

11.0 Financial Assessment

11.1 Introduction

The cost of the proposed LPA, while far below the cost of some of the alternatives analyzed in this study, remains a large increase in the scale of the transit service currently operating in the Nashville region. Chapter 11 describes strategies for funding the development and operation of the proposed LPA, identifying possible scenarios and guidance to creating the combination of local, state, and Federal funding that could support the implementation of the various projects that comprise the LPA.

11.2 Project and Partner Descriptions

11.2.1 Description of the Project Sponsor and Funding Partners

The Nashville Area Metropolitan Planning Organization (MPO) has managed the Southeast corridor study as part of the metropolitan transportation planning process for the urbanized area. The urbanized area boundaries encompass Davidson, Rutherford, Sumner, Williamson, Wilson, and parts of Maury and Robertson counties. Transit improvements in the Southeast corridor project will primarily serve Nashville-Davidson and Rutherford Counties.

While the Nashville Area MPO is managing this study, it has not been determined what agency would own the proposed facilities and operate the services. The improvements may be operated by one of the cities or counties, by a new entity or by one or several of the following agencies. The three existing transit operating entities are:

- The *Nashville Metropolitan Transit Authority* (MTA), a division of Nashville-Davidson County Metro government, which currently runs the local bus system in Nashville-Davidson County. MTA operates more than 30 routes in Davidson County, as well as van paratransit service. In 2004, the MTA had an operating budget of \$29.6 million and a capital budget of more than \$10 million.
- The *Regional Transportation Authority* (RTA), founded in 1988, serves the nine county area surrounding Nashville. It currently operates carpool, vanpool, park-and-ride, and guaranteed ride home services. RTA operates “relax-and-ride” regional commuter bus service in the Southeast Corridor (Route 96) and in the northeast corridor between Hendersonville and downtown Nashville. RTA also is responsible for the Music City Star commuter rail service which opened in 2006 and runs between Nashville and Lebanon.
- The City of Murfreesboro is in the process of developing a city funded and operated system of bus routes oriented to the city’s downtown area and extending into residential and commercial areas throughout the city.

Other potential funders and (less likely) operators include:

- The *Tennessee Department of Transportation* (TDOT) may also be considered a funding partner. As Tennessee’s principal transportation agency, TDOT is committed to developing all aspects of the state’s transportation system, including both roadway and transit improvements. Since the proposed Southeast corridor transit improvements would use state owned roads and interstates, the TDOT also will have an interest in the project and may be able to incorporate transit elements into some highway improvement projects.

- The *individual cities and counties* served by the project may also be considered funding or operating partners, as well. Metro Nashville-Davidson County, Rutherford County, and the cities of LaVergne, Smyrna, and Murfreesboro are all represented on the project Steering Committee and may be in a position to fund some of the proposed facilities and services.

As discussed below, the proposed LPA is a collection of coordinated but discrete services and facilities proposed for tiered implementation over a 25 year period. Given the decentralized nature of the proposed improvements, it is likely, or nearly assured, that the implementation of the proposed services will be divided across multiple operators. Capital and operating funding most likely will be split among multiple jurisdictions and will vary by service, facility, and time period. Services could begin implementation under multiple jurisdictions to be regrouped later under a single jurisdiction, or vice versa.

11.2.2 Description of the Project

The Nashville Area MPO identified a need to improve transportation in one of the region's highest population and employment growth corridors, the southeast corridor between Nashville and Murfreesboro, Tennessee. This corridor suffers from heavy traffic congestion, lacks mobility options and has other pressing transportation needs. In order to determine the most cost-effective and acceptable transit improvement, the MPO and other local and regional entities conducted the Southeast Corridor High-Performance Transit Alternatives Study to evaluate a range of transit alternatives to address the corridor's transportation needs. The study identified a range of transit options, including expansions of bus service, bus rapid transit (BRT) and BRT "light" , (BRT operations without dedicated guideway), light rail and commuter rail on three alignments I-24 (which has an existing HOV lane in much of its alignment in the corridor), the CSX rail corridor, and US 41 or Murfreesboro Road. This process undertaken by the study is documented in Chapters 4, 5 and 10.

The process result is a locally preferred alternative (LPA) that includes phased implementation of expanded express and local bus service and of short sections of busway guideway and other transit-supportive infrastructure improvements intended to allow buses to bypass congested traffic conditions and to meet the other goals and objectives of the project. This type of improvement option is referred to in transit planning literature as an "Enhanced Bus" or "Transportation System Management" ("TSM") alternative. The LPA is expected to build transit ridership and help to shape future development while generating transportation and environmental benefits. As service is implemented, ridership gains in this and other corridors become well documented, and land use changes begin to take effect, the corridor may be re-examined to consider additional improvements.

The proposed LPA includes 3 phases of implementation over a 25-year time frame. Detailed descriptions of the phases are included in Chapter 10; additional financial information relating to the phases is included in Appendix 11A. A brief description of each phase appears below:

Phase 1: Short-Term Improvements (0-5 years) – Short-term improvements focus on providing a greater variety and frequency of service within the corridor. Improvements

include adding new express service in several areas, purchasing distinctive vehicles to enhance corridor bus services, and completing The Music City Central downtown transfer center at Charlotte Street. The cost of this transit center was programmed prior to the completion of the project and is not included in the cost estimates or financial plan.

Phase 2: Medium-Term Improvements (5-10 years) – Medium-term improvements consist of both expanding express bus service options, adding local bus service and beginning the development of transit supportive infrastructure in the corridor. Enhancement projects include developing queue jump facilities at key interchanges on I-24 and transit “stations” along Murfreesboro Road to serve as stops for limited stop bus service and as nodes to promote transit-supportive development. Projects in this phase include adding circulator bus services in Smyrna and LaVergne, local bus service between Murfreesboro and Nashville, and adding reverse commute express service.

Phase 3: Long-Term Improvements (10-25 years) – The long-term improvements incorporate further expansion of bus service together with continued station improvements at major stop locations, and development of single, reversible bus lanes. Most of the major capital improvements included in the project are programmed for the longer-term period, to allow ridership to grow and development changes to take place before major capital investments are begun.

11.2.3 Funding Plan Introduction

The development of the LPA will generate a number categories of capital and operating costs. A number of potential revenue sources exist to meet these costs. These include federal, state, and local level sources; each with varying requirements and revenue potentials. The following sections describe what capital and operating costs are associated with each phase, and then details potential federal, state, and local funding sources. Detailed appendices can be found at the end of this document.

11.3 Capital Plan

11.3.1 Capital Costs

While the total capital cost for this project is \$146 million in year of expenditure dollars, the majority of the capital expenditures occur in the last 15 years of this 25-year project. During the first phase, the majority of the capital investment is in vehicle purchases. In the next five years, expenditures on vehicles remain about the same while infrastructure costs increase to over \$30 million. The third phase of this project requires that the majority of the capital investment is in infrastructure costs.

Costs for this project are separated by phases and they are summarized in 2005 nominal dollars in Table 11-1 and in year of expenditure (YOE) dollars in Table 11-2 below.

Table 11-1 Capital Costs of Proposed LPA

Phase	Busway/ Streetscape Miles Built	Infrastructure Costs (millions of 2005\$)	Vehicle Costs (millions of 2005\$)	Total Costs (millions of 2005\$)
1: 1-5 Years (2008-2013)	0	\$5	\$23	\$28
2: 5-10 Years (2013-2018)	0	\$23	\$18	\$40
3: 10-25 Years (2018-2033)	13	\$66	\$13	\$78
Total	13	\$93	\$53	\$146

Table 11-2 Capital Costs of Proposed LPA

Phase	Busway/ Streetscape Miles Built	Infrastructure Costs (millions of year of expenditure \$)	Vehicle Costs (millions of year of expenditure \$)	Total Costs (millions of year of expenditure \$)
1: 1-5 Years (2008-2013)	0	\$5	\$26	\$32
2: 5-10 Years (2013-2018)	0	\$29	\$23	\$52
3: 10-25 Years (2018-2033)	13	\$111	\$21	\$155
Total	13	\$146	\$70	\$238

Notes:

- 1) To arrive at YOE dollars, cost estimates in 2005 dollars were escalated based on increases to the consumer price index from US Bureau of Labor Statistics 2002 to 2006 data (2.63%).
- 2) YOE assumed to be 2010 for phase 1, 2015 for phase 2, and 2025 for phase 3.

11.3.2 Potential Capital Revenue Sources

Capital costs would most likely be addressed through a mixture of federal, state, and local sources. Brief descriptions and order-of-magnitude estimates of potential revenue are described below.

Federal Capital Revenue Sources

States and transit agencies can obtain federal funds through different means depending on the funding program. Some of the funds are distributed based on a formula while other funds require agencies to apply for the money through a competitive process. The following section identifies federal funds for which the LPA project might qualify.

Urbanized Area Formula (Section 5307) funds are distributed by the Federal Transit Administration (FTA) to regions with more than 200,000 people. The formula includes such factors as bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles, population and population density. Nashville received \$6,801,714 in 2006¹ and it has the potential to increase the

total significantly once the LPA is implemented. It should be noted that the majority of this funding probably would not be available until the later portion of the project.

Section 5309 Rail and Fixed Guideway Modernization funds are allocated by formula to urban areas with existing fixed guideway systems that have been operating for at least seven years. This includes buses operating in HOV lanes. Nashville currently does not receive any of these funds; however, it could potentially receive some funds for a BRT project operating in HOV lanes after it has been in operation for seven years).

Section 5309 Bus and Bus Facilities funds are available to public agencies and state and local governments on a discretionary basis. In most years, bus funds are earmarked by Congress as part of the appropriations process.

Section 5309 New Starts & Small Starts programs could provide major capital funding for construction of new fixed guideway systems or extensions to existing fixed guideway systems. These funds are distributed based on a competitive FTA evaluation process. Considering the scale of the southeast corridor LPA, the proposed improvements could be advanced as a Small Starts project with simplified procedures and reporting requirements. For Small Starts, the Federal government can provide a maximum of \$75 million. In order to be eligible to receive Small Starts funding, a project must:

- Have a total project cost of less than \$250 million and must have a Small Starts funding requirement of no more than \$75 million.
- Meet at least one of the following three criteria:
 - 1) Meet the definition of a fixed guideway (i.e., exclusive right-of-way for transit and other high occupancy vehicles) for at least 50% of the project length in the peak period,
 - 2) Be a fixed guideway project, or
 - 3) Be a corridor-based bus project with the following minimum elements:
 - Substantial transit stations,
 - Traffic signal priority/pre-emption, to the extent, if any, that there are traffic signals in the corridor,
 - Low-floor vehicles or level boarding,
 - Branding of the proposed service, and
 - 10 minute peak/15 minute off-peak headways or better while operating at least 14 hours/weekday.

As currently defined, the southeast corridor LPA may not satisfy New or Small Starts criteria. While the southeast corridor transit plan includes queue jump facilities and is likely to operate low-floor vehicles, attention should be paid to branding, quantity of stations, and meeting headways and operating hour requirements. As currently constituted, the total busway mileage in the ultimate build-out of the LPA is below 50% of the total alignment. Future traffic conditions or engineering constraints could result in the guideway being extended at additional cost, which under the current guidelines would allow it to meet the funding requirement for this program. The LPA appears to meet the requirements of the other guidelines, though FTA would make a determination as to whether the LPA meets the requirements of its programs.

The LPA or some elements of it might also qualify as a “Very Small Start” if it meets other eligibility requirements, including having a total capital cost of less than \$50 million (including all project elements) and less than \$3 million per mile, exclusive of rolling

stock. The total capital cost of the LPA exceeds \$50 million, so a portion would have to be designated a separate project to qualify for “Very Small Starts” funding.

The Federal Transit Administration favors projects that are not smaller portions or phases of larger projects. For this reason, portions of the LPA that qualify for this type of funding might be split off from the rest of the program.

Congestion Mitigation and Air Quality Program (CMAQ) is a flexible program that may be used for transit or highway purposes. The goal of CMAQ funds are to fund projects that help reach national ambient air quality standards. They can also be used for operating costs during the first three years of a project. Funds are allocated to the Nashville MPO, and the MPO policy board decides how to allocate this money between highway and transit. Historically, the Nashville MPO receives between \$4 and \$4.5 million. The Nashville MPO TIP report shows a \$2 million surplus of CMAQ funding in 2008.² It will be up to the MPO to decide how much of the CMAQ allocation, if any, that the southeast corridor project receives.

Surface Transportation Program (STP) funds are capital funds eligible for expenditure on highway and public transportation capital improvements, car and vanpool projects, fringe and corridor parking facilities, bicycle and pedestrian facilities, and intercity or intracity bus terminals and bus facilities. These funds are distributed to states based on a formula containing federal aid highway lane miles, vehicle miles and estimated tax payments attributable to highway users. STP funding is allocated to the MPO through the state Department of Transportation. In 2008 \$17.3 million in remaining STP funding will be available in the Nashville and Murfreesboro areas, while \$1.7 million in remaining funds will exist throughout the rest of the MPO.³

Other Federal-aid Highway Funding may also be available for this project. Currently the State of Tennessee receives \$680 million in total federal-aid highway funding.⁴ This is distributed through a number of programs including: National Highway System funding, Interstate maintenance, bridges funding, a number of safety and planning programs, plus the CMAQ and STP programs mentioned above. The Nashville Area MPO may work with the Tennessee DOT to determine whether some elements of the LPA might be implemented in conjunction with planned highway improvements, or might be funded with Federal-aid highway monies.

State Capital Revenue Sources

The TDOT historically pays half of the required local match for federal funding. Typically, 20 percent of funding is required to be provided locally to qualify for federal funding, which results in a 10 percent contribution from the State. If this project were funded through the “Small Starts” federal funding program, a larger local match would likely be required. Considering that a large portion of this project would be operated or constructed on state highways, TDOT may be prepared to assume responsibility for some of the funding. Portions of this project may also be eligible for highway funding since portions of the BRT route are planned on highways and in HOV lanes. These improvements could be made in conjunction with highway improvement projects as described in the Federal Highway Funding section.

Local Capital Revenue Sources

While this project will provide transportation between Murfreesboro in Rutherford County and Nashville in Davidson County, much of the planned bus service would benefit those living and working in surrounding counties as well, through reduced congestion, greater mobility and reduced air pollution. Furthermore, southeast corridor transit improvements might be combined with transit investments in other corridors as part of a regional transit funding initiative. For this reason, analysis was completed using all counties in the Nashville Area MPO and separately for Davidson and Murfreesboro counties. Note that some forecasts exclude Maury and Robertson Counties because the data available was limited.

Eight potential local revenue sources were identified. Five of the sources were included because they were recommended in the *Nashville Regional Transportation Funding - A Strategic Review* by ICF Consultants. ICF analyzed the wheel tax, sales tax, emissions fee, gas tax, and impact fee. These analyses were modified for this chapter. In addition, a hotel tax, rental car tax, emissions fee exemption fees, and sales tax caps on automobiles were added based on the recommendation of the study's Financial Advisory Committee in September 2004.

All of these taxes currently exist at either or both the state and county levels. While the emissions fee, rental car tax, and motor fuel tax are only charged at the state level, the wheel tax and impact fee are collected at the county level. Table 11-3 shows the allowable tax rates and fees and legislation caps by county and state.

Table 11-3 Existing Local Tax Sources

Source	Wheel Tax (1)	Sales Tax	Emissions Fee (2)	Gas Tax	Impact Fee (1)	Hotel (1)	Rental Car	Late Model Exemption	Tax Cap on Cars
Davidson (Nashville)	\$55	2.25%	N/A	None	None	4%	None	N/A	\$1,600
Rutherford (Murfreesboro)	\$40	2.75%	N/A	None	\$1,500 per dwelling	3%	None	N/A	\$1,600
Maury	\$25	2.25%	None	None	\$0.50/\$0.30 per SF (7)	5%	None	N/A	\$1,600
Robertson	\$35	2.25%	None	None	\$1.50/\$0.30 per SF (7)	5%	None	N/A	\$1,600
Sumner	\$50	2.25%	N/A	None	\$0.70/\$0.40 per SF (7)	5%	None	N/A	\$1,600
Williamson	\$25	2.25%	N/A	None	\$1/\$0.44/\$0.68 per SF (8)	4%	None	N/A	\$1,600
Wilson	\$25	2.25%	N/A	None	\$1,000 per dwelling	3%	None	N/A	\$1,600
County Limit	None (4)	2.75%	N/A	\$0.01	Private Act (9)	County specific (3)	None (5)	Unknown	Set at state level (6)
State of Tennessee	None	7%	\$10	\$ 0.214	None	None	3%	N/A	\$3,200

Notes:

- 1) University of Tennessee County Technical Assistance service, *Tennessee County Tax Statistics*, January 2007.
- 2) Counties designated "None" do not have emissions inspection requirements. Counties designated "N/A" have emissions testing requirements, but the fee is collected through the state government.
- 3) The hotel tax is regulated in each county by a Private Act of the state legislature.
- 4) Counties may levy any flat fee on vehicle registrations.
- 5) Rental car tax is currently only levied at the state level.
- 6) The state legislature determines the cap. The cap has been raised to \$3,200 but all revenues on sales above \$1,600 are allocated to the state level.
- 7) Applies to residential/commercial
- 8) Applies to residential outside of city/commercial/residential within city
- 9) Impact fees can only be levied by amendment to the Private Acts of the county.

These sources have a wide range of revenue potential and many other considerations. The descriptions below illustrate the positive and negative attributes of each revenue source.

Wheel Tax – This tax refers to annual fees levied on each vehicle. The State of Tennessee allows counties to apply this tax as long as it is a flat fee for every vehicle in a particular class. This tax can be enacted by a two thirds majority of the county legislature, a popular vote by the public, or by act of the Tennessee State Legislature.⁵

The wheel tax is advantageous because it already exists in all counties, so no new collection mechanisms are necessary. Additionally, wheel taxes are closely related to transportation. A \$1 wheel tax increase imposed by all counties in the Nashville urbanized area would generate approximately \$1.2 million in fiscal year 2008.⁶ The revenue from Davidson and Rutherford Counties represent a substantial \$810,000 of the total. This is less significant than most of the other potential sources.

Sales Tax - Currently the State of Tennessee allows counties to levy up to a 2.75 percent sales tax above the 7 percent state sales tax. Rutherford County levies the full 2.75 percent, while all other counties in the urbanized area have a 2.25 percent tax. The tax rate can be raised by a majority vote.

If all counties were to levy the full allowable tax, approximately \$100 million could be raised across the urbanized area in 2008. Revenues of \$69 million could be raised in Davidson County alone. This would provide the largest amount of revenues compared to the other potential local revenue sources. However, 50 percent of the sales tax is earmarked for school funding and the other half is available for general allocation, reducing the amount available for transportation⁷ by half. Even at \$50 million per year, a sales tax is by far the most significant source. Tennessee already has one of the highest sales tax rates in the country, however, and the Nashville-Davidson County has one of the highest combinations of local and state sales taxes at more than 9%. Sales taxes are widely held to be a regressive tax, affecting lower income persons more than those with higher incomes.

Emissions Fee - Certain urban areas in Tennessee require registered cars to receive an emissions test. Within the Nashville MPO region, this includes Davidson, Rutherford, Sumner, Williamson, and Wilson counties. The current fee for an emissions inspection is \$10. The test costs \$8.20 to administer, giving the state a revenue of \$1.80 per vehicle inspection.⁸ Raising the emissions fee by \$1 would increase revenue by approximately \$900,000 in 2008 at the state level; \$650,000 would come from Davidson and Rutherford Counties. This would require action of the state legislature, as well as allocation from the state government to the project. Additionally, \$900,000 in annual revenue is one of the lowest revenue levels among the local sources.

Gas Tax Increase - Currently the State of Tennessee allows each county to levy a \$0.01 per gallon tax on gasoline. No counties in the Nashville region currently apply this tax. Implementation is subject to voter approval and is intended for public transit projects.

A \$0.01 per gallon gas tax increase over Davidson, Rutherford, Sumner, Williamson, and Wilson counties would generate approximately \$7.8 million revenue dollars in 2008. This is the second highest potential annual revenue among the analyzed sources. Tennessee's gas tax is currently less than the national average, but recently rising fuel costs may make a new gas tax unpopular and, if passed, particularly vulnerable to repeal.

Development Impact Fees – These fees are charged to developers when a new residence or commercial space is added. The intent is to charge new development for the impact it has on shared facilities. Currently a number of counties in the Nashville area charge impact fees. Table 11-4 provides details of the current fees.

Were all counties to add a \$100 per dwelling and a \$1 per commercial square foot impact fees, the region would generate approximately \$3.3 million in revenue in 2008. \$3.3 million could be considered mid-range revenue potential. Development fees are a one-time charge on property owners or developers and do not represent a continuous revenue stream, so this source might be most appropriate for covering capital costs instead of the annual operating costs. To some degree, impact fees could increase development costs and slow development in the area.

Hotel/Motel Tax - Tennessee law allows counties and cities to levy a privilege tax on hotel and motel stays. This tax is applied as a percentage of the cost of a hotel stay. Currently the hotel tax in Nashville area counties varies between 3 percent and 5 percent.

A 1 percent increase across all counties would create approximately \$5.8 million in revenue in 2008. While this is a significant potential revenue source, it is heavily dependent on the receipts from Davidson County. Davidson's hotel tax revenues would represent more than 80 percent of the total revenue and Davidson and Rutherford Counties would represent \$4.9 million of the revenue.

A hotel tax may have public support because it is levied on visitors to the region and not residents. However, a hotel tax does not have a strong tie to transportation. Changing the hotel tax rate requires an amendment to the "Private Acts" of the individual county, which is enacted by the state legislature. Additionally, each "Private Act" may prescribe a different allocation of hotel tax revenues, which could prevent them from wholly or partially being used to support public transit service.

Rental Car Tax – This tax is a percentage levied on the cost of a rental car. Currently the State of Tennessee levies a 3% tax on all rental cars.⁹ If a 1 percent rental car tax was levied across the region the total revenue would total approximately \$400,000 in 2008. Applying the tax to only Davidson and Rutherford Counties would raise an estimated \$250,000 per year. A rental car tax may also be more politically acceptable than other local taxes since it will be paid primarily by visitors to the region. However, the prospective revenues are the lowest of the analyzed sources.

Late Model Auto Exemption from Emissions Testing - As described in the emissions fee section, an emission test is required in Davidson, Rutherford, Sumner, Williamson, and Wilson counties. Currently, new automobiles are not required to be inspected during their first year of ownership due to the fact that they nearly always pass. Revenue could be created by charging the emissions testing fee for the first year of ownership without actually performing the testing.

The collection of the \$10 fee for exempt new vehicles across the five counties would generate approximately \$1.2 million in 2008 (this assumes that the entire \$10 fee would be retained by the State of Tennessee because there is no need to cover the costs of testing). The revenue from Davidson and Rutherford Counties is estimated at \$740,000. The revenue generated by this option is less than one fifth of the potential revenue from a gasoline tax. It is also worth noting that these revenues are now collected by the Tennessee Department of Environment and Conservation, not by TDOT or another transportation entity, and thus may not be accessible for use to support public transportation.¹⁰

Sales Tax Increase on Cars - Counties in Tennessee currently are subject to a sales tax, capped at \$3,200, but only the first \$1,600 is allocated for local use (the remaining revenue is allocated for state use). While most automobile sales likely exceeded the sales cap, raising the limit on the sales tax or allocating the revenue above \$1,600 to transit would require state action. Raising the limit specifically on automobiles would create a close tie between the tax increase and transportation. A limited increase of \$100 would create approximately \$400,000 in revenue for 2008 across the urbanized area. The revenue from Davidson and Rutherford counties is estimated to be \$250,000. Both tax bases represent a relatively small revenue stream. Moreover, sales taxes are regressive, affecting lower income individuals more strongly.

Local Revenue Sources' Summary

Table 11-4, shown below, details the likely contribution of each revenue source. The estimates of the potential revenue in 2008, rounded to the nearest ten-thousand to imply the relative imprecision of the estimates. Sales tax clearly has the greatest revenue potential by being at least 6 times greater than the other sources - a 0.5% increase would create approximately \$100 million in 2008 revenue, \$50 million of which would potentially be available for transit. A hotel tax and motor fuel tax would also be significant when compared to the other analyzed sources. See Appendix 11A for detailed forecasts, assumptions, and methods.

Table 11-4 Potential Local Funding Options Revenue Summary 2008 (\$ 1000 YOE)

Source	Wheel Tax (1)	Sales Tax (1) (5)	Emissions Fee (1)	Gas Tax (1) (4)	Impact Fee (1) (4)		Hotel	Rental Car	Late Model Exemption	Tax Cap on Cars
					Residential	Office/Retail				
Increment	\$1	0.50%	\$1	\$0.01	\$100/dwel	\$1/SF	1%	1%	\$10	\$100
Davidson (Nashville)	\$680	\$69,000	\$550				\$4,600	\$180	\$650	\$210
Rutherford (Murfreesboro)	\$130	\$0	\$100				\$300	\$72	\$88	\$37
Maury	Not Included in Analysis (3)						\$65	\$1	\$46	\$13
Robertson	Not Included in Analysis (3)						\$41	\$11	\$28	\$8
Sumner	\$120	\$5,400	\$99				Insufficient Data	\$46	\$68	\$19
Williamson	\$130	\$24,000	\$110				\$550	\$62	\$290	\$82
Wilson	\$95	\$6,100	\$76				\$210	\$33	\$47	\$14
Davidson - Nashville Totals	\$810	\$69,000	\$650	Individual Data not Available	Individual Data not Available	Individual Data not Available	\$4,900	\$250	\$740	\$250
Total	\$1,200	\$100,000	\$940	\$7,800	\$1,900	\$1,400	\$5,800	\$410	\$1,200	\$380
					\$3,300					

Notes:

- 1) Values computed using forecasts from the *Regional Transportation Funding—A Strategic Review*, ICF Consulting.
- 2) All numbers are rounded to 2 significant figures.
- 3) Forecasts not available in the *Regional Transportation Funding—A Strategic Review*, ICF Consulting.
- 4) Forecasts were reported as aggregate for entire MPO region.
- 5) 50% of sales tax revenue are earmarked for school spending.

11.4 Operating Plan

11.4.1 Operating & Maintenance (O&M) Costs

The estimated operating costs of the proposed transit improvements were generated based on miles of service, hours of service, number of vehicles, and administrative costs. The estimating techniques used are described in 9.0 Cost Estimates. The costs shown in Table 11-5 represent additional O&M costs incurred by system improvements. They do not account for existing and continuing operational costs; however, they do incorporate all previous phases' operating costs. So, for example, during phase 2, the total operating costs incurred in 2005 dollars is \$11 million and this includes the additional operating and maintenance cost for phases 1 and 2. By the time phase 3 is complete, the total operating cost for the proposed LPA is \$28 million, which is almost the same as the current Nashville MTA operating budget.

Table 11-5 Operating Costs of Proposed LPA (\$ Millions)

Phase	Annual Incremental Operating Cost Increase (YOE \$)	Annual Incremental Operating Cost Increase (2005 \$)
1: 1-5 Years (2008-2013)	\$4	\$4
2: 5-10 Years (2013-2018)	\$14	\$11
3: 10-25 Years (2018-2033)	\$22	\$13
Total	\$41	\$28

Notes:

- 1) To arrive at YOE dollars, cost estimates in 2005 dollars were escalated based on increases to the consumer price index from US Bureau of Labor Statistics 2002 to 2006 data (2.63%).
- 2) YOE assumed to be 2010 for phase 1, 2015 for phase 2, and 2025 for phase 3.

11.4.2 Potential Operating and Maintenance Revenue Sources

Operating costs will probably be addressed through a mixture of passenger fare revenues and local sources because these are both revenue sources that are collected on an ongoing basis. The local sources are the same as listed above in the 11.3.2 Potential Capital Revenue Sources section. Passenger fare revenues (in 2005 dollars) under the LPA are estimated to generate the following annual increase over the "No Build" scenario, based on the proposed ridership increases and assuming an average fare of \$1.50 for local and \$1.75 for express service:

- Between \$650,000 and \$800,000 with existing land use patterns, or
- Between \$900,000 to \$1.1 million with transit-supportive modifications to land-use

11.5 Implementation Issues

11.5.1 Other Planned Capital Projects in Region

Consideration must be given to competition for similar capital and operating funds in the Nashville region. The MPO's 2030 Long Range Transportation Plan discusses future alternatives analysis on the following additional corridors:¹¹

- I-65 North – Nashville to Sumner County
- I-40 East – Nashville to Lebanon
- I-40 West – Nashville to Bellevue
- I-65 South – Nashville to Williamson County
- Northeast – Nashville to Gallatin

RTA is currently operating a commuter rail line in the I-40 East corridor between Nashville and Lebanon. RTA bus service is in place in the I-65 North corridor to Sumner County and an MIS began in 2007 to consider further improvements in that corridor. If studies were to recommend further transit improvements in these or other corridors, they could compete for similar federal, state, and local funds in the future. Additionally, non-transportation-related capital investments for the region such as new schools, water or sewer system improvements and other public infrastructure investments may draw on the same revenue sources. On the other hand, a region-wide emphasis on transit could be used to justify increases taxes and fees, as well as including all counties in the Nashville MPO as a tax base. A region-wide transit plan may be required to focus attention on transit needs and the potential for transit to shape the region's growth, and to build the regional consensus required to support tax increases. In addition, a wide view of the region's overall capital investment needs including both transit, roadway-based transportation, and other public investment should be considered when determinations are made about funding.

11.5.2 Legislation, Referendum, and Planning Approvals Needed

In order to implement the proposed LPA along the Nashville – Murfreesboro corridor, the Nashville MPO should be aware of the legislative and planning obstacles it might face. MPO and other regional transportation leaders will have to work with appropriate government officials to pass legislation to increase local taxes, as well as bolster public support and address planning approval needs. As described in Table 11-6, revenue sources require a number of different levels and mechanisms of approval. The Tennessee state government must be engaged to raise the hotel tax, emissions fee, impact fee, rental car tax, and the single use items sales tax cap. While other taxes can be changed at the county level they require either a two thirds vote of the county legislature or a majority popular vote. Additionally, planning approval must be gained from local and state authorities.

Table 11-6 Required Action to Utilize Revenue Sources

Tax	Required Government Action
Wheel Tax	Any flat tax is allowed on vehicle registrations. Must be

	passed by 2/3 vote of county legislature or majority vote of county legislature with a referendum.
Sales Tax	Limited at 2.75% by state law. The limit must be changed by the state legislature. The county may raise the sales tax within the limit.
Emissions Fee	This fee is levied at the state level so action of the state legislature would be required to increase the fee.
Gas Tax	State action is required to increase the 1 cent per gallon local limit. Counties can enact this tax specifically for transit funding.
Impact Fee	Must be enacted through Private Act of the county by the state legislature.
Hotel Tax	Must be enacted through Private Act of the county by the state legislature.
Rental Car Tax	Only levied at the state level. Would require new legislation.
Late Model	Would require new legislation.
Tax Cap on Vehicles	Would require action of the state legislature.

11.5.3 Innovative Financing Techniques

Innovative financing methods may also offer potential opportunities to supplement traditional funding sources.. Historically, any financing mechanisms termed “innovative” have primarily been debt instruments. Today, many transit agencies look for new ways to cover costs since costs, led by rising costs of health care for workers, fuel, and building materials, are outpacing the growth of traditional funding sources.

Alternative methods for delivering projects, such as design-build, provide opportunities to accelerate project completion and to limit cost uncertainty. Additionally, outsourcing of operations and maintenance functions, as appropriate and permissible within labor agreements, may be considered to allow agencies to focus on core services as efficiently as possible.

Public-private partnerships (PPPs) for development and operation of transit service (as opposed to assets, which is already typically utilized by transit agencies) are also an area worthy of considerable consideration. PPP activity in the roads sector is quite strong currently, and several transit systems are also under consideration by state/local and private entities. As policymakers and stakeholders become more comfortable with PPPs in the US, transit should see additional activity. Transit oriented development and partnerships with land owners and developers may offer a means to create value for public transportation agencies at and around transit stations.

11.6 Conclusions

Currently, this \$248 million (year of expenditure) and 25-year project has no dedicated revenue sources. This chapter has noted available federal, state, and local funding options that offer a funding mix that can potentially cover all costs and generate the necessary political support.

Federal funding is potentially available for this project through a number of programs. 5307, 5309, including the Modernization Program and New Starts and Small Starts, and CMAQ/STP all provide capital funding with varying eligibility requirements. 5307 and CMAQ/STP funding is already allocated to the Nashville region, so it will be up to the Nashville Area MPO officials to decide how much, if any, might be dedicated to this project. Finally, the Small Starts program is a viable funding source that could potentially provide between 60 and 80 percent of the capital funds depending on how this project fares in the competitive process.

State level support of this project is also important because portions of the project will take place on state owned and operated roadways. The TDOT historically has contributed 10 percent of a project's capital cost, which is half of the local match required for federal funding.

Eight local sources were identified as potential funding options. These sources were evaluated to determine revenue potential, ease of implementation, and potential legal limitations. By far, the most significant potential revenue source is the sales tax. If all remaining counties in the Nashville urbanized area were to raise the local sales tax to the 2.75 percent limit, \$100 million could be raised in 2008, of which half could be available for transit and other general spending within the area of collection. A gas tax or hotel tax would also raise relatively high revenues (\$7.8 million and \$5.8 million respectively). While these taxes are not as significant as a sales tax, they do have some advantages. A 1 cent gas tax has already been authorized specifically for transit spending. The hotel tax is advantageous because there is an existing collection mechanism and it would be levied on visitors to the area. The wheel tax may be easiest to implement because it is fairly unrestricted. The only requirement is that it is a flat rate and it has a clear link to transportation. A \$1 increase in the wheel tax would create \$1.2 million dollars across the Nashville MPO.

The potential revenue sources in this chapter illustrate a mix of federal, state, and local funding. Each of the funding options has specific advantages, requirements, and challenges that must be considered when determining the final capital and operating funding mix.

In order to proceed in obtaining funding for the proposed southeast corridor project, the following list provides suggested action items for the Nashville Area MPO:

1. Amend the MPO's long range transportation plan to include the southeast corridor project
2. Determine who will own and operate the Southeast corridor transit project
3. If interested in seeking Small Starts funding, determine what project alterations are required to meet the eligibility criteria, and then seek FTA approval for entry into Project Development
4. Determine what portion of the project the Tennessee Department of Transportation is willing to fund
5. Develop a financial plan for the project
6. Pursue state legislation approvals and changes associated with any new or increased taxes, as needed

These actions will help to develop a more complete implementation plan, garner the appropriate public support, and obtain the necessary funding sources for the project.

¹ Federal Transit Administration, *Federal Register FY 06*.

² Nashville Area MPO, *Transportation Improvement Plan FY06 through FY08*, September 2005.

³ *ibid*

⁴ Federal Highway Administration, *2005 Highway Statistics, Table FA – 4*.

⁵ TCA 5-8-102

⁶ See tax summary table

⁷ University of Tennessee, County Technical Assistance Service, *County Tax Statistics*, January 2007.

⁸ *Regional Transportation Funding—A Strategic Review*, ICF Consulting

⁹ Tennessee Department of Revenue

¹⁰ *ibid*

¹¹ Nashville Area MPO, *2030 Long Range Transportation Plan*, June 21 2006.