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. One percent of these grants must be applied for "enhancements", which includes the new initiative capital projects described in the prior section.
  - **Section 5309 New Starts:** These discretionary grants are derived as a percentage of the cost of each rail extension project. No Section 5309 New Starts funds are applied in the funding of the Cross-County MetroLink Segment I extension.

    While the statutory maximum federal participation for Section 5309 New Starts funds is 80 percent, the actual amount applied in recent projects has been considerably less. This is because the demand for these funds significantly exceeds the level of funding currently authorized or anticipated to be authorized in the future and projects with a lower percentage of Federal participation are viewed more favorably for funding.

    As of the spring of 1998, the average federal match for the five New Starts projects with Full Funding Grant Agreements and the 14 projects in preliminary engineering was 55 percent. Some of these projects had a federal participation below 50 percent. The financial analysis assumes a 50 percent federal participation with 5309 New Start funds.

    Of the $8.2 billion authorized in the Transportation Equity Act for the 21st Century (TEA-21), $4 billion has already been committed in 14 Full Funding Grant Agreements (FFGAs) and seven proposed FFGAs. TEA-21 has authorized over 190 projects and FTA is currently tracking 100 MISs with potential new start projects totaling $40 billion. FTA is now facing funding requests for $12.1 billion for 42 projects ready to enter preliminary engineering and final design.

- **Section 5309 Rail Modernization:** These discretionary grants are derived by formula, a function of vehicle revenue miles and route miles. TEA-21 calls for substantial increases in this grant program.
- **Section 5309 Bus Related:** These discretionary grants are applied to the purchase of buses and bus-related assets.

- **Interest on capital fund:** These are interest earnings on the capital fund, which is maintained at a minimum level of working capital (defined below).

- **Debt service sinking fund transfer:** These are funds released by the bond trustee (the trustee is assumed to retain only funds necessary for current year debt service payments and following year principal payments).

- **Debt financing proceeds:** These funds are derived, based on assumptions regarding the overall structure of the debt financing program. Section V describes the alternative debt instruments applied in the financial analysis and the reasons for their application.

SOURCES OF CASH FOR OPERATIONS

The financial analysis applied the following sources of operating funds:

- **Missouri Transportation Sales Tax Act:** 93 percent of these tax revenues (described in detail above) are applied to operations.

- **County Public Transit Sales Tax Trust Fund (Proposition M):** 67 percent of these tax revenues (described in detail above) are applied to fund MetroLink.

- **Passenger revenue:** Fare revenues are based on Bi-State's current ridership for existing bus and MetroLink services and additional ridership and fare revenue for the following MetroLink extensions:
  - St. Clair MetroLink Extension Phase I (5th & Missouri to BAC)
  - St. Clair MetroLink Extension Phase II (BAC to MAA)
  - Cross-County MetroLink Extension Phase I

    The impacts of fare increase on projected ridership are included, adjusted by fare elasticities by fare instrument.

- **Other transit related:** These revenues are based on the FY99 Budget value, adjusted for growth in level of service, ridership, and inflation, as follows:

- **Concessions:** growing with ridership and inflation.

- **Missouri operating assistance:** These are funds from State of Missouri general funds and are projected to grow with inflation.
- **Illinois operating assistance:**
  - **St. Clair County bus assistance:** growing with inflation and level of service
  - **St. Clair County MetroLink assistance:** equal to 50 percent of operating costs, growing with inflation

- **Planning and demonstrations:** no growth

- **Miscellaneous revenues:** no growth

- **Federal grants:** Two grant programs are considered:
  - **FTA Section 5307 Urban Formula grants:** These are grants applied to preventative maintenance,maintenance

activities in the operating budget that may be classified as capital for the purpose of qualifying for Section 5307 grants. The financial analysis assumes that 75 percent of the Capital Improvement Program is funded with Section 5307 grants from FY00 through FY03 and 50 percent in FY04; the balance is applied to preventative maintenance. This results in an annual operating shortfall of approximately $10 to $12 million per year; the shortfall in FY00 will be $10 million if STP funds (addressed below) are not applied.

All of the Section 5307 Urban Formula grants are applied to operations beginning in FY05, but this is not sufficient to avoid a long-term operating shortfall.

- **Congestion Management / Air Quality (CMAQ):** This program provides flexible funding to state and local governments. Eligible projects include transit improvements, travel demand management, traffic flow improvement, and conversion of public fleet to cleaner fuels. The regional appropriation of funds is based on a formula that accounts for population and the severity of air quality problems. The financial analysis assumed that Bi-State would receive $3 million per year in year-of-expenditure dollars (declining in real terms over time) of the total regional CMAQ funds.
- **Surface Transportation Program (STP):** This program provides flexible funding that can be used for transit capital projects. Program funds are distributed among states based on lane-miles of Federal-aid highways, total vehicle miles traveled on these highways, and contributions to the Highway Account of the Highway Trust Fund. It is assumed that $10 million in STP funds will be available to Bi-State in FY00 to fund preventative maintenance requirements (a “capital” expense, using FTA regulations). This is subject to approval by EWGCC and MoDOT and this use of STP must be included in the Statewide Transportation Improvement Program for FY00.

  No assumption regarding continuing availability of STP funds for preventative maintenance was assumed.
- **Derived operating shortfall:** The financial analysis model derives any funds necessary to fill an operating shortfall, thereby maintaining the operating carryover as a zero or positive value.

V. ALTERNATIVE FINANCING METHODOLOGIES

INTRODUCTION

The financial analysis was structured around a basic funding strategy:

- **First, fund the operating program:** Bi-State's basic mission is to "get the service on the street". Bi-State faces a continuing operating shortfall outside of the MetroLink program. While no specific cost containment or revenue enhancement actions were specifically examined in the financial analysis, Bi-State and the region will need to resolve this problem in order to continue operating the current level of transit service.

- **Second, fund the Capital Improvement Program (CIP), including rehabilitation and replacement as well as new initiatives:** Bi-State's priority capital investment must be to preserve the existing infrastructure and to improve customer service and convenience on existing service.

- **Third, fund the construction of the MetroLink extensions:** The MetroLink extension program entails significant capital costs which Bi-State can feasibly manage, but only through debt financing in the out years, secured against future tax revenue.

A description of potential financing strategies and the motivations for their application are described below.

PAY-AS-YOU-GO FINANCING

The analysis first attempts to fund projects on a pay-as-you-go basis, applying previous year cash balances and current year funding. Funds are applied in this manner to the point that year-end balances decline to a minimum level of working capital. At this point, debt financing is applied.

Bi-State began FY99 with a cash investment balance available to support construction totaling $70.9 million.

CONVENTIONAL DEBT FINANCING

Dedicated revenue bonds are applied in the financial analysis to make-up the difference between capital funding need and funds provided by previous year balances and current year funding (and certificates of participation, noted below). The financial analysis model "issued" bonds to the extent required to maintain a zero balance. These are simple mortgage bonds with level combined principal and interest payments.

During the period of construction of the Cross-County MetroLink Segment I extension plus two years (through FY06), a term of 30-years was assumed; a long-term reduced annual debt service expenses and increased debt service coverage ratios. Beginning in FY07, the term of conventional bonds was reduced to 10-years; these bonds will be applied to finance continuing capital rehabilitation and replacement projects. These projects regularly occur on five to 20-year cycle and a shorter term debt instrument was considered more appropriate for these continuing financing requirements.

INNOVATIVE DEBT FINANCING

Innovative financing provides opportunities to increase capital revenues and reduce capital costs, thereby improving debt service coverage ratios and thus increasing financial capacity. The financial analysis considered six types of innovative financing.

- **Tax-exempt commercial paper for construction:** The use of short-term debt is advantageous because debt instruments of shorter maturity generally have lower interest rates than longer-term debt. A portion of the borrowing requirement in each year was specified to be short-term debt in the form of tax-exempt commercial paper. The advantage of this approach is lower near-term debt service payments. TECP provides a particularly low-interest form of borrowing. Typical interest rates are 200 basis points (2.00 percent) below long-term municipal securities rates. Issuance fees are typically low.

  During the period of construction of the Cross-County MetroLink Segment I extension (through FY04), TECP was assumed to be 20 percent of the debt issued in any year. Beginning in FY05, TECP was assumed to be 90 percent of the debt issued in any year.

  There are two limitations in the use of TECP:
  - **Maturity:** State and federal laws limit the period of time such securities can be held before they must be turned over into long-term (high interest) debt. For Bi-State, this is 2 years.
  - **Percent of total principal outstanding:** As noted previously, the percentage of total debt that is short-term debt should be less than 10 to 20 percent and the trend over time should not be toward increasing reliance on short-term debt.

- **Construction bonds with capitalized interest:** These are long-term bonds where the amount borrowed includes debt service payments during the construction period. During that period, only interest payments are made. This form of financing is not applied if sales tax revenues are the sole source of dedicated funding, but could be applied if, for example, fare revenues are to be partially applied to fund construction.

- **Rail car cross-border lease:** The transactions involved in a cross-border lease include the assumption of the depreciation costs of rail cars by off-shore private investors. These investors take advantage of home country tax benefits related to depreciation and pass these benefits (typically valued at 5.0 percent of the leased assets) back to the transit agency. The financial analysis addressed the following components of the transaction:
  - **Financing vendor payments:** During the manufacturing and delivery of the rail cars, annual payments to the vendor are financed with short-term debt. Unlike the construction TECP described above, the model assumes that the maturities of the vendor payment financing are of declining terms until the completion of delivery (e.g., succeeding issues of short-term debt with maturities of 6, 5, 4, 3, 2, and 1 years).
  - **Lease financing:** The model assumes that the lease transaction occurs at the completion of delivery (the lease cannot be legally completed until the transit agency holds title to the asset being leased). The model computes the payments as a simple mortgage.
  - **Lease discount:** The depreciation benefit of the private investors passed

back to the transit agencies occurs in the year of the lease transaction (i.e., when the last rail car is delivered).

- **Bus Certificates of Participation:** COPs are debt instruments secured by the value of the assets so financed. COPs were examined as a means to partially finance the procurement of buses. The COP investors become the technical owner of the vehicles/facilities and "lease" them back to the transit agency. The lease payments become the service on the debt and at the end of the "lease period" the debt is retired and ownership reverts back to the transit agency. COPs are financed by borrowing against projected future federal formula grants. The advantage of this financing structure is that the COPs debt service payments are not applied in the computation of the coverage ratio on Bi-State sales tax revenue bonds.

- **Lease/Leaseback Of Existing Assets:** Assets with remaining economic lives of more than 30 years may be financed through a lease/leaseback transaction in which private investors take advantage of depreciation tax benefits and pass some of these benefits back to the transit agency. The magnitude of the benefit of such a transaction depends of the quantity of land, building, equipment, and rail rolling stock assets that are eligible. Deals at other transit agencies have addressed assets with potential alternative commercial uses, such as maintenance and administrative facilities, buildings, land, and parking as well as rail rolling stock. Bi-State has already taken advantage of these types of transactions for many of its assets, including rail cars and maintenance facilities. Recent transactions at the Chicago Transit Authority have included rebuilt rapid transit lines. Including such assets in the transaction could yield significantly more revenue.

- **Refinancing Of Existing Debt:** Extending the maturity of existing callable debt provides the ability to reduce annual debt service and increase computed coverage ratios. The offsetting cost of refinancing includes the premium paid on outstanding principal (typically 2.0 percent) and the issuance costs associated with the new debt. Opportunities to apply this approach are limited at Bi-State due to the very low amount of debt currently outstanding.

- **Refinancing future debt:** Similarly, extending the maturity of projected future debt provides the ability to reduce future annual debt service and increase coverage ratios. The financial analysis assumed that every series of conventional bonds would be callable in the eleventh year after issue with a premium of 2.0 percent on the outstanding debt.

- **State Infrastructure Bank:** SIBs are state revolving loan programs funded through seed monies provided in the Intermodal Surface Transportation Efficiency Act of 1991 and subsequent legislation. The impacts of a state infrastructure bank (SIB) may be approximated by adjusting the following terms for long-term debt:
  - **Issuance cost:** may be reduced to zero
  - **Debt service reserve costs:** may be reduced to zero
  - **Interest rate:** may be reduced as much as 2.0 percent

VI. FINDINGS

INTRODUCTION

This section presents the findings of the financial analysis. It begins with a description of the baseline scenarios, addressing fundamental operational, capital program, funding, and financing assumptions. The results of the baseline analysis are then presented.

BASELINE SCENARIOS

The financial analysis was structured to address the broad range in costs of the Cross-County MetroLink Segment I extension alternatives. Three baseline scenarios were considered:

- **Terminal at Lansdowne (Carondelet-Brentwood At-Grade):** This was the lowest cost scenario to Lansdowne ($365.1 million in 1999 dollars).

- **Terminal at Lansdowne (Galleria Elevated with Laclede Station Road):** This was the second highest cost scenario ($398.7 million), 23 percent lower than the fully grade separated scenario and 25 percent higher than the lowest cost scenario.

- **Fully grade-separated scenario:** This option (described below) had the highest construction cost ($517.9 million in 1999 dollars).

The baseline scenarios are described in terms of the following major considerations:

- Institutional context
- Service growth
- Rail extension construction
- Federal funding
- Financing
- Fare increases

Institutional Context

The financial analysis assumed in the baseline scenario that Bi-State would continue to be the major provider of bus and light rail transit service in the St. Louis metropolitan area. It was also assumed that Bi-State would have the responsibility to implement and operate the Cross-County MetroLink Segment I extension, including responsibility to finance the project.

There has recently been some discussion that the City and County would take on the responsibility to leverage Proposition M revenues with bond financing rather than Bi-State. In that case, from Bi-State's perspective, the funding of the capital projects would be 100 percent grant financed, with grants from the City of St. Louis, and St. Louis County.

The financial analysis assumed that Bi-State would leverage Proposition M funds and issue long-term debt. This is a more conservative approach than assuming that the City and County take on the responsibility, given that Bi-State's revenue stream is narrower and more constrained than general government.

Service Growth

The sources and uses of funds analysis begins with the FY99 operating plan. In the balance of the 30-year analysis period, the following service assumptions are made:

- **Bus service:** Baseline bus service is assumed to remain at FY99 levels. Additional bus service is assumed to be implemented when the Cross-County MetroLink Segment I extension begins revenue service in FY05. Near-term bus service assumptions were as follows:

Bus Service Measure	FY99 - FY04		FY05 - FY28	
Peak Buses	524	524	554	554
Rev Bus Miles (millions)	18.85	18.85	20.87	20.87
Rev Bus Hours (millions)	1.238	1.238	1.371	1.371
Increase in Revenue Bus Hours			10.7%	

The additional vehicle revenue hours added in FY05 include (values in millions):

Type of Service Change	Annual Vehicle Revenue Hours (Millions)
New line haul services	0.138
Modifications to existing services	-0.063
Forest Park circulator	0.058
Total	0.133

- **Rail Service:** The financial analysis assumes that construction of the St. Clair MetroLink extensions to Belleville Area College and Mid-America Airport begin revenue service in FY01 and FY03, respectively. The Cross-County MetroLink Segment I extension is assumed to begin revenue service in FY05. Summarized below are the years in which new service lines are opened and the cumulative service measures for each of those years:

Rail Service Measure	Opening Years			
	FY99	**FY01**	**FY03**	**FY05**
Peak Rail Cars	26	57	59	84
Rev Car Miles (millions)	2.584	4.434	4.554	6.995
Total Train Hours (millions)	0.056	0.114	0.122	0.175
Increase in Revenue Train Hours		104%	7%	43%
Route Miles	16.9	32.8	41.8	49.8
Rail Stations	18	26	28	38

Rail service is assumed to remain at FY05 levels through the balance of the financial analysis period.

- **Paratransit service:** This is assumed to grow with population.

Rail Extension Construction Schedule and Cost

The following completion schedule was assumed:

- St. Clair: 5th & Missouri to BAC FY01
- St. Clair: BAC to MAA FY03
- Cross-County Segment I FY05

The alignment was broken into several segments; within each segment costs were estimated for alternative horizontal and vertical profiles. This resulted in a range of construction costs:

Federal Funding

The following levels of federal funding are assumed:

- **Section 5307:** Grants were projected based on the FY99 Federal funding formula and are applied to the non-construction capital improvement program. Near-term annual revenues were projected as follows:

Millions of Year-of-Expenditure Dollars

FY99	FY00	FY01	FY02	FY03	FY04
$17.58	$20.527	$22.24	$23.94	$25.64	$27.36

- **Section 5309 New Starts:** Federal participation in the St. Clair BAC and MAA extensions were assumed at 72 percent and 50 percent, respectively. No New Starts funds were assumed to fund to the Cross-County MetroLink Segment I extension because it is extremely unlikely that funding to this project would be available over the TEA-21 authorization period.

- **Section 5309 Rail Modernization:**. Projected funding is the result of increases in guaranteed authorization levels in TEA-21 and growth in Bi-State's share of the level of fixed guideway service provided nationwide.

- **Section 5309 Bus Related:** The long-term projection assumes 80 percent federal participation and a cap of $15 million per year to reflect historic trends and increasing competition from other transit agencies for federal grants. Because projected expenditures exceed the cap in some years, the projected 30-year average Federal participation is 71.6 percent.

Financing

The borrowed debt requirement in each year of the analysis was assumed to be satisfied with a blend of tax-exempt commercial paper (TECP) and conventional long-term bonds. The TECP was assumed to have an interest rate 2.0 percent below the 20-year Bond Buyer Index and a term of two years. At the end of two years, each annual issue TECP was refinanced into conventional bonds.

Fare Increases

Fares are assumed to remain at the FY99 level through FY01. In FY02, according to Bi-State planning staff assumptions, cash fares are scheduled to increase by $0.05. Relative to the Consumer Price Index in FY99, the increase proposed in FY02 equates to (on an annualized basis) a 2.36 percent real decline in the base fare.

Fares are then assumed to increase every four years with an annualized increase equivalent to the CPI.

BASELINE RESULTS

Cash Flow Analysis

The table in Appendix A summarizes the results of the financial analysis for the moderate cost at-grade scenario. The table is in the form of a sources and uses of funds analysis that projects the annual capital and operating programs.

Financial Indicators

The following table summarizes how the baseline scenario performed against the financial indicators:

	Terminal at Lansdowne			
	Caron-delet/ Brent-wood At-Grade	Galleria Elevated w/Laclede Station Road	Fully Grade Sepa-rated	Target Value
Minimum Debt Service Coverage				
Test 1	5.311	4.587	1.675	> 2.000
Test 2	5.170	4.393	1.593	> 1.500
Test 3	5.311	4.552	1.652	> 2.000
Test 3 after Ops	1.919	1.478	0.538	> 1.000
Portion of Tax Revenues Applied to Debt Service				
Maximum	18.3%	21.0%	32.7%	< 45.0%
Average	12.5%	15.9%	25.7%	
Average Maturity of Debt Outstanding (years)				
FY99	18.35	18.35	18.37	De-
FY28	2.87	3.30	3.66	creasing
Portion of Outstanding Debt Financed with Short-Term Instruments				
Average	4.16%	7.10%	11.48%	< 20%
Maximum	19.00%	19.01%	21.49%	
Operating Shortfall Ten-Year Summary (FY99 $ millions)				
FY99-08	$47.9	$47.8	$47.5	$0.0
FY09-18	$26.4	$29.8	$33.5	$0.0
FY09-28	$109.9	$110.7	$110.7	$0.0
Total	$184.2	$188.3	$191.7	
Near-Term/Long-Term Values				
First Shortfall Yr.	FY01	FY01	FY01	
% of Op $	8.6%	8.6%	8.7%	
FY99 Dollars	$11.9	$12.0	$12.1	
Last Shortfall Yr.	FY28	FY28	FY28	
% of Op $	9.2%	9.2%	9.2%	
FY99 Dollars	$14.5	$14.5	$14.5	

- **Debt service coverage:** For the low and moderate cost at-grade scenarios, all of the coverage ratio targets were exceeded. However, in the case of the fully grade-separated scenario, Tests 1, 3, and 3 after operations fell well below the minimum target values. This indicates that the fully grade separated scenario results in more borrowing than Bi-State can afford and, therefore, it is not feasible to construct that scenario within available resources.

  By these measures, the moderate cost at-grade alternative, with a capital cost of $398.7 million, is financially feasible, with coverage ratios significantly above the target minimum values. The financial analysis estimated that the project cost could be as much as $410 million and still result in acceptable coverage ratios.

- **Portion of tax revenues applied to debt service:** For all scenarios, the percentage of the tax applied to debt service is projected to remain well below the 45 percent maximum target.

- **Average maturity of debt outstanding:** Average maturity significantly declines for all three scenarios because of the limited application of short-term debt instruments, the rapid transition to long-term instruments when short-term instruments are applied, and (in the case of the fully-grade separated alternative) the shorter term of bonds in the post-construction period.

- **Portion of outstanding debt financed through short-term instruments**: The average reliance on short-term securities is 7.5 percent for the fully-grade separated scenario and only 2.0 percent for the low and moderate cost at-grade scenarios; the maximum over the 30-year analysis period is 19.0 percent. These values are well below the target 20 percent reliance on short-term securities.

- **Operating shortfall:** This is the most significant measure addressing Bi-State's long-term ability to operate and maintain the existing bus and MetroLink service and future MetroLink extensions. Bi-State faces significant challenges in managing the projected bus operating shortfall.

  The financial analysis was structured to maintain the operating shortfall at no more than the bus approximate level projected for FY01 (approximately $10 million in FY99 dollars). This was accomplished by increasing the portion of the Proposition M funds applied to support MetroLink operations from the current 33 percent to 42 percent in FY21. While the magnitude

of the operating shortfall was somewhat moderated by this assumption, the shortfall still remains and must be addressed before a fully feasible financial plan for Bi-State is resolved. Further, by diverting Proposition M funds to MetroLink operations, the magnitude of the long-term capital cash balance declines, although it is still maintained at a level at or above the minimum level of working capital (three months of operating budget plus three months of locally funded capital). This could affect Bi-State's ability in later years to build further extensions to MetroLink

CAPACITY FOR ADDITIONAL PROJECT COST

Introduction

The baseline financial analysis examined the final implications of implementing the combination alternative with a terminal at Lansdowne with an elevated Galleria station and a station at Laclede Station Road. The cost for this alternative was estimated at $398.7 million in base year (FY99) dollars.

That alternative resulted in debt service coverage ratios in excess of the minimum target values considered acceptable at this stage of project planning:

	Terminal at Lansdowne		
	Galleria Elevated w/ Laclede Station Road		Target Value
Minimum debt service coverage			
Test 1	4.587	>	2.000
Test 2	4.393	>	1.500
Test 3	4.552	>	2.000
Test 3 after Ops	1.478	>	1.000

The implication of this finding was that a modestly more expensive alternative would be within Bi-State's financial capacity. The following discussion describes the analytical approach to determining how much additional project cost could be afforded. It begins with a further definition of the measures of financial capacity. Next, a series of additional analyses is described in which the total project cost is incrementally increased and the resulting debt service coverage is examined. Finally, the conclusions of this analysis are discussed.

Further Definition of Financial Capacity

Of the four coverage tests addressed in the financial analysis, the value for Test 3 after Operations comes the closest to the minimum target value. Test 3 after Operations was, therefore, considered the controlling test in the analysis.

It should be emphasized that coverage values determined in the financial analysis are the *most likely* outcomes, given the assumptions about various uncertainty variables including inflation, interest rates, ridership, and project costs. *The actual outcomes could be higher or lower than the most likely outcomes.* It is the lower-valued outcomes that are of concern in the financial analysis as prudent public policy demands that risk of failure to be able to service long-term debt be minimized.

As a result, even though the minimum target value for the most likely value of Test 3 after Operations is 1.000, a prudent minimum should be somewhat higher to allow for outcomes involving less-than-favorable uncertainty variables. Experience in examining financial analysis results in the context of uncertainty suggests that the minimum target value for Test 3 after Operations should be 1.25. This value was considered in the financial analysis described below.

Additional Analysis to Determine Maximum Affordable Project Cost

The following table presents the results of a series of analyses in which the total cost of the Cross County MetroLink Extension Segment I was incrementally increased above the baseline $398.7 million value. In each case, the minimum most likely value of Test 3 after Operations is indicated:

	Most Likely Value	
	Test 3 After Operations	**Target Value**
Additional Project Cost (Base Year FY99 Dollars)		
$0	1.478	> 1.250
$5.0 million	1.372	
$10.0 million	1.268	
$11.0 million	1.248	
$12.0 million	1.228	

Thus, as the project cost reaches above an additional $11 million (or total project cost of $410 million), the resulting debt service coverage falls below minimum target values considered appropriate in the context of uncertain inflation, interest rates, project cost, and ridership.

Conclusions

The moderate cost combination alternatives considered in the financial analysis were found to be close to the maximum cost that could be afforded by Bi-State. Additional project cost of approximately $11 million would still result in acceptable coverage ratios. This means that a total project cost of approximately $410 million could be implemented with acceptable debt service coverage ratios.

There are several factors that could affect the eventual outcome of the financial plan that should be considered:

- **Continuing rehabilitation and replacement requirements:** The financial plan projects continuing rehabilitation and replacement (R&R) requirements in the post-construction period. This includes MetroLink-related costs (funded by Proposition M) for aging track, structures, communications and signals, and rolling stock. The financial analysis was structured to partially debt-finance these continuing expenses. The minimum debt service coverage occurred toward the end of the 30-year analysis period, once significant expenditure in R&R costs has occurred. The accuracy of these R&R costs is therefore important in the determination of financial capacity; lower R&R costs would result in higher debt service coverage and higher R&R cost would result in lower coverage.

Relatively simple assumptions were applied to project the cost of these continuing rehabilitation and replacement costs:

- **Annual replacement costs:** Total project costs were factored in order to estimate annual R&R costs. The factor was estimated on the basis of an assumed average economic life for the assets:
  - **Civil works:** 2.0 percent per year, representing an average economic life of 50 years (this reflects a mix of longer-lived steel and reinforced concrete structures and shorter-lived mechanical and electrical systems and appurtenances)
  - **Equipment and rolling stock:** 2.5 percent per year, representing an average economic life of 40 years.

- **Initiation of R&R costs:** It was assumed that the first cost exposure would begin eight years after the date of revenue service. Expenditures prior to that time were assumed to be absorbed in the operating and maintenance budget.

- **Structure of financing:** A relatively conservative approach was applied in the structuring of the debt financed portion of the analysis. This applied to both construction financing and post-construction financing. Alternative financing techniques could result in the ability to modestly add to the total affordable project cost:
  - **Alternative construction financing:** The only innovative financing technique assumed in the analysis was partial financing with tax-exempt commercial paper. This had the effect of significantly lowering interest costs and deferring payment of principal by two years during the construction program.

    The Transportation Infrastructure Financing Innovation Act (TIFIA) includes provisions for deferred principal payment loans for "projects of national importance". The terms of these loans include deferral of principal payment for as long as 10 years (a five-year initial deferral plus an extension, permitted under the Act, of an additional five-years). Funds would be borrowed from the U.S. Treasury at the 30-year T-bill rate. While this rate is typically slightly higher than the 20-year average municipal bond rate, the lower issuance costs (virtually zero, as there would be less requirement for the services of investment bankers, underwriters, bond counsel, and debt insurance) and the benefits of lower initial annual debt service costs more than offsets the higher interest rates.

    The transit industry is just beginning to explore the potential of this type of project financing. The Cross County MetroLink Extension Segment I would have to be certified as a "project of national importance", which requires a total project cost in excess of $100 million, documentation of the project's importance in the long-range transportation plan, and analysis of its economic benefit.

    If lower cost financing instruments were to be applied to the project, modest additional costs could be afforded. The extent of these additional costs is not clear at this time.
  - **Post-construction financing:** A 10-year term was assumed for bonds issued after the Cross County MetroLink Extension Segment I is constructed (a 30-year term was assumed for construction bonds). This shorter term was applied for several reasons. First, many of the assets to be financed would be of a shorter economic life than the initial construction assets (comprised most of long-lived civil works). Second, shorter-term debt instrument have higher annual debt service and result in lower debt service coverage; this was considered an appropriately conservative approach. Should longer-term instruments be applied in the post-construction period, higher debt service coverage would result and a more expensive project could be afforded.

CONCLUSIONS

The financial analysis examined the feasibility of Bi-State undertaking the Cross-County MetroLink Segment I extension within the constraint of currently available and anticipated funds. The analysis was undertaken in the context of the on-going construction of the St. Clair County MetroLink extension to Belleville Area College and the planned extension on to Mid-America Airport. No growth in underlying bus service was assumed (other than modifications of bus routes serving the Cross-County MetroLink Segment I extension stations and

the Forest Park circulator) in view the limited projected increase in population.

The financial analyses revealed the following insights regarding Bi-State's financial capacity to implement MetroLink extensions:

- **Ability to undertake the fully grade-separated MetroLink extension:** Bi-State does not have the financial capacity to undertake the fully grade separated scenario. Existing revenue streams will not provide sufficient resources to avoid excessive near-term borrowing that would result in unacceptably low debt service coverage.

- **Ability to implement low and moderate cost at-grade scenarios:** Assuming that additional bus revenue sources are secured and the bus operating shortfall is resolved, Bi-State has the financial capacity to undertake the low and moderate cost at-grade scenarios. It was estimated that the project capital cost could be as high as $410 million and still generate acceptable coverage ratios.

- **Operating shortfall:** Bi-State faces a continuing bus operating shortfall that must be resolved if it is to continue operating the current (and potentially expanded) level of bus service. Opportunities to contain bus operating expenses are limited, absent reductions in the level of bus service. Bi-State has already exhausted opportunities to contain operating costs through productivity improvement and lower cost structures for less productive bus routes. Opportunities to generate more fare revenue within the current fare structure are also limited; long-term fare increases above the rate of inflation would not be politically acceptable and would lower ridership.

  Additional grant and dedicated revenue sources appear to be the only resolution to Bi-State's operating shortfall problem. These additional revenues could come from new dedicated local sources (e.g., an increment to the existing ½ and ¼ percent sales taxes) or state grants.

- **Use of Section 5307 Urban Formula Funds:** The significant increase in funding levels and flexibility in the use of Section 5307 under TEA-21 provides Bi-State with significant ability to adjust its operating and capital program to most appropriately meet competing operating and capital demands. In the near-term, applying more of the Section 5307 grants to capital moderates the level of debt financing required to meet capital needs. After the construction period, all of the Section 5307 funds must be applied to preventative maintenance in order to minimize the projected operating shortfall. While this helps address Bi-State's long-term bus funding need, it does not solve the problem. Consuming Section 5307 Urban Formula funds for preventative maintenance (effectively an operating expense) limits Bi-State's ability to fund its continuing capital rehabilitation and replacement needs.

CONSIDERATION OF UNCERTAINTY IN FINANCIAL ANALYSES

Introduction

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. It must be recognized that 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. Feasibility is measured by a set of politically and commercially acceptable strategies that result in favorable values for specific measures such as a minimum debt service coverage.

Uni-dimensional "sensitivity tests" are often insufficient in their depth of analysis because they implicitly assume that only one uncertainty variable changes at a time. More sophisticated *risk analyses* are structured to permit the examination of the simultaneous varying of all uncertainty variables. One type of risk analysis that has been demonstrated to work well in the financial analysis of transportation investments is the "Monte Carlo" simulation. In 100 or more iterations of the financial analysis model, the risk variables are randomly varied based upon their pre-determined range of possible values. In contrast to traditional forecasts of worst case, expected case, and best case scenarios, the results of the risk analysis provides a continuum, or *probability distribution* of potential project financing outcomes that reflect all possible combinations of risk variable values.

The most significant advantage of more comprehensive risk analyses over simple point values of the most likely result is the opportunity to improve the understanding and "buy-in" by decision makers of the underlying assumptions as well as the results of the analysis.

The context of the results can be phrased as follows*: "With this set of underlying assumptions, management actions result in an X percent likelihood that the financial plan will be feasible. If management actions are adjusted, the result improves to a Y percent likelihood of feasibility"*. Because the values of the uncertainty variables are randomly selected using an approximation of a normal distribution function, the results of the risk analysis are expressed in statistical terms. A convenient measure is the range of outcomes within one *standard deviation* of the mean, that is, the lower and upper values of roughly 67 percent of the outcomes closest to the most likely value. Thus, roughly 33 percent of the outcomes fall outside this range; roughly 16 percent higher and 16 percent lower. Similarly, two standard deviations capture roughly 95 percent of the outcomes; roughly 2.5 percent falling above and 2.5 percent below this range.

Applying the example above, the Monte Carlo simulation can provide the following finding: *"With this set of management actions(construction schedule, level of taxation, transit service growth), there is a 16 percent (1-in-6) probability that the minimum level of debt service coverage (e.g. 1.50) will not be achieved. If construction is delayed by x years or if the level of taxation is raised to y percent, there is a 2.5 percent (1-in-40) probability of not achieving a coverage of 1.50."*

When the analysis is conducted with close interaction between analysts and decision makers, an acceptable set of underlying assumptions regarding uncertainty variables

and management actions can be agreed upon. Risk analysis is therefore both *an analytical technique and a process for reaching agreement leading to project implementation.* The continuum of risk outcomes is structured to lead decision makers through a set of logical alternative scenarios which examine alternative implementation schedules, levels of taxation, rates of service growth, and other management actions.

Risk analysis provides the context to obtain "buy-in" from stakeholders, including decision makers and the public, by providing the opportunity for the stakeholders to identify key uncertainty variables and to establish the "shape" of the uncertainty functions. The financial analysis is repeated until consensus is reached regarding the adequacy of the financial indicators and the probability of achieving desired results. Successful completion of the risk analysis results in a financially constrained plan that meets local requirements and, particularly in the case of debt financing, meets the requirements of the capital markets.

Implications of Uncertainty in This Analysis

Prior experience in performing financial analyses for major transportation investments suggests that the major consideration with regard to uncertainty is in the context of debt service coverage. Assurance that bond holders will be paid is of utmost importance to decision makers and they look to the financial analysis to indicate that the probability of failure to pay debt service will be very low. In practice, this means that the minimum acceptable value for the service coverage ratios should be somewhat higher than the targets referenced above.

In the case of Tests 1 and 3, a most likely value higher than 2.25 generally means that there is less than a 2.5 percent or 1-in-40 probability of actual coverage being lower than the target value of 2.00. Similarly, in the case of Test 3 after operations, a most likely value higher than 1.30 means that the probability of actual coverage lower than 1.00 will be very low.

The results for the low and moderate cost at-grade scenarios suggest that the probability of favorable outcomes with regard to the debt service coverage will be relatively high.

LIMITATIONS OF THIS REPORT

Uncertainties associated with fluctuating economic conditions and other factors may result in the actual results of Bi-State's financial program varying from the projections in the financial analyses, and the variations could be material.

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.

APPENDIX A

DETAILED PROJECTIONS OF ANNUAL OPERATING COSTS AND CAPITAL REHABILITATION & REPLACEMENT COSTS

Exhibit A-1

ANNUAL OPERATING STATISTICS AND
ANNUAL OPERATING COSTS

	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
ANNUAL OPERATING STATISTICS BY MODE										
Bus										
Peak Buses	524	524	524	524	524	524	554	554	554	554
Vehicle Revenue-Miles	18.845	18.845	18.845	18.845	18.845	18.845	20.872	20.872	20.872	20.872
Vehicle Revenue-Hours	1.238	1.238	1.238	1.238	1.238	1.238	1.371	1.371	1.371	1.371
Metrolink										
Route-Miles	17	17	33	33	42	42	50	50	50	50
Stations	18	18	26	26	28	28	38	38	38	38
Peak Rail Cars	26	26	57	57	59	59	84	84	84	84
Rev Vehicle-Miles	2.584	2.584	4.434	4.434	4.554	4.554	6.995	6.995	6.995	6.995
Rev Train Hours	0.056	0.056	0.114	0.114	0.122	0.122	0.175	0.175	0.175	0.175
Paratransit										
Peak Vehicles	52	52	52	52	52	52	52	52	53	53
Vehicle Revenue-Miles	2.800	2.800	2.800	2.800	2.800	2.800	2.812	2.824	2.835	2.847
Vehicle Revenue-Hours	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.168	0.169	0.170
ANNUAL OPERATING COSTS										
Millions of Year-of-Expenditure Dollars										
Bus	$68.3	$70.2	$72.2	$74.2	$76.3	$78.6	$89.8	$92.8	$95.9	$99.2
Rail	$7.1	$7.3	$13.6	$13.9	$14.9	$15.3	$23.6	$24.3	$25.1	$25.9
Paratransit	$4.7	$4.8	$4.9	$5.1	$5.2	$5.4	$5.6	$5.8	$6.0	$6.2
Fixed (Administrative)	$48.0	$49.4	$50.7	$52.1	$53.7	$55.3	$57.0	$58.9	$60.9	$62.9
Total Operating Cost	$128.0	$131.6	$141.4	$145.3	$150.1	$154.6	$176.0	$181.8	$187.9	$194.3

Exhibit A-1

ANNUAL OPERATING STATISTICS AND
ANNUAL OPERATING COSTS

	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
ANNUAL OPERATING STATISTICS BY MODE										
Bus										
Peak Buses	554	554	554	554	554	554	554	554	554	554
Vehicle Revenue-Miles	20.872	20.872	20.872	20.872	20.872	20.872	20.872	20.872	20.872	20.872
Vehicle Revenue-Hours	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371
Metrolink										
Route-Miles	50	50	50	50	50	50	50	50	50	50
Stations	38	38	38	38	38	38	38	38	38	38
Peak Rail Cars	84	84	84	84	84	84	84	84	84	84
Rev Vehicle-Miles	6.995	6.995	6.995	6.995	6.995	6.995	6.995	6.995	6.995	6.995
Rev Train Hours	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175
Paratransit										
Peak Vehicles	53	53	54	54	54	54	54	55	55	55
Vehicle Revenue-Miles	2.859	2.871	2.883	2.894	2.906	2.918	2.930	2.941	2.953	2.965
Vehicle Revenue-Hours	0.170	0.171	0.172	0.172	0.173	0.174	0.174	0.175	0.176	0.177
ANNUAL OPERATING COSTS										
Millions of Year-of-Expenditure Dollars										
Bus	$102.7	$106.4	$110.4	$114.5	$118.9	$123.4	$128.1	$133.2	$138.4	$143.9
Rail	$26.8	$27.7	$28.7	$29.7	$30.8	$31.9	$33.1	$34.4	$35.7	$37.0
Paratransit	$6.5	$6.7	$7.0	$7.3	$7.6	$7.9	$8.3	$8.6	$9.0	$9.4
Fixed (Administrative)	$65.2	$67.5	$70.0	$72.6	$75.3	$78.2	$81.2	$84.3	$87.6	$91.1
Total Operating Cost	$201.1	$208.3	$216.1	$224.1	$232.7	$241.5	$250.7	$260.5	$270.6	$281.4

Exhibit A-1

ANNUAL OPERATING STATISTICS AND
ANNUAL OPERATING COSTS

	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
ANNUAL OPERATING STATISTICS BY MODE										
Bus										
Peak Buses	554	554	554	554	554	554	554	554	554	554
Vehicle Revenue-Miles	20.872	20.872	20.872	20.872	20.872	20.872	20.872	20.872	20.872	20.872
Vehicle Revenue-Hours	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371	1.371
Metrolink										
Route-Miles	50	50	50	50	50	50	50	50	50	50
Stations	38	38	38	38	38	38	38	38	38	38
Peak Rail Cars	84	84	84	84	84	84	84	84	84	84
Rev Vehicle-Miles	6.995	6.995	6.995	6.995	6.995	6.995	6.995	6.995	6.995	6.995
Rev Train Hours	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175
Paratransit										
Peak Vehicles	55	55	56	56	56	56	57	57	57	57
Vehicle Revenue-Miles	2.977	2.989	3.000	3.012	3.024	3.036	3.047	3.059	3.071	3.083
Vehicle Revenue-Hours	0.177	0.178	0.179	0.179	0.180	0.181	0.181	0.182	0.183	0.184
ANNUAL OPERATING COSTS										
Millions of Year-of-Expenditure Dollars										
Bus	$149.7	$155.9	$162.3	$169.1	$176.2	$183.6	$191.4	$199.4	$207.8	$216.6
Rail	$38.5	$40.0	$41.6	$43.3	$45.0	$46.9	$48.8	$50.8	$52.8	$55.0
Paratransit	$9.8	$10.3	$10.7	$11.2	$11.7	$12.3	$12.8	$13.4	$14.0	$14.7
Fixed (Administrative)	$94.7	$98.6	$102.6	$106.9	$111.4	$116.0	$120.9	$125.9	$131.2	$136.6
Total Operating Cost	$292.7	$304.8	$317.2	$330.5	$344.4	$358.8	$373.8	$389.5	$405.8	$422.8

Exhibit A-1

ANNUAL OPERATING STATISTICS AND
ANNUAL OPERATING COSTS

	TOTAL
ANNUAL OPERATING STATISTICS BY MODE	
Bus	
Peak Buses	
Vehicle Revenue-Miles	
Vehicle Revenue-Hours	
Metrolink	
Route-Miles	
Stations	
Peak Rail Cars	
Rev Vehicle-Miles	
Rev Train Hours	
Paratransit	
Peak Vehicles	
Vehicle Revenue-Miles	
Vehicle Revenue-Hours	
ANNUAL OPERATING COSTS	
Millions of Year-of-Expenditure Dollars	
Bus	$3,849.6
Rail	$949.3
Paratransit	$253.2
Fixed (Administrative)	$2,466.5
Total Operating Cost	$7,518.6

Exhibit A-2

SUMMARY OF CAPITAL COMPONENTS OF LIFE CYCLE COSTS

Category	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06
ROUTINE / CYCLICAL ASSET PRESERVATION EXCEPT BUSES								
Millions of Base Year (1999) Dollars								
Buildings	$0.00	$0.00	$0.00	$0.31	$0.04	$0.00	$0.00	$0.00
Track	$0.00	$0.00	$0.00	$3.50	$0.12	$0.00	$0.00	$0.10
Power	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Bus Rotables	$1.17	$1.48	$2.24	$1.77	$0.59	$0.29	$1.17	$1.48
Rail Cars	$0.00	$0.00	$0.00	$0.00	$0.00	$0.04	$0.00	$0.08
Other Vehicles	$3.64	$1.31	$4.60	$1.07	$0.82	$0.70	$3.78	$2.01
Fare Collection	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3.46
Computer	$0.02	$0.16	$0.10	$0.70	$0.81	$0.35	$0.11	$0.02
Communication	$0.27	$0.94	$0.03	$0.02	$0.10	$5.46	$0.95	$0.00
Office Furniture	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotal	$5.10	$3.90	$6.97	$7.37	$2.48	$6.84	$6.01	$7.16
NEAR-TERM / ONE-TIME-ONLY INVESTMENTS								
Millions of Base Year (1999) Dollars								
MetroLink Feasibility Studies	$1.00	$1.26	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other Projects	$50.87	$23.88	$22.34	$21.51	$19.64	$0.00	$0.00	$0.00
Other Prop M Projects	$5.87	$1.98	$2.83	$2.75	$2.67	$0.00	$0.00	$0.00
Subtotal	$57.74	$27.13	$25.17	$24.25	$22.30	$0.00	$0.00	$0.00
BUS PURCHASES								
Number of Buses	69	72	67	60	70	65	40	35
OVERALL CAPITAL IMPROVEMENT PROGRAM EXCLUDING NEW RAIL PROJECTS								
Millions of Year-of-Expenditure Dollars								
Preservation of Existing Assets (Except Buses)	$5.10	$3.90	$6.97	$7.37	$2.48	$6.84	$6.01	$7.27
Bus Replacement & Expansion	$20.78	$22.33	$21.25	$19.45	$23.37	$22.46	$14.38	$12.76
Preservation of Future Rail Lines								
Construction/Acquisition								$0.00
Vehicles								$0.00
Other Equipment								$0.00
Total - YOE $	$25.88	$26.22	$28.22	$26.82	$25.85	$29.30	$20.38	$20.03

Exhibit A-2

SUMMARY OF CAPITAL COMPON
OF LIFE CYCLE COSTS

Category	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
ROUTINE / CYCLICAL ASSET PRESERVA									
EXCEPT BUSES									
Millions of Base Year (1999) Dollars									
Buildings	$0.02	$0.00	$0.04	$1.17	$0.01	$6.28	$2.44	$0.01	$2.65
Track	$0.00	$0.00	$0.00	$0.00	$0.00	$3.50	$0.12	$0.00	$0.00
Power	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Bus Rotables	$2.24	$1.77	$0.59	$0.29	$1.17	$1.48	$2.24	$1.77	$0.59
Rail Cars	$0.06	$0.08	$0.05	$0.08	$1.18	$18.40	$0.94	$0.20	$0.89
Other Vehicles	$4.51	$2.06	$3.54	$0.97	$2.27	$1.37	$3.24	$0.73	$3.69
Fare Collection	$0.02	$0.02	$0.01	$0.03	$0.00	$3.68	$0.10	$0.17	$0.00
Computer	$0.16	$0.10	$0.70	$0.81	$0.35	$0.11	$0.02	$0.16	$0.10
Communication	$0.13	$0.56	$0.11	$0.63	$0.27	$0.94	$0.03	$0.02	$0.10
Office Furniture	$0.01	$0.01	$0.02	$1.45	$0.00	$0.01	$0.03	$0.08	$0.09
Subtotal	$7.15	$4.60	$5.04	$5.44	$5.25	$35.78	$9.16	$3.16	$8.12
NEAR-TERM / ONE-TIME-ONLY INVESTM									
Millions of Base Year (1999) Dollars									
MetroLink Feasibility Studies	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other Projects	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other Prop M Projects	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotal	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BUS PURCHASES									
Number of Buses	40	52	45	49	69	72	67	60	70
OVERALL CAPITAL IMPROVEMENT PRO									
EXCLUDING NEW RAIL PROJECTS									
Millions of Year-of-Expenditure Dollars									
Preservation of Existing Assets (Except Bus	$7.02	$19.48	$21.62	$21.84	$23.42	$25.30	$11.24	$9.91	$12.16
Bus Replacement & Expansion	$15.35	$20.60	$18.31	$20.79	$30.32	$32.84	$31.56	$29.17	$35.36
Preservation of Future Rail Lines									
Construction/Acquisition	$1.89	$3.35	$4.56	$6.29	$8.94	$10.42	$10.42	$10.42	$10.42
Vehicles	$0.07	$0.42	$1.28	$1.83	$2.16	$2.45	$2.45	$2.45	$2.45
Other Equipment	$0.00	$0.00	$0.00	$0.47	$1.34	$1.94	$1.94	$1.94	$1.94
Total - YOE $	$24.33	$43.85	$45.78	$51.22	$66.18	$72.95	$57.61	$53.88	$62.32

Exhibit A-2

SUMMARY OF CAPITAL COMPON
OF LIFE CYCLE COSTS

Category	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
ROUTINE / CYCLICAL ASSET PRESERVA									
EXCEPT BUSES									
Millions of Base Year (1999) Dollars									
Buildings	$0.03	$0.01	$0.09	$0.17	$0.01	$0.01	$1.65	$0.04	$0.01
Track	$0.10	$0.00	$0.00	$0.00	$0.00	$0.00	$35.01	$1.18	$0.00
Power	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$28.63	$1.34	$0.00
Bus Rotables	$0.29	$1.17	$1.48	$2.24	$1.77	$0.59	$0.29	$1.17	$1.48
Rail Cars	$0.29	$0.11	$0.18	$0.11	$0.15	$0.03	$1.75	$0.05	$0.00
Other Vehicles	$1.67	$2.18	$2.36	$5.96	$1.00	$2.18	$1.04	$0.91	$1.04
Fare Collection	$0.00	$0.51	$0.00	$0.00	$0.00	$3.46	$0.02	$0.02	$0.01
Computer	$0.70	$0.81	$0.35	$0.11	$0.02	$0.16	$0.10	$0.70	$0.81
Communication	$5.46	$0.95	$0.00	$0.13	$0.56	$0.11	$0.63	$0.27	$0.94
Office Furniture	$0.06	$0.05	$0.24	$0.02	$0.02	$0.05	$0.00	$0.00	$0.03
Subtotal	$8.60	$5.80	$4.71	$8.73	$3.53	$6.59	$69.13	$5.69	$4.33
NEAR-TERM / ONE-TIME-ONLY INVESTM									
Millions of Base Year (1999) Dollars									
MetroLink Feasibility Studies	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other Projects	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Other Prop M Projects	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Subtotal	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
BUS PURCHASES									
Number of Buses	65	40	35	40	52	45	49	69	72
OVERALL CAPITAL IMPROVEMENT PRO									
EXCLUDING NEW RAIL PROJECTS									
Millions of Year-of-Expenditure Dollars									
Preservation of Existing Assets (Except Bus	$11.00	$10.69	$35.01	$36.73	$36.34	$40.04	$40.89	$12.35	$13.81
Bus Replacement & Expansion	$34.27	$22.09	$19.74	$23.89	$32.26	$28.84	$32.94	$48.24	$52.48
Preservation of Future Rail Lines									
Construction/Acquisition	$10.42	$10.42	$10.42	$10.42	$10.42	$10.42	$10.42	$10.42	$10.42
Vehicles	$2.45	$2.45	$2.45	$2.45	$2.45	$2.45	$2.45	$2.45	$2.45
Other Equipment	$1.94	$1.94	$1.94	$1.94	$1.94	$1.94	$1.94	$1.94	$1.94
Total - YOE $	$60.08	$47.58	$69.56	$75.42	$83.41	$83.68	$88.63	$75.40	$81.10

Exhibit A-2

SUMMARY OF CAPITAL COMPON
OF LIFE CYCLE COSTS

Category	FY25	FY26	FY27	FY28	TOTAL
ROUTINE / CYCLICAL ASSET PRESERVA					
EXCEPT BUSES					
Millions of Base Year (1999) Dollars					
Buildings	$0.19	$0.33	$0.03	$0.00	$15.55
Track	$0.00	$1.01	$0.00	$0.00	$44.65
Power	$0.00	$0.00	$0.00	$0.00	$29.97
Bus Rotables	$2.24	$1.77	$0.59	$0.29	$37.69
Rail Cars	$0.09	$0.51	$0.02	$0.00	$25.30
Other Vehicles	$6.11	$1.70	$2.09	$2.03	$70.58
Fare Collection	$0.03	$0.00	$0.00	$0.00	$11.56
Computer	$0.35	$0.11	$0.02	$0.16	$9.18
Communication	$0.03	$0.02	$0.10	$5.46	$25.24
Office Furniture	$0.02	$0.00	$0.00	$0.00	$2.20
Subtotal	$9.05	$5.46	$2.85	$7.93	$271.92
NEAR-TERM / ONE-TIME-ONLY INVESTM					
Millions of Base Year (1999) Dollars					
MetroLink Feasibility Studies	$0.00	$0.00	$0.00	$0.00	$2.26
Other Projects	$0.00	$0.00	$0.00	$0.00	$138.23
Other Prop M Projects	$0.00	$0.00	$0.00	$0.00	$16.09
Subtotal	$0.00	$0.00	$0.00	$0.00	$156.59
BUS PURCHASES					
Number of Buses	87	80	90	74	1,801
OVERALL CAPITAL IMPROVEMENT PRO					$0.00
EXCLUDING NEW RAIL PROJECTS					
Millions of Year-of-Expenditure Dollars					
Preservation of Existing Assets (Except Bus	$15.24	$13.48	$13.87	$21.11	$498.48
Bus Replacement & Expansion	$65.76	$62.73	$73.41	$63.23	$950.96
Preservation of Future Rail Lines					
Construction/Acquisition	$10.42	$10.42	$10.42	$10.42	$202.14
Vehicles	$2.45	$2.45	$2.45	$2.45	$47.32
Other Equipment	$1.94	$1.94	$1.94	$1.94	$34.83
Total - YOE $	$95.80	$91.01	$102.09	$99.14	$1,733.72

APPENDIX B

SUMMARY OF SOURCES AND USES OF FUNDS ANALYSIS

1356	**CAPITAL SOURCES AND USES OF FUNDS**	**Baseline Scenario**									20-Aug-99
1357	**FINANCIAL SUMMARY**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1358		**Millions of Year-of-Expenditure (Inflated) Dollars**									
1359		**FY99**	**FY00**	**FY01**	**FY02**	**FY03**	**FY04**	**FY05**	**FY06**	**FY07**	**FY08**
1360	**CAPITAL SOURCES OF CASH**										
1361	*Dedicated Revenues Applied to Capital*	$36.3	$37.2	$38.1	$39.0	$40.0	$41.0	$42.1	$43.3	$44.6	$45.9
1362	*Grants*										
1363	Sec 5307 Balance	$0.0	$20.7	$22.3	$21.2	$20.4	$22.0	$0.0	$0.0	$0.0	$0.0
1364	Sec 5309 New Starts	$24.6	$23.7	$16.9	$1.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1365	Sec 5309 Bus Related	$15.0	$15.4	$15.9	$15.6	$16.8	$17.3	$11.5	$10.2	$12.3	$16.5
1366	Sec 5309 Rail Modernization	$1.2	$1.2	$1.2	$4.1	$5.2	$5.6	$0.0	$0.0	$1.6	$3.0
1367	St. Clair County	$12.4	$21.2	$16.9	$1.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1368	*Debt Service Sinking Fund Transfer*	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1369	*From Financing Program*										
1370	1/Construction Tax Exempt Commercial Pape	$0.0	$0.0	$2.1	$17.5	$28.3	$24.3	$0.0	$0.0	$0.0	$0.0
1371	2/Construction Bond with Capitalized Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1372	3/Conventional Bond	$0.0	$0.0	$9.1	$74.5	$122.7	$122.5	$31.3	$26.8	$0.0	$0.0
1373	4/Rail Car TECP (Vendor Progress Payments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1374	5/Rail Car Cross-Border Lease	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1375	5/X-Border Lease Discount Proceeds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1376	6/Bus Certificates of Participation	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1377	Lease/Leaseback Proceeds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1378	**Total Capital Sources**	$89.5	$119.4	$122.4	$174.1	$233.4	$232.7	$84.9	$80.3	$58.4	$65.4
1379	**CAPITAL USES OF CASH**										
1380	*For Capital Program*										
1381	Right-of-Way	$0.0	$0.0	$4.7	$3.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1382	Construction/Acquisition	$94.7	$72.8	$60.4	$86.5	$132.4	$74.0	$0.0	$0.0	$0.0	$0.0
1383	Rail Cars	$2.7	$14.0	$34.6	$21.7	$13.2	$11.5	$0.0	$0.0	$0.0	$0.0
1384	Other Equipment	$0.0	$0.0	$0.0	$18.8	$34.9	$24.0	$0.0	$0.0	$0.0	$0.0
1385	Engineering	$0.0	$8.5	$6.2	$5.1	$2.6	$2.7	$0.0	$0.0	$0.0	$0.0
1386	Buses	$20.8	$22.3	$21.3	$19.5	$23.4	$22.5	$14.4	$12.8	$15.3	$20.6
1387	Other CIP	$5.1	$3.9	$7.0	$7.4	$2.5	$14.2	$13.2	$7.3	$9.0	$23.2
1388	*For Financing*										
1389	Refinanced Future Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1390	Refinanced Outstanding Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1391	Principal	$0.3	$0.4	$0.5	$1.7	$3.2	$5.1	$5.9	$6.5	$6.9	$7.2
1392	Interest	$0.1	$0.1	$0.6	$4.9	$11.8	$18.2	$18.5	$18.8	$18.5	$18.1
1393	Refinanced Principal from Constr/Rail Car TEC	$0.0	$0.0	$0.0	$0.0	$2.1	$17.5	$28.3	$24.3	$0.0	$0.0
1394	Reissuance of Cumulative TECP	$0.0	$0.0	$0.0	$0.0	$0.0	$0.1	$0.2	$0.1	$0.1	($0.0)
1395	Capitalized Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1396	Surety	$0.0	$0.0	$0.2	$1.5	$2.5	$2.5	$0.6	$0.5	$0.0	$0.0
1397	Debt Issuance	$0.0	$0.0	$0.1	$0.6	$1.0	$1.0	$0.3	$0.2	$0.0	$0.0
1398	Debt Service Reserve Fund	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1399	**Total Capital Uses**	$123.8	$122.0	$135.5	$170.9	$229.7	$193.3	$81.3	$70.5	$49.7	$69.2
1400	***NET CAPITAL CASH FLOW***	($34.3)	($2.6)	($13.1)	$3.2	$3.6	$39.4	$3.6	$9.8	$8.7	($3.8)
1401											
1402	**OPERATING SOURCES AND USES OF FUNDS**	**Baseline Scenario**									20-Aug-99
1403	**FINANCIAL SUMMARY**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1404		Millions of Year-of-Expenditure (Inflated) Dollars									
1405		FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
1406	**OPERATING SOURCES OF CASH**										
1407	*Dedicated Tax Applied to Operations*	$64.9	$66.4	$67.9	$69.4	$71.0	$72.8	$74.6	$76.6	$78.7	$80.8
1408	*Passenger Revenue*	$28.0	$28.5	$31.8	$34.2	$37.0	$38.6	$43.7	$49.6	$51.9	$53.7
1409	*Other Transit Related*	$16.7	$27.7	$23.8	$24.3	$27.0	$27.9	$28.9	$29.8	$31.0	$32.1
1410	*Federal Funds*										
1411	Congestion Mgmt/Air Quality (CMAQ)	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0
1412	Preventative Maintenance	$19.2	$0.2	$2.0	$4.8	$7.6	$7.7	$32.6	$32.5	$32.6	$32.6
1413	*Int on Capital Reserve*	$4.1	$2.0	$1.9	$1.1	$1.3	$1.5	$3.6	$3.8	$4.2	$4.6
1414	*Shortfall*	$0.0	$0.0	$12.6	$14.1	$12.4	$12.7	$1.0	$0.0	$0.0	$0.0
1415	**Total Operating Sources**	$135.9	$127.7	$143.0	$151.0	$159.3	$164.1	$187.3	$195.4	$201.4	$206.9
1416	**OPERATING USES OF CASH**										
1417	MetroLink Operations	$14.9	$15.3	$27.4	$28.1	$32.9	$33.8	$46.2	$47.7	$49.3	$50.9
1418	Bus Operations	$68.3	$70.2	$72.2	$74.2	$76.3	$78.6	$87.8	$90.7	$93.8	$97.0
1419	Paratransit Operations	$4.7	$4.8	$4.9	$5.1	$5.2	$5.4	$5.6	$5.8	$6.0	$6.2
1420	Fixed Operating Cost	$40.1	$41.3	$42.4	$43.6	$44.9	$46.2	$47.7	$49.3	$50.9	$52.7
1421	**Total Operating Uses**	$128.0	$131.6	$146.9	$151.0	$159.3	$164.1	$187.3	$193.5	$200.0	$206.8
1422	***NET OPERATING CASH FLOW***	$7.9	($3.9)	($3.9)	$0.0	$0.0	($0.0)	$0.0	$1.9	$1.5	$0.1
1423											
1424		**Baseline Scenario**									20-Aug-99
1425	**CASH BALANCES**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1426		Millions of Year-of-Expenditure (Inflated) Dollars									
1427		FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08
1428	***CAPITAL BALANCE***										
1429	Beginning Cash Balance	$70.9	$36.5	$33.9	$20.8	$24.0	$27.6	$67.0	$70.6	$80.4	$89.1
1430	Additions (Deletions) to Cash	($34.3)	($2.6)	($13.1)	$3.2	$3.6	$39.4	$3.6	$9.8	$8.7	($3.8)
1431	Ending Cash Balance	$36.5	$33.9	$20.8	$24.0	$27.6	$67.0	$70.6	$80.4	$89.1	$85.4
1432	***OPERATING CARRYOVER BALANCE***										
1433	Beginning Cash Balance	$0.0	$7.9	$3.9	($0.0)	($0.0)	$0.0	($0.0)	($0.0)	$1.9	$3.4
1434	Additions (Deletions) to Cash	$7.9	($3.9)	($3.9)	$0.0	$0.0	($0.0)	$0.0	$1.9	$1.5	$0.1
1435	Ending Cash Balance	$7.9	$3.9	($0.0)	($0.0)	$0.0	($0.0)	($0.0)	$1.9	$3.4	$3.5
1436											
1437	D:\STLOUIS\MODEL\BSDA105.WK4	The assumptions and sources of information in Screens 1-43 and Schedule T are an integral part of this projection.									
1438											

1356	**CAPITAL SOURCES AND USES OF FUNDS**	**Baseline Scenario**									20-Aug-99
1357	**FINANCIAL SUMMARY**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1358		**Millions of Year-of-Expenditure (Inflated) Dollars**									
1359		**FY09**	**FY10**	**FY11**	**FY12**	**FY13**	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**
1360	**CAPITAL SOURCES OF CASH**										
1361	*Dedicated Revenues Applied to Capital*	$47.3	$48.8	$44.3	$45.7	$47.2	$48.8	$50.4	$52.2	$54.0	$55.9
1362	*Grants*										
1363	Sec 5307 Balance	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1364	Sec 5309 New Starts	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1365	Sec 5309 Bus Related	$14.6	$16.6	$21.9	$22.7	$23.6	$23.3	$25.4	$26.4	$17.7	$15.8
1366	Sec 5309 Rail Modernization	$4.7	$6.9	$10.0	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8
1367	St. Clair County	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1368	*Debt Service Sinking Fund Transfer*	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1369	*From Financing Program*										
1370	1/Construction Tax Exempt Commercial Pape	$0.0	$0.0	$4.5	$19.9	$0.0	$0.0	$5.2	$1.1	$0.0	$19.2
1371	2/Construction Bond with Capitalized Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1372	3/Conventional Bond	$0.0	$0.0	$0.6	$2.5	$5.3	$23.6	$0.7	$0.1	$6.2	$3.8
1373	4/Rail Car TECP (Vendor Progress Payments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1374	5/Rail Car Cross-Border Lease	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1375	5/X-Border Lease Discount Proceeds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1376	6/Bus Certificates of Participation	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1377	Lease/Leaseback Proceeds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1378	**Total Capital Sources**	$66.6	$72.3	$81.2	$102.7	$87.9	$107.6	$93.5	$91.7	$89.7	$106.5
1379	**CAPITAL USES OF CASH**										
1380	*For Capital Program*										
1381	Right-of-Way	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1382	Construction/Acquisition	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1383	Rail Cars	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1384	Other Equipment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1385	Engineering	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1386	Buses	$18.3	$20.8	$30.3	$32.8	$31.6	$29.2	$35.4	$34.3	$22.1	$19.7
1387	Other CIP	$27.5	$30.4	$35.9	$40.1	$26.0	$24.7	$27.0	$25.8	$25.5	$49.8
1388	*For Financing*										
1389	Refinanced Future Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1390	Refinanced Outstanding Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1391	Principal	$7.6	$8.0	$8.4	$9.1	$9.9	$12.3	$13.0	$13.7	$14.8	$15.9
1392	Interest	$17.7	$17.4	$17.1	$17.4	$17.1	$17.1	$16.7	$16.1	$15.6	$15.5
1393	Refinanced Principal from Constr/Rail Car TEC	$0.0	$0.0	$0.0	$0.0	$4.5	$19.9	$0.0	$0.0	$5.2	$1.1
1394	Reissuance of Cumulative TECP	($0.0)	($0.0)	($0.0)	$0.0	$0.1	$0.1	$0.0	$0.0	$0.0	$0.0
1395	Capitalized Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1396	Surety	$0.0	$0.0	$0.0	$0.1	$0.1	$0.5	$0.0	$0.0	$0.1	$0.1
1397	Debt Issuance	$0.0	$0.0	$0.0	$0.1	$0.0	$0.2	$0.0	$0.0	$0.0	$0.1
1398	Debt Service Reserve Fund	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1399	**Total Capital Uses**	$71.1	$76.6	$91.7	$99.5	$89.3	$103.9	$92.1	$89.8	$83.4	$102.3
1400	***NET CAPITAL CASH FLOW***	($4.5)	($4.2)	($10.6)	$3.2	($1.3)	$3.6	$1.4	$1.8	$6.3	$4.3
1401											
1402	**OPERATING SOURCES AND USES OF FUNDS**	**Baseline Scenario**									20-Aug-99
1403	**FINANCIAL SUMMARY**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1404		Millions of Year-of-Expenditure (Inflated) Dollars									
1405		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
1406	**OPERATING SOURCES OF CASH**										
1407	*Dedicated Tax Applied to Operations*	$83.1	$85.6	$94.2	$97.1	$100.1	$103.3	$106.5	$110.0	$113.5	$117.3
1408	*Passenger Revenue*	$54.5	$61.3	$62.3	$63.4	$64.4	$73.0	$74.3	$75.6	$76.8	$87.6
1409	*Other Transit Related*	$33.3	$34.2	$35.5	$36.8	$38.2	$39.5	$41.0	$42.6	$44.3	$45.9
1410	*Federal Funds*										
1411	Congestion Mgmt/Air Quality (CMAQ)	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0
1412	Preventative Maintenance	$32.6	$32.4	$32.5	$32.4	$32.3	$32.1	$32.2	$32.1	$32.1	$32.0
1413	*Int on Capital Reserve*	$4.4	$4.1	$3.8	$3.3	$3.4	$3.3	$3.5	$3.6	$3.6	$3.9
1414	*Shortfall*	$0.0	$0.8	$0.0	$1.2	$6.2	$2.7	$6.3	$10.4	$14.6	$9.8
1415	**Total Operating Sources**	$210.9	$221.4	$231.3	$237.2	$247.6	$256.9	$266.7	$277.2	$288.0	$299.5
1416	**OPERATING USES OF CASH**										
1417	MetroLink Operations	$52.6	$54.5	$56.5	$58.5	$60.7	$63.0	$65.3	$67.8	$70.4	$73.2
1418	Bus Operations	$100.4	$104.0	$107.9	$112.0	$116.3	$120.6	$125.2	$130.2	$135.3	$140.7
1419	Paratransit Operations	$6.5	$6.7	$7.0	$7.3	$7.6	$7.9	$8.3	$8.6	$9.0	$9.4
1420	Fixed Operating Cost	$54.5	$56.5	$58.6	$60.7	$63.0	$65.4	$67.9	$70.5	$73.3	$76.2
1421	**Total Operating Uses**	$214.0	$221.7	$230.0	$238.5	$247.6	$256.9	$266.7	$277.2	$288.0	$299.5
1422	***NET OPERATING CASH FLOW***	($3.2)	($0.3)	$1.3	($1.3)	$0.0	$0.0	$0.0	($0.0)	($0.0)	$0.0
1423											
1424		**Baseline Scenario**									20-Aug-99
1425	**CASH BALANCES**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1426		Millions of Year-of-Expenditure (Inflated) Dollars									
1427		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
1428	***CAPITAL BALANCE***										
1429	Beginning Cash Balance	$85.4	$80.9	$76.7	$66.1	$69.2	$67.9	$71.5	$73.0	$74.8	$81.1
1430	Additions (Deletions) to Cash	($4.5)	($4.2)	($10.6)	$3.2	($1.3)	$3.6	$1.4	$1.8	$6.3	$4.3
1431	Ending Cash Balance	$80.9	$76.7	$66.1	$69.2	$67.9	$71.5	$73.0	$74.8	$81.1	$85.3
1432	***OPERATING CARRYOVER BALANCE***										
1433	Beginning Cash Balance	$3.5	$0.3	$0.0	$1.3	($0.0)	($0.0)	$0.0	$0.0	($0.0)	($0.0)
1434	Additions (Deletions) to Cash	($3.2)	($0.3)	$1.3	($1.3)	$0.0	$0.0	$0.0	($0.0)	($0.0)	$0.0
1435	Ending Cash Balance	$0.3	$0.0	$1.3	($0.0)	($0.0)	$0.0	$0.0	($0.0)	($0.0)	($0.0)
1436											
1437	D:\STLOUIS\MODEL\BSDA105.WK4	The assumptions and sources of information in Screens 1-43 and Schedule T are an integral part of this projection.									
1438											

1356	**CAPITAL SOURCES AND USES OF FUNDS**	**Baseline Scenario**									20-Aug-99
1357	**FINANCIAL SUMMARY**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1358		**Millions of Year-of-Expenditure (Inflated) Dollars**									
1359		**FY19**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**	**FY27**	**FY28**
1360	**CAPITAL SOURCES OF CASH**										
1361	*Dedicated Revenues Applied to Capital*	$57.9	$60.0	$62.2	$64.5	$66.9	$69.5	$72.1	$74.8	$77.7	$80.6
1362	*Grants*										
1363	Sec 5307 Balance	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1364	Sec 5309 New Starts	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1365	Sec 5309 Bus Related	$19.1	$25.8	$23.1	$26.3	$34.8	$36.3	$37.8	$39.4	$41.0	$42.7
1366	Sec 5309 Rail Modernization	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8	$11.8
1367	St. Clair County	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1368	*Debt Service Sinking Fund Transfer*	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1369	*From Financing Program*										
1370	1/Construction Tax Exempt Commercial Pape	$20.1	$19.7	$24.0	$26.5	$1.5	$9.3	$25.5	$13.7	$24.2	$18.0
1371	2/Construction Bond with Capitalized Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1372	3/Conventional Bond	$2.6	$25.4	$27.1	$26.8	$28.8	$32.7	$5.1	$12.8	$33.5	$18.6
1373	4/Rail Car TECP (Vendor Progress Payments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1374	5/Rail Car Cross-Border Lease	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1375	5/X-Border Lease Discount Proceeds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1376	6/Bus Certificates of Participation	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1377	Lease/Leaseback Proceeds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1378	**Total Capital Sources**	$111.6	$142.7	$148.2	$156.0	$143.9	$159.6	$152.3	$152.5	$188.2	$171.8
1379	**CAPITAL USES OF CASH**										
1380	*For Capital Program*										
1381	Right-of-Way	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1382	Construction/Acquisition	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1383	Rail Cars	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1384	Other Equipment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1385	Engineering	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1386	Buses	$23.9	$32.3	$28.8	$32.9	$48.2	$52.5	$65.8	$62.7	$73.4	$63.2
1387	Other CIP	$51.5	$51.1	$54.8	$55.7	$27.2	$28.6	$30.0	$28.3	$28.7	$35.9
1388	*For Financing*										
1389	Refinanced Future Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1390	Refinanced Outstanding Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1391	Principal	$16.9	$19.7	$22.7	$25.7	$28.5	$29.5	$31.4	$34.0	$37.5	$40.5
1392	Interest	$15.5	$16.0	$16.6	$17.1	$16.8	$16.6	$16.0	$15.2	$15.3	$14.4
1393	Refinanced Principal from Constr/Rail Car TEC	$0.0	$19.2	$20.1	$19.7	$24.0	$26.5	$1.5	$9.3	$25.5	$13.7
1394	Reissuance of Cumulative TECP	$0.0	$0.1	$0.1	$0.1	$0.2	$0.1	$0.1	$0.1	$0.1	$0.1
1395	Capitalized Interest	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1396	Surety	$0.1	$0.5	$0.5	$0.5	$0.6	$0.7	$0.1	$0.3	$0.7	$0.4
1397	Debt Issuance	$0.1	$0.2	$0.3	$0.3	$0.2	$0.3	$0.1	$0.1	$0.3	$0.2
1398	Debt Service Reserve Fund	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1399	**Total Capital Uses**	$107.9	$139.2	$144.1	$152.1	$145.7	$154.7	$145.0	$150.0	$181.5	$168.4
1400	***NET CAPITAL CASH FLOW***	$3.6	$3.5	$4.1	$4.0	($1.7)	$4.9	$7.3	$2.6	$6.7	$3.4
1401											
1402	**OPERATING SOURCES AND USES OF FUNDS**	**Baseline Scenario**									20-Aug-99
1403	**FINANCIAL SUMMARY**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1404		Millions of Year-of-Expenditure (Inflated) Dollars									
1405		FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
1406	**OPERATING SOURCES OF CASH**										
1407	*Dedicated Tax Applied to Operations*	$121.3	$125.5	$129.8	$134.4	$139.2	$144.2	$149.4	$154.8	$160.4	$166.2
1408	*Passenger Revenue*	$89.1	$90.7	$92.2	$105.8	$107.8	$109.7	$111.6	$128.3	$130.7	$133.0
1409	*Other Transit Related*	$47.8	$49.7	$51.8	$53.8	$56.1	$58.4	$60.9	$63.3	$66.0	$68.8
1410	*Federal Funds*										
1411	Congestion Mgmt/Air Quality (CMAQ)	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0	$3.0
1412	Preventative Maintenance	$32.0	$32.0	$31.9	$31.8	$31.7	$31.7	$31.7	$31.6	$31.6	$31.6
1413	*Int on Capital Reserve*	$4.1	$4.3	$4.5	$4.8	$5.0	$4.9	$5.1	$5.5	$5.6	$5.9
1414	*Shortfall*	$14.2	$19.1	$24.3	$18.1	$23.7	$29.9	$36.1	$28.0	$34.6	$41.4
1415	**Total Operating Sources**	$311.5	$324.3	$337.6	$351.7	$366.4	$381.8	$397.8	$414.4	$431.8	$449.9
1416	**OPERATING USES OF CASH**										
1417	MetroLink Operations	$76.1	$79.1	$82.3	$85.7	$89.2	$92.9	$96.7	$100.7	$104.9	$109.2
1418	Bus Operations	$146.3	$152.4	$158.6	$165.3	$172.3	$179.5	$187.1	$195.0	$203.2	$211.7
1419	Paratransit Operations	$9.8	$10.3	$10.7	$11.2	$11.7	$12.3	$12.8	$13.4	$14.0	$14.7
1420	Fixed Operating Cost	$79.2	$82.5	$85.9	$89.4	$93.2	$97.1	$101.1	$105.3	$109.7	$114.3
1421	**Total Operating Uses**	$311.5	$324.3	$337.6	$351.7	$366.4	$381.8	$397.8	$414.4	$431.8	$449.9
1422	***NET OPERATING CASH FLOW***	$0.0	($0.0)	$0.0	($0.0)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1423											
1424		**Baseline Scenario**									20-Aug-99
1425	**CASH BALANCES**	*Terminal @ Lansdowne (Galleria Elevated w/Laclede Station Rd)*									01:35 PM
1426		Millions of Year-of-Expenditure (Inflated) Dollars									
1427		FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
1428	***CAPITAL BALANCE***										
1429	Beginning Cash Balance	$85.3	$89.0	$92.5	$96.6	$100.5	$98.8	$103.7	$111.0	$113.6	$120.3
1430	Additions (Deletions) to Cash	$3.6	$3.5	$4.1	$4.0	($1.7)	$4.9	$7.3	$2.6	$6.7	$3.4
1431	Ending Cash Balance	$89.0	$92.5	$96.6	$100.5	$98.8	$103.7	$111.0	$113.6	$120.3	$123.6
1432	***OPERATING CARRYOVER BALANCE***										
1433	Beginning Cash Balance	($0.0)	$0.0	($0.0)	$0.0	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)
1434	Additions (Deletions) to Cash	$0.0	($0.0)	$0.0	($0.0)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
1435	Ending Cash Balance	$0.0	($0.0)	$0.0	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)
1436											
1437	D:\STLOUIS\MODEL\BSDA105.WK4	The assumptions and sources of information in Screens 1-43 and Schedule T are an integral part of this projection.									
1438											