



# Regional Transportation Funding— A Strategic Review

*Final Report*

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**EXECUTIVE SUMMARY**

The five-county Nashville region has nearly \$4 billion in transportation projects identified as needed by local and state governments, amidst a funding situation in which transportation competes with other spending priorities for the region’s limited dollars. The objectives of this report are to:

1. identify transportation needs, as determined via stakeholder interviews;
2. provide the Nashville Area MPO with information on the sources of transportation funding that have been used by its members to fund transportation projects and/or programs; and
3. identify alternative funding sources that could serve to finance transportation projects/programs in the future.

The original intent of this study was to develop a strategic business plan that could serve as a roadmap for identifying and securing funding for Nashville’s transportation needs. As the study progressed, however, it became clear that the political environment would not support a concentrated and focused financing plan based on new or additional taxes. As a result, the project steering committee asked the study team to develop a reference document that provides information on how transportation projects and programs have been funded by the various jurisdictions, and that outlines alternative sources for future consideration.

As a result, this report constitutes a survey of transportation funding as it currently exists in the region and lays out funding options that could be considered by the Nashville Area MPO in the future. The report contains three main sections:

1. **Transportation Needs.** This section discusses the results of telephone interviews conducted with 18 stakeholders at 15 organizations. The stakeholders identify a number of transportation problems in the region including: congestion, TDOT’s perceived low level of responsiveness to local needs, the low level of support for transit investments, the lack of funding and difficulties in raising new funding, and the need for better regional cooperation and comprehensive plans. This section also recounts the unsuccessful attempt to introduce an income tax at the state level in 2001 and discusses the outcomes of local ballot measures to raise taxes.

2. **Existing Transportation Funding and Expenditures.** This section compiles and analyzes information on current state and local transportation revenues and expenditures. The major source of state funding is the gasoline tax, which raises approximately \$650 million annually statewide. The Nashville region received \$34 million in state gasoline tax revenues in FY 99.

Counties and cities in the Nashville region spent \$121 million on transportation in FY 02. Of this total amount, \$35 million was through the state gasoline tax and other street aid programs, while an additional \$25.6 million was raised from the wheel tax. The rest of the funding is made up through property and local sales taxes. None of the jurisdictions uses dedicated funding; even revenues derived from transportation sources, such as the wheel tax, are often used for the general fund. This analysis was undertaken with budget data supplied by 13 jurisdictions. The analysis is incomplete because data gaps existed for some of the jurisdictions.

**Recommended Funding Sources.** Based on the results of the stakeholder interviews and preliminary estimate of revenue potential, this section of the report recommends five funding sources for potential implementation in the future: the wheel tax, sales taxes, vehicle emissions fees, the regional option gas tax, and development fees. Funding estimates from these five sources have been prepared for target amounts of \$5, \$10, and \$20 million. For example, the table below shows the rate that would have to be charged to raise \$5 million for the region in 2001:

**Table ES-1. Tax per Unit Needed to Raise \$5 Million in 2001**

Source	2000/01	Unit
Wheel Tax	\$4.72	Per vehicle
Sales Tax (at 8.25 %)	0.05 cent 8.30 %	Per \$1 (resulting new rate)
Vehicle Emissions Fee	\$5.90	Per vehicle
Gas Tax	0.8 cents	Per gallon
Development Impact Fees	\$154.03 \$2.89	Per new unit (residential) Per new sq ft (commercial)

The assumptions used to make these estimates are detailed in Appendix A.

This report does not recommend which of these funding sources should be pursued by the region. Although this was originally intended to form part of this report, the project steering committee determined that the political environment had shifted so that it was not productive to attempt two of the study's key components—1) a public opinion survey about transportation priorities and potential funding and 2) a workshop with elected officials to develop a business plan. Although the survey was not conducted, the draft survey questionnaire could be used at a later date and is included in Appendix B.

## 1. INTRODUCTION

According to the U.S. Census, the Nashville region grew in population by 25 percent from 1990 to 2000. This growth has stressed the ability of the region's transportation system to meet travel demand in an efficient and reliable way. Moreover, because residents of the region drive more miles per capita than anywhere in the country,<sup>1</sup> congestion is taking its toll on the quality of life that is offered by the Nashville region. There is some consensus that significant investments in the transportation system are needed to alleviate congestion. Likewise, investments are needed to ensure the efficiency and vitality of freight transportation, which in turn is important to maintaining a healthy regional economy.

The Nashville region, however, has not reached full consensus on how the transportation network should accommodate increasing economic and demographic growth. The five-county Nashville area generally has been a place that relies on the road and highway network for mobility. There is no rail service, and bus transport (as in other cities across the country) carries a stigma since it is perceived to service those individuals that have no access to personal automobiles. At the same time, the increasing strain on the region's roadways coincides with serious constraints on the possibilities for obtaining more transportation funding. At the state level, a budget shortfall in 2001 prompted serious discussion of diverting gas tax revenues from street aid to the general fund. At the local level, there are few dedicated transportation revenues, but many competing priorities. Now is clearly the time for the region to debate its transportation priorities and establish funding mechanisms for them, but a lack of both political will to raise taxes and regional cooperation to establish common goals may confound the process.

Likewise, perceived transportation needs tend to vary from one jurisdiction to another. It is difficult to draft a regional transportation plan and meet the needs of each area. Some of the differences stem from the institutional relationships between the various levels of government involved in transportation decision-making, others stem from development patterns that imply the need to address problems in rapidly growing areas of the region. Simply identifying the most pressing needs and building regional consensus around them is challenging.

Yet, for the region to benefit from its recent development, and (more importantly) for the region to sustain its growth and provide the quality-of-life standards that it has grown accustomed to, a strategic roadmap is needed to first identify the most pressing transportation needs and second to agree upon a revenue generation plan to fund them. With this in mind, the overarching goal of this report is to provide the Nashville Area MPO with a strategic review of the perceived transportation needs (as articulated by the region's stakeholders) and to delineate the most practical types of revenue generation options available for future implementation.

*The original intent of this study was to develop a strategic business plan that could serve as a roadmap for identifying and securing funding for Nashville's transportation needs. As the study progressed, however, it became clear that the political environment would not support a concentrated and focused plan based on new or additional taxes. As a result, the study team was asked to develop a reference document that provides information on how transportation projects and programs have been funded by the various jurisdictions, identifies funding gaps and how those gaps have been filled, and pinpoints the most feasible funding sources for future consideration.*

The information and recommendations in this report were compiled in 2001 and early 2002 against this backdrop. The study seeks to accomplish the following three tasks:

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<sup>1</sup> FHWA Highway Statistics, 2000.

1. **Identify the most pressing transportation issues in the region.** The first section of this report discusses the results of telephone interviews conducted with 18 stakeholders at 15 organizations (state and regional agencies, local jurisdictions, and regional non-profit organizations). It also describes briefly recent attempts to raise taxes, most of which have been unsuccessful.
2. **Compile and analyze information on current transportation revenues and expenditures.** The second section of this report looks at broad funding trends within the region, investigates the sources of revenue available from both the state and the individual jurisdictions, and presents an analysis of transportation revenues and expenditures for 13 local jurisdictions within the five-county Nashville region. The intent is to set the context for the investigation of new and/or expanded funding sources.
3. **Explore potential funding sources by both estimating future revenues and look at other regions where they are already in use.** The third section identifies five potential funding sources based on their revenue potential and on the opinions of both stakeholders and the study's steering committee. Revenue projections and assumptions are presented for each of the five options, along with discussions of their advantages and disadvantages and an example from a region where the source is currently in use.

## 2. ASSESSMENT OF TRANSPORTATION NEEDS

From a project perspective, the transportation needs of the Nashville region are identified by the region's Long Range Transportation Plan, Transportation Improvement Program (TIP), and State TIP. However, a strategic assessment of needs must go beyond projects to address transportation programs, institutional barriers, and resource availability. Rather than reiterating the specific investments that are slated for the region and identified by the conventional planning and needs assessment processes, this section discusses programmatic and strategic needs as perceived by the region's decision-makers. In particular, since the initial objective of the study was to construct a business plan that had an implementation component, the brunt of our needs assessment centered on strategic institutional issues affecting revenue generation, broad transportation needs to address problems such as congestion, and associated planning needs.

### 2.1 STAKEHOLDER INTERVIEW RESULTS

As part of compiling this report, we conducted 18 interviews with local officials at 15 organizations including representatives from: city and county governments, Tennessee DOT staff, and other stakeholders. Interviewees were identified by MPO staff, and with one exception the interviews were conducted by telephone using a standard list of open-ended questions. Because the stakeholders were promised anonymity in exchange for their honest opinions, their names and organizations are not identified here.

The following synthesizes the main points learned from the interviews. Results are divided into the following: 1) issues related to planning, 2) issues related to institutional relationships, 3) issues related to programmatic investments in the system (especially investments in transit), and 4) issues related to transportation funding constraints. There was generally widespread agreement on the diagnosis of the main problems. However, there was far less agreement on the potential solutions to these problems, particularly the problems of insufficient resources and lack of regional cooperation.

#### 2.1.1 *Planning-Related Issues*

Interviewees identified various needs associated with the transportation planning process in the region. Below is a list of the issues that were raised.

- **Comprehensive planning is insufficient.** Several people said that the Nashville region suffers from a lack of comprehensive planning, because there is no overall vision and limited regional cooperation. Implicit in this observation is the lack of a systems-oriented approach to transportation planning, where facilities are planned and developed in support of an overarching regional development vision. Clearly, Nashville is not the only region that suffers from a lack of comprehensive planning. Yet, the region's reliance on automobile travel can create a vicious circle that effectively crowds out investments that could improve the mode choices of travelers. The lack of transit investment can be interpreted as a symptom of this over-reliance on automobile travel and the road and highway network.
- **Land use not well-linked to transportation.** Several land use issues that affect the types and quality of transit services were noted, including the lack of incentives to promote infill development, low densities that make transit unworkable, affordable housing scarcity that forces people with lower-income jobs to move further away, and an urban growth boundary law with overly generous allowances for the amount of land cities can claim for their growth. There were differing opinions on how widespread anti-growth sentiments are in the region, with some saying they are hardly a factor at all, while others say such sentiments will undoubtedly grow. Integrating transportation and land use plans is particularly difficult, however, because zoning is under the authority of local governments



while transportation plans (and much of the funding) are developed by regional and/or state authorities. As a result, to address this problem, a strategic vision for the region is needed, a vision that has the support of the majority of the jurisdictions.

- **Transportation infrastructure over-emphasizes radial routes.** Several people mentioned that for both roads and transit, the region has a very strong radial structure that makes suburb-to-suburb travel difficult. Moreover, such a radial structure can lead to development patterns (such as sprawl) that further stress the ability of the transportation system to balance demand and supply.
- **There are insufficient bicycle and pedestrian facilities in the area.** Because of a focus on road building, infrastructure for non-motorized modes has been neglected. Again, the lack of comprehensive planning in the past has not emphasized the benefits of a balanced transportation system or promoted growth patterns that support the use of non-motorized transport.

### *2.1.2 Issues Related to Institutional Relationships*

From the perspective of transportation funding, some of the most pressing issues that were identified by the interviewees touch on the institutional relationships across government levels that prevail in the region and define how decisions are made.

- **TDOT is largely a road-building agency that does not solicit sufficient local input.** Interviewees generally expressed dissatisfaction with TDOT. Many said that TDOT still retains too large an emphasis on building roads to the exclusion of other transportation modes. One commented that TDOT has turned away from roads in residential areas (where he felt more roads are still needed) to building largely in commercial and industrial areas. In addition, several people noted that TDOT has been unresponsive to local priorities. There were suggestions that TDOT should release more of its gas-tax based revenue to the local jurisdictions so that cities and counties could decide which transportation projects would be pursued. Several people noted that TDOT had improved somewhat on incorporating local preferences, but still had some distance to go before it could be considered responsive.
- **The RTA is a good idea, but poorly executed.** The RTA, one interviewee said, was set up in response to political pressure to do something about increasing transportation congestion in the region. However, the legislation authorizing its creation did not create any funding, and as a result the RTA is a constrained agency. Given this, success of the RTA depends heavily on an institutional structure that fosters collaboration and integrated planning. The concept of a regional authority is generally sound, but effectiveness depends on a well-crafted legislative agenda and clear mandates and functions that delineate how the regional authority will interact with other involved parties, such as an MPO and county and state governments.
- **The Nashville MPO is tilted towards Davidson.** Several persons expressed concern that because of the MPO's relationship with Metro, it is perceived as overly partial to Nashville at the expense of other jurisdictions. Also, one person noted that because they focus on projects with regional impacts, projects in small towns are overlooked for funding. Finally, several people noted that if the region's air quality problems worsen and the area falls out of compliance with air quality standards, the MPO may be forced to expand its jurisdiction.
- **Staffing shortages affect planning.** One person mentioned that localities are often too understaffed to focus on any type of long-term planning. Another pointed out that the lack of adequate professional staff in the state legislature makes that body prone to lobbyists' influence. Staffing issues in the

various institutions involved in the planning and delivery of transportation facilities and services are particularly problematic in regions that face rapid growth and development, such as Nashville.

- **Need for catalyst group (or event) and more public education.** Several people expressed the opinion that a change in the political climate that makes raising revenues so difficult would come only in the event of a crisis. There were differing opinions as to how far away the crisis might be, but most people who held this opinion saw one in the making. Some also expressed the opinion that the region was in need of more public education on transportation issues, or even a citizens' group that would bring these issues to the forefront. Cumberland Region Tomorrow was mentioned several times in this capacity, although at least one person felt that the visioning process they are currently working on would not be as objective as they claim.

### 2.1.3 *Issues Related to Modal Balance*

Some of the issues raised under planning and institutional relationships point to the need for a more balanced approach to the provision of transportation facilities and services. An expanded transit system that can reliably provide extended coverage is one of the programmatic investments that most stakeholders identified as a priority for the region.

- **Congestion is an increasing problem.** Stakeholders generally agreed on this statement; however, they had different interpretations of the problem. Some felt that highways had already reached the limits of their capacity and the region would need to start turning to other solutions. Others were more concerned about congestion on local roads and the fast pace of residential construction creating the need for new local facilities. There was also mention of several factors that would make it difficult to turn away from roads—a strong road building lobby in the state and an auto-oriented mentality among most of the population. However, one person believed that as people from other cities move to the Nashville region, the demands for transit would increase, since many newcomers are accustomed to using transit. Continued development will require a more balanced transportation system. Many businesses interested in moving to the region will look for easy access to a productive and cost-effective labor pool. Often times, this need points to transit, especially for businesses that want to locate in the city and/or that rely on more of a blue-collar labor pool. Employers and employees alike usually place a high value on having choices in the modes that they can use to get to and from work.
- **Transit service is insufficient.** A number of people said that the area lacks sufficient transit service. Most people thought the root of this problem was “underfunding” of the MTA, and several people said that the MTA was doing as well as could be expected under the circumstances. It was also noted that there is very little regional transit service. One respondent mentioned that transit within Nashville was treated almost like a social service (i.e., there is just barely enough service, and there is not effort to try to attract “choice” riders).
- **Although commuter rail has some support, there are problems with funding.** Most people interviewed had relatively positive opinions about the proposed commuter rail project. However, the persons interviewed from the local jurisdictions objected to the cost-sharing arrangements that have been postulated, saying that in many cases the proposed local contribution was higher than the jurisdiction's entire transportation budget. Because of the proposed funding arrangement, any local jurisdiction can effectively veto the project by withholding local match funds. In addition, there was widespread agreement that the project was conceived at higher political levels without obtaining “buy-in” from local communities. Now that the project is in jeopardy due to budget problems, there is no local constituency willing to fight for it.

### **2.1.4 Funding Issues**

The following observations on transportation funding for the Nashville region serve as a backdrop for the remainder of this report.

- **Transportation is underfunded.** Transportation funding suffers from several problems.
  - First, there is no dedicated transportation funding, so transportation needs to compete with education, public safety, and other public services for general funds. At least one person mentioned that legislatures in Tennessee are very reluctant to allow dedicated funding of any taxes.
  - Second, local funds used for transportation do not always keep pace with growth. Many fast-growing suburban areas use development impact fees to fund infrastructure, and in some cases the funds are not growing as quickly as the need for infrastructure.
  - Third, local funds are often spent to match federal and state project funds, leaving very little money for projects that are entirely locally funded.
  - Fourth, because of the state’s budget crisis, the state may yet again “raid” the gas tax fund to augment the general fund. The state may also cease its longstanding practice of providing one-half of the required federal match.
  - Fifth, there is strong general opposition to any tax increases or new taxes.
  - Sixth, not only are funds for new projects insufficient, but in many cases maintenance has been deferred.
- **There is no clear consensus on who should administer regional transportation funding.** Interviewees expressed preferences for the MPO (sometimes with the caveat that it become more independent from Metro), the RTA (with a stronger institutional structure and a larger staff), or a consortium of existing agencies. Nobody called for the creation of an entirely new agency.

### **2.1.5 Implications**

The stakeholder interviews provide an excellent window into the types of strategic issues that the Nashville region must address as it struggles to sustain growth and its quality-of-life goals. Economic and demographic growth has stressed the ability of the current transportation system to balance demand and supply. An over-reliance on automobile travel (and the associated roads and highways infrastructure) has exacerbated problems by fostering development patterns that further strain the transportation system. The reaction has been to sway funding toward roadway capacity expansion, creating a cycle of further dependence on the automobile. Sustaining growth, however, likely will require a more comprehensive, systems-oriented planning and transportation infrastructure development process—a process that can provide a more robust mode choice set to employers and employees. To do that, however, a more integrated and collaborative institutional framework may be needed; one that stresses a regional approach based on a regional vision. Yet, severe funding constraints must be overcome, especially given the region’s anti-tax environment. The following sub-section relates some recent attempts to overcome funding shortages.

## **2.2 POLITICAL CLIMATE FOR INCREASED FUNDING**

Tennessee does not have dedicated transportation funding at the local level; indeed, some observers have noted that the state legislature is reluctant to allow dedicated funding for any purpose. Transportation

spending thus has to compete with other public needs. However, the sharp decline in revenues in 2001 has meant increased competition for funding.

In addition, Tennessee tends to be an anti-tax state. There is no state income tax, and legislative battles over the possibility of enacting one have been fierce. Therefore, it would take a good deal of political will to call for increased or new taxes, except perhaps for those that fall on outsiders (for example, a hotel or rental car tax).

A review of recent efforts to find new sources of revenue for transportation initiatives in Tennessee helps to set the context for the remainder of this report—which details funding sources and identifies potential funding strategies that the Nashville Area MPO can consider in the future.

### ***2.2.1 Recent State Legislative Action***

In spring 2001, and again in spring 2002, the state's legislature struggled with the constitutional requirement that a balanced budget be approved by July 1. There was a gap of over \$800 million between the governor's proposed spending program and the projected revenues.

Tennessee does not have a statewide income tax. There is a tax called the Hall income tax, but it covers taxable interest and dividends, not earned income. The sales tax rate is already higher than in most states, and in the 42 counties that border other states it is fairly easy for residents to avoid taxes by driving over the state line for purchases. While the sales tax can be a good revenue source in flush economic times, they can fall precipitously when consumer spending drops. In addition to being more stable, income taxes are more likely than other forms of taxes to keep pace with inflation.

Tennessee is one of only nine states without an income tax. Most of the other eight states have other revenue sources to make up the lost revenues, such as gambling (Nevada), oil (Texas and Alaska), tourism (Florida), business taxes (Washington), or mineral revenue (Wyoming). South Dakota has broad-based sales taxes, with very few exemptions. Tennessee's sales tax, on the other hand, has a number of exemptions.

A number of ideas were floated in the House and Senate, including proposals to:<sup>2</sup>

- tax a variety of services currently exempt from sales taxes;
- raise the state sales tax by up to one percent;
- cut spending (including a possibility of moving over \$60 million in Highway Patrol funding from the general fund to the road fund);
- tax financial transactions at a rate of three percent;
- increase or eliminate the local option sales tax ceiling (purchases are currently taxed only up to the first \$1,600 in value); and
- institute an income tax. Several proposals were made, including both a flat tax of 2 to 2.5 percent and a graduated tax ranging from 3.5 to 6 percent.

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<sup>2</sup> This account is drawn largely from articles appearing in *The Tennessean*.

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The bill ultimately passed by the state legislature in 2002 increased the state sales tax from six to seven percent, except for grocery items which remained taxed at six percent.

Transportation programs were affected very little by the budget. The Highway Patrol spending remained in the general fund. Legislators held a limited number of discussions, but did not take action, about diverting highway users fees (which supply the bulk of TDOT's state revenues) to the state's general fund. The only transportation programs to lose funding in 2001 were state park vehicle replacement (\$250,000), highway patrol equipment replacement (\$1.1 million), printing costs and data processing for title and registration forms (\$674,000), and positions to issue driver licenses (\$126,000).

### 2.2.2 Local Attempts to Raise Taxes

Attempts to raise taxes at the local level have generally been unsuccessful. Table 1, below, summarizes some recent attempts in Tennessee to secure voter approval for tax increases. With several exceptions, most notably Rutherford County, attempts to raise money through either increased sales taxes or wheel taxes (defined and discussed in Section 3) have failed at the polls. Almost all of the efforts to increase taxes in November 2000 failed; the one exception was an attempt to repeal a sales tax, which was left intact by the voters.

<b>Jurisdiction</b>	<b>Year</b>	<b>Ballot Measure Proposal</b>	<b>Outcome/%</b>
Fentress County	Nov 2000	Raise local option sales tax to 2.75%	Rejected by 74%
Fentress County	Nov 2000	Raise wheel tax to \$35 from \$25	Rejected by 72%
Dickson County	Nov 2000	Raise local option sales tax to 2.5% from 2.25%	Rejected by 76%
Lincoln County	Nov 2000	Raise local option sales tax to 2.75% from 2.5%	Rejected by 67%
Clay County	Nov 2000	Repeal local option sales tax	Rejected by 57%
Clay County	Nov 2000	Adopt \$20 wheel tax	Rejected by 65%
Jackson County	Nov 2000	Raise wheel tax to \$45 from \$15	Rejected by 72%
City of Soddy-Daisy	Nov 2000	Adopt a city-county local option sales tax of 2.25%	Rejected by 64%
Cheatham County	Aug 2000	Raise local option sales tax to 2.75% from 2.25%	Rejected by 65%
Wilson County	Aug 2000	Raise local option sales tax to 2.75% from 2.25%	Rejected by 67%
City of Columbia	Aug 2000	Adopt city-only sales tax	Rejected
Rutherford County	May 2000	Raise local option sales tax to 2.75% from 2.25%	Passed by 57%
Jackson County	Mar 2000	Raise local option sales tax to 2.75% from 2.5%	Passed by 56%
Smith County	Mar 2000	Raise local option sales from to 2.75% from 2%	Passed by 54%
Smith County	Mar 2000	Adopt wheel tax of \$50	Passed by 66%
Warren County	Mar 2000	Raise local option sales from to 2.75% from 2%	Rejected by 67%

Sources: Tennessee Municipal League reports, The Tennessean reports

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### 3. EXISTING TRANSPORTATION FUNDING

Given that recent attempts by the state and local jurisdictions to find new sources of revenue have not succeeded, how will the Nashville region be able to fund its transportation programs and projects and continue to sustain economic growth and foster a good quality-of-life for its citizenry? Addressing the Nashville area's transportation needs likely will require a well crafted, agreed upon funding strategy that can make best use of available resources and identify new revenue sources to fund new programs and/or projects. In order to develop such a strategy, however, it is important to review how transportation has been funded in the region.

This section of the report investigates state and local sources of transportation funding.<sup>3</sup> At the state level, the main source of funding is the gasoline tax, which is divided between TDOT and local jurisdictions according to statutory formula. At the local level, cities and counties use general revenues from sources such as property and sales taxes to fund transportation projects and/or programs. Using data and information collected for 13 jurisdictions in the Nashville region,<sup>4</sup> as well as data from TDOT, funding trends and patterns are identified. The intent is to start by demonstrating how transportation has been funded in the region and then to assess which options are most feasible for bridging funding gaps and/or increasing overall revenues.

#### 3.1 CURRENT FUNDING SOURCES AND EXPENDITURE PATTERNS

We begin the review by discussing the sources of transportation funds that are administered by the state since some of these funds are allocated to jurisdictions across Tennessee. Once state transportation funding sources are reviewed, the role of TDOT and its revenue and expenditure patterns are discussed. Given the views of some of the stakeholders interviewed for this study, a better understanding of TDOT's budget and role is warranted. Such an understanding can help to broker a more collaborative relationship for the future, one that can facilitate the implementation of funding strategies that focus on public transportation systems and/or improved planning.

Finally, a review of how local jurisdictions fund transportation initiatives is provided in Section 3.3. An important finding is that there exist significant data gaps and inconsistencies in reporting formats that make it difficult to analyze current funding patterns, much less to develop a future regional funding strategy. We recommend that the Nashville Area MPO develop standard reporting guidelines to facilitate future analyses and funding strategies—guidelines that can be readily adopted by the relevant jurisdictions. However, because of the complex accounting and financial issues involved in such recommendations, such an analysis falls outside the scope of this report.

##### 3.1.1 *State Sources of Revenue*

All local jurisdictions receive at least some transportation funding from the state (i.e., the state shares revenue from state-imposed taxes with local jurisdictions). The largest of these shared taxes is the petroleum tax, which commonly is used by local jurisdictions for transportation. The state also shares various sales taxes with localities, and funds from this source usually are placed in a jurisdiction's general fund.

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<sup>3</sup> While federal funding clearly plays an important role, the focus of this report is on new regional revenue sources and federal funding will not be discussed in detail. Most federal funding is distributed by the Tennessee Department of Transportation, or TDOT.

<sup>4</sup> Data for individual jurisdictions can be found in Appendix A.

## Regional Transportation Funding—A Strategic Review

**Petroleum Taxes.** Tennessee levies four main taxes on petroleum products: 1) a gasoline tax, 2) a (diesel) motor fuel tax, 3) a special petroleum tax, and 4) an environmental assurance fee.

As Table 2 shows, gasoline taxes are distributed to both cities and counties, as well as to the state. The general county formula is based one-fourth on population, one-fourth on county area, and one-half on equal shares (i.e., each of Tennessee’s 95 counties receives 1/95 of all revenues). The city formula is based entirely on population. Motor fuel taxes are distributed according to the same formulas, while special petroleum product taxes are distributed to both cities and counties strictly on the basis of population.<sup>5</sup>

**Table 2. State Petroleum Taxes**

Type of Tax	Amount	Products Taxed	Main Recipients
Gasoline	20 cents/ gallon	Gasoline	TDOT, counties, municipalities
Motor Fuel	17 cents/ gallon	Diesel fuel	TDOT, counties, municipalities
Special Petroleum	1 cent/ gallon	Gasoline and diesel	TDOT, counties, municipalities, Center for Government Training
Environmental Assessment Fee	.4 cent/ gallon	Gasoline and diesel	Petroleum Underground Storage Tank Board

Table 3 shows the distribution of gasoline tax proceeds (i.e., the 20 cent gas tax and 1.4 cent surcharge) among the recipient categories. Note that Table 3 does not account for all four types of petroleum taxes, just gasoline, the largest revenue producer of the four.

**Table 3. Distribution of Gasoline Taxes, 2001**

Recipient	Amount Received	Percent of Total Gas Tax Revenues	Distribution Basis
State Highway Fund	\$386.9 million	59.5%	N/A
Counties	\$159.1 million	24.5%	Generally 50% equal shares, 25% population, 25% geographic area, but there are exceptions
Municipalities	\$84.6 million	13.0%	Population
Petroleum Underground Tank Storage Board	\$12.1 million	1.9%	N/A
State General Fund <sup>1</sup>	\$6.7 million	1.0%	N/A
State Wildlife Resources Fund	\$511,000	.1%	N/A
Center for Gov’t Training	\$117,000	<.1%	N/A
<b>Total</b>	<b>\$650 million</b>	<b>100%</b>	
Note: <sup>1</sup> These are administrative fees collected from various distributions.			
Source: County Technical Assistance Service, <i>County Revenue Manual, August 2000</i> ; TDOT, <i>Tracking Tennessee’s 21.4-Cent Gasoline Tax</i> (available at <a href="http://www.tdot.state.tn.us/chief_of_administration/finance-office/GasTax.htm">http://www.tdot.state.tn.us/chief_of_administration/finance-office/GasTax.htm</a> , updated May, 2001); ICF Consulting.			

According to an analysis by the Tennessee Advisory Commission on Intergovernmental Relations (TACIR),<sup>6</sup> the county formula results in an over-distribution of gasoline tax revenues to large but sparsely

<sup>5</sup> The distribution formulas are found in T.C.A. § 67-3-2001 and 67-3-2006 (Taxes on Petroleum Products; General Administrative Provisions).

<sup>6</sup> State-Shared Taxes in Tennessee, TACIR, March 2000.



populated counties. This does not benefit rapidly growing urban areas such as Nashville where significant transportation improvements may be needed to keep pace with development.

In addition, according to the TACIR report, the gasoline tax has one of the lowest rates of growth when compared to other state tax programs. For instance, from 1988 to 1998, revenues grew by an average of 1.4 percent annually—only the alcoholic beverage tax grew more slowly—while the average growth across all taxes was 5.2 percent. The same survey also measured the volatility of revenues from the gasoline tax at 2.0 percent, above the average of 1.1 percent for the ten taxes studied. This means that gas tax revenues are less stable from year to year than revenues from taxes levied on other goods and services.

**Other State Shared Taxes.**<sup>7</sup> Tennessee returns a percentage of certain taxes collected by the state back to cities and counties. Three of these taxes are petroleum-related: the gas tax, the motor fuel tax, and the special petroleum tax. Of the 13 taxes<sup>8</sup> shared with local jurisdictions, the tax that returns the highest percentage of revenue to local jurisdictions is the gasoline and motor fuel tax (note that revenues from these taxes are reported together in budget documents). Almost 36 percent of revenues collected from these taxes are returned to cities and counties. For FY 1998-99, the state returned approximately \$255 million to local jurisdictions statewide. The state also shared almost two percent of the special petroleum tax with local jurisdictions, which amounted to \$11.9 million in FY 1998-99.

Nashville area cities and counties received over \$131 million in state shared taxes in FY 1998-99. Of this amount, approximately \$34 million was from the gasoline, motor fuel, and petroleum taxes. Counties rely far more heavily on gasoline taxes than do cities, however. Within the five-county Nashville area, counties received a total of \$15.4 million in gas and motor fuel taxes in FY 1998-99. This constituted the largest source of state shared taxes to counties, amounting to more than one-half of all state revenues shared with counties. Nashville area cities received \$18.7 million from the gasoline and motor fuels tax, only 18.5 percent of all state shared revenue received. The special petroleum tax is relatively minor; counties received only \$864,000 in FY 1998-99, while cities received a total of \$1.6 million. These distributions are presented in Table 4.

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<sup>7</sup> This discussion is drawn from TACIR, 2000.

<sup>8</sup> The 13 shared taxes are gasoline, motor fuel, special petroleum, corporate excise, sales and use, mixed drink, beer excise, beer wholesale, alcoholic beverage, Hall income, Tennessee Valley Authority payment, gas severance, and coal severance.

**Regional Transportation Funding—A Strategic Review**

**Table 4. Nashville Area Revenues from State Shared Gas, Motor Fuel, and Special Petroleum Taxes, FY 1998-99**

<i>County</i>	<b>Gas and Motor Fuel Tax</b>	<b>Gas and Motor Fuel Tax as % of Total State Shared Revenues</b>	<b>Special Petroleum Tax</b>	<b>Special Petroleum Tax as % of Total</b>	<b>Total State Shared Revenues</b>
<i>City</i>					
<i>Davidson</i>	\$5,790,654	43.0%	\$471,014	3.5%	\$13,479,975
Nashville	\$10,583,743	17.2%	\$911,145	1.5%	\$61,426,270
<b>Total</b>	\$16,374,397	21.9%	\$1,382,159	1.8%	\$74,906,245
<i>Rutherford</i>	\$2,790,602	59.6%	\$135,160	2.9%	\$4,683,301
Murfreesboro	\$1,679,557	19.9%	\$144,863	1.7%	\$8,425,024
Other Cities	\$1,142,462	23.7%	\$98,577	2.0%	\$4,811,365
<b>Total</b>	\$5,612,621	31.3%	\$378,600	2.1%	\$17,919,690
<i>Sumner</i>	\$2,326,748	60.0%	\$95,239	2.5%	\$3,876,914
Gallatin	\$587,111	21.4%	\$50,544	1.8%	\$2,739,955
Goodlettsville	\$357,849	20.5%	\$30,807	1.8%	\$1,743,919
Hendersonville	\$1,087,498	23.2%	\$93,629	2.0%	\$4,685,189
Other Cities	\$523,008	22.4%	\$45,044	1.9%	\$2,330,976
<b>Total</b>	\$4,882,214	31.8%	\$315,263	2.1%	\$15,376,953
<i>Williamson</i>	\$2,333,753	55.4%	\$90,105	2.1%	\$4,216,055
Brentwood	\$635,792	15.4%	\$54,735	1.3%	\$4,129,212
Franklin	\$835,886	17.2%	\$71,961	1.5%	\$4,866,392
Other Cities	\$394,160	23.5%	\$33,933	2.0%	\$1,674,711
<b>Total</b>	\$4,199,591	28.2%	\$250,734	1.7%	\$14,886,370
<i>Wilson</i>	\$2,157,889	58.9%	\$72,401	2.0%	\$3,665,148
Lebanon	\$517,831	19.1%	\$44,592	1.6%	\$2,709,913
Mount Juliet	\$307,850	22.1%	\$26,570	1.9%	\$1,391,203
Watertown	\$38,682	26.5%	\$3,330	2.3%	\$146,038
<b>Total</b>	\$3,022,252	38.2%	\$146,893	1.9%	\$7,912,302
<b>Total for All Counties</b>	\$15,399,646	51.5%	\$863,919	2.9%	\$29,921,393
<b>Total for All Cities</b>	\$18,691,429	18.5%	\$1,609,730	1.6%	\$101,080,167
<b>Total for Region</b>	\$34,091,075	26.0%	\$2,473,649	1.9%	\$131,001,560

Note: Coal and gas severance taxes not included in totals.

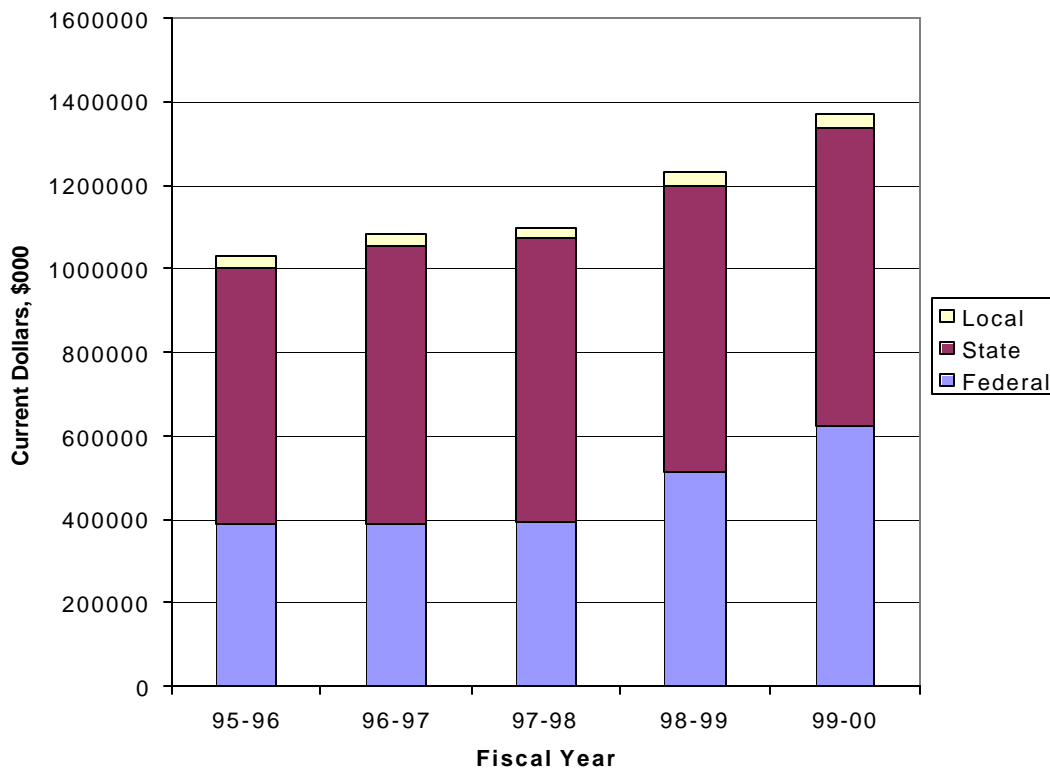
Source: Appendices C-1 and C-2, *State-Shared Taxes in Tennessee*, TACIR March 2000

3.1.2 Role of TDOT in State Funding<sup>9</sup>

The Tennessee Department of Transportation (TDOT) is the distributor of federal funds from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). TDOT distributes funds to local jurisdictions as well as funding its own projects.

TDOT’s revenues are derived roughly equally from state and federal sources, with only a small percentage generated locally. As shown in Figure 1, for the first three fiscal years of this period, TDOT’s budget was fairly constant, but it rose during the last two fiscal years, mostly due to an increase in federal revenues. For FY 99-00, TDOT’s total budget was approximately \$1.37 billion.

**Figure 1. Sources of Funds Expended by TDOT, FY 95-96 to FY 99-00**



**State Funding for TDOT.** As Figure 1 illustrates, TDOT’s state funding sources have remained relatively constant over this five-year period. TDOT receives funding from five primary state sources: highway user fees (including gasoline taxes), bonds, the transportation equity fund, miscellaneous department revenues, and fund balances/reserves. Of these five, by far the largest is highway user fees, amounting in FY 99-00 to \$585 million of total state revenues of \$711 million.

<sup>9</sup> The discussion below is based on the budget figures for a five-year period (FY 95-6 through FY 99-00).

## Regional Transportation Funding—A Strategic Review

The breakdown of state sources of funding is shown in Table 5, below.

**Table 5. State Sources of TDOT Funding, FY 2000-01**

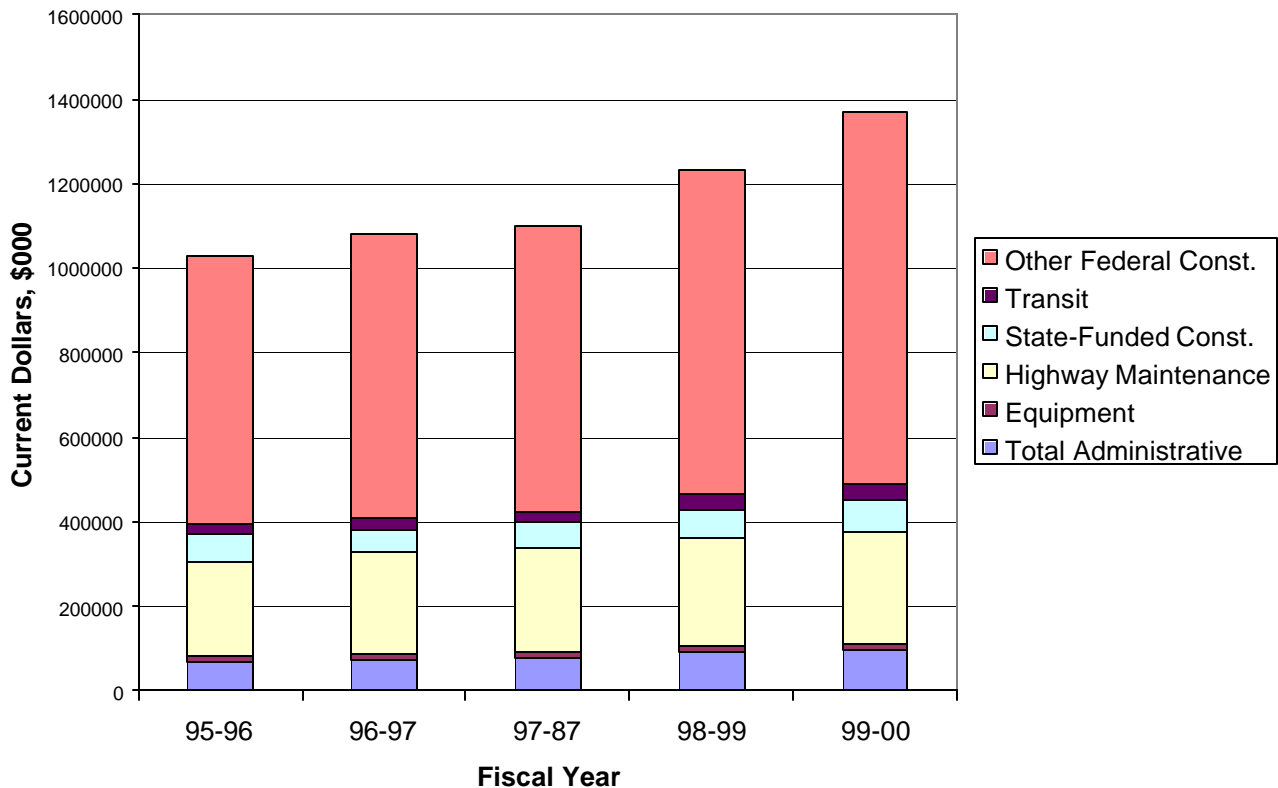
Funding Source	Amount
Highway User Taxes	\$606,800,000
Miscellaneous Department Revenues	\$15,520,000
Fund Balance and Reserves	\$10,000,000
Bond Authorization	\$87,700,000
Transportation Equity Fund <sup>1</sup>	\$12,500,000
<b>Total</b>	<b>\$732,520,000</b>

Note 1: Sales tax collected on fuels used for aviation, rail carriers or water carriers.  
 Source: Tennessee Department of Transportation Work Program, FY 2000-01

Highway user fees include four distinct funding sources: 1) gasoline tax, 2) motor fuel tax, 3) special petroleum tax, and 4) motor vehicle registration. Motor vehicle registration fees are \$24 per vehicle (this includes a clerk's fee of \$2.50) and \$8 for the title.

**TDOT Expenditures.** TDOT expenditures include both state programs as well as funds passed through to local jurisdictions. As can be seen in Figure 2, expenditures on Federal construction projects have recently risen, making up a growing portion of overall expenditures.

**Figure 2. TDOT Expenditures by Category, FY 95-96 to 99-00**



**Regional Transportation Funding—A Strategic Review**

Table 6, below, shows the sources of revenue for each TDOT expenditure category.

**Table 6. Tennessee Dept of Transportation Work Program: FY 2000-01, in \$000  
Sources of Funding by Expenditure Category**

<b>Expenditure Category</b>	<b>Federal</b>	<b>State</b>	<b>Local</b>	<b>Total FY</b>
<b>DOT HQ</b>		\$9,661		\$9,661
<b>Bureau of Administration</b>		\$36,291		\$36,291
<b>Bureau of Planning, Development, and Operations</b>		\$29,235		\$29,235
<b>Field Engineering</b>		\$25,079		\$25,079
<b>Insurance Premiums</b>		\$7,536		\$7,536
<b>Total Admin</b>		\$107,802		\$107,802
<b>Equipment Purchase and Operations</b>		\$20,850		\$20,850
<b>Highway Maintenance</b>		\$264,971	\$1,100	\$266,071
<b>Highway Betterments</b>		\$7,865	\$100	\$7,965
<b>State Aid</b>		\$30,682	\$11,143	\$41,825
<b>State Industrial Access</b>		\$10,815	\$200	\$11,015
<b>Local Interstate Connectors</b>		\$1,475	\$1,475	\$2,950
<b>Capital Improvements</b>		\$13,143		\$13,143
<b>Total 100% State Construction</b>		\$63,980	\$12,918	\$76,898
<b>Mass Transit</b>	\$19,838	\$22,900	\$187	\$42,925
<b>HPR</b>	\$10,500	\$3,450		\$13,950
<b>Interstate</b>	\$112,200	\$12,525	\$1,500	\$126,225
<b>Forest</b>	\$700	\$200		\$900
<b>State Highway Construction</b>	\$428,200	\$215,042	\$12,800	\$656,042
<b>Bridge</b>	\$70,500	\$5,100	\$3,600	\$79,200
<b>Air, Water, Rail</b>	\$6,500	\$15,700	\$1,880	\$24,080
<b>Total Federal Construction</b>	\$648,438	\$274,917	\$19,967	\$943,322
<b>Total TDOT:</b>	\$648,438	\$732,520	\$33,985	\$1,414,943

Source: Tenn. Dept of Transportation website

### **3.1.3 Local Funding Sources**

Because there are no local sources of dedicated transportation revenue, cities and counties in Tennessee tend to fund transportation out of general fund revenues. This means that transportation projects and maintenance compete for funding with other general government needs, such as education, public safety, and other public works.

The two main sources for general fund revenue for most counties and cities are property taxes and sales taxes. In addition, all five counties in the Nashville area levy a wheel tax, but as with other sources, revenues from the wheel tax are not dedicated solely to fund transportation initiatives.

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**Sales Taxes.** In July 2002, the state legislature adopted a bill that raised the state sales tax to seven percent, with the exception of groceries, which remained at six percent. Some of these revenues are shared with local jurisdictions, as discussed earlier. In addition, counties are allowed to levy additional local option sales taxes up to 2.75 percent. Therefore, county sales tax rates vary between 7 and 9.75 percent. Sales tax rates for the five Nashville area counties are shown in the table below:

**Table 7. Sales Tax Rates and Estimated Collections for Nashville Area Counties**

County	2002 Sales Tax Rate	Estimated Collections for FY 2000-01
Davidson	9.25	\$225,882,122
Rutherford	9.75	\$47,552,796
Sumner	9.25	\$18,094,763
Williamson	9.25	\$43,002,814
Wilson	9.25	\$14,683,922
Total		\$349,218,416

Source: Table V, Local Option Sales Tax, TCAS; Tennessee Department of Revenue, April 2001

By state law, one-half of local option sales tax proceeds are distributed to the school district, and the other half are generally distributed between the city and county. For example, in Rutherford County, sales taxes on items purchased in the cities go to the cities, while sales taxes on items purchased in unincorporated areas go to the county. However, cities and counties may arrive at other distribution arrangements.

Local sales taxes can be raised only with voter approval.

**Property Taxes.** As in jurisdictions throughout the country, the bulk of local general funds are derived from property taxes. Property tax rates are shown in Table 8.

**Table 8. Property Tax Rates and Uses, FY 2000-01**

County	County General Fund	Road/Bridge Fund	General Purpose School	Other School Fund	Debt Service Fund	Solid Waste Fund	Total Tax Rate	Total Property Tax Collections to General Fund (FY 02)
Davidson – General Services Dist	1.68		.96	.25	.5		3.39	\$258,906,420
Davidson – Urban Services Dist	.74				.11		.85	\$73,681,007
Rutherford	.57		1.46		.72	.03	2.78	\$20,079,625
Sumner	.42	.01	1.48		.63		2.54	\$8,026,200
Williamson	.7	.05 (1)	1.3		.55 - .82 (1)	.09 (1)	2.28 – 3.55 (2)	\$19,930,889
Wilson	.87	.24	1.19		.35	.17	2.82	\$12,232,200

Notes: 1. Only levied in certain areas within county  
2. Several areas within county have a special service district additional rate of 1.0.

Sources: County Technical Assistance Service, *Tennessee County Tax Statistics*, Table 1, Distribution of Property Tax, FY 2000-01; County budgets, FY 2002

**Wheel Taxes.** Tennessee counties are authorized to impose a motor vehicle privilege tax, commonly known as a wheel tax. Taxes are set at a flat rate per vehicle. Table 9 shows the tax rate, estimated

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collections, and funds distribution of the wheel tax for the five Nashville area counties. Funds are collected directly by the counties. There is no statewide upper limit on wheel taxes; the funding amount is limited only by each county's resolutions and private acts. (The highest wheel tax in the state is in Crockett County, with a \$70 wheel tax; most counties are in the \$20-25 range.)

**Table 9. Nashville Area Wheel Taxes**

County	Tax per Automobile <sup>1</sup>	Number of Vehicles Registered in County	Estimated Annual Revenue <sup>2</sup>	Distribution of Revenues
Davidson	\$35	654,843	\$22,919,505	General Fund
Rutherford	\$50	109,163	\$5,458,150	Two-thirds to Road and Bridge Fund; One-third to Debt Service Fund
Sumner	\$50	106,307	\$5,315,350	30% to highways and 70% to education
Williamson	\$25	108,832	\$2,720,800	General Fund (County Commission can appropriate revenue to Highway Dept)
Wilson	\$25	79,527	\$1,988,175	Education, fire protection, and sheriff's dept
<b>Total</b>		<b>1,058,672</b>	<b>\$38,401,980</b>	

Notes: 1. Does not account for taxes on motorcycles.  
2. Based on tax per automobile times number of vehicles registered.

Source: Table III (2000 Compilation of Countywide Motor Vehicle Tax Rates) and Table IV (Motor Vehicle Registrations), County Technical Assistance Service, January 2001

### 3.2 FUNDING AND INFORMATION GAPS

In order to have a clearer picture of local transportation funding, we reviewed budgets of the five counties in the Nashville metropolitan area, as well as the largest cities (Brentwood, Gallatin, Franklin, La Vergne, Lebanon, Murfreesboro, Portland, and Smyrna). For all areas, budgets from FY 2002 were used.

In general, this analysis shows that the Nashville region spent approximately \$121 million on various transportation programs in FY 2002. The region collected \$70 million from transportation revenue sources, including the gasoline tax, wheel tax, state street aid and state bridge programs, as well as several federal grants. This implies that as a whole, the region would need to collect an additional \$51 million in transportation revenues if the goal is for transportation revenues to match expenditures. Metro Nashville/Davidson County, the largest single jurisdiction, accounts for approximately 27 percent of the region's spending.

The vast majority of spending by local jurisdictions is on roads. Almost three-fifths of the money is spent by counties, while only two-fifths is spent by cities. Capital spending accounts for almost 40 percent of all expenditures; many of these expenditures are on equipment and other capital purchases by streets and highway departments. However, the analysis is limited by the fact that it includes incomplete information from many of the jurisdictions. These findings, and the limits of the analysis, are discussed in the sections below.

#### 3.2.1 Budget Data Limitations

It should be noted that there were a number of omissions in the budget data that we received. The main issues were as follows.

**Regional Transportation Funding—A Strategic Review**

- Although we would have liked to analyze funding trends for the past several years, many cities and counties were unable to provide us with past budgets. Therefore, this analysis covers only FY 2002 budgets, which may have changed from their draft versions.
- Not all jurisdictions showed specific revenue sources. For example, two jurisdictions (Brentwood and La Vergne) reported no revenues specifically collected from transportation sources such as the wheel tax or state street aid. Presuming such revenues exist, they are hidden as “other taxes” or “other state aid” and not broken out separately.
- In terms of operating expenses, it was sometimes difficult to separate the operations of the highway or public works department (for example, salaries and office expenses) from operations and maintenance of the roadways themselves.

The analysis below presents as complete a picture as possible of the current transportation funding situation in the five-county area. Given the limitations described above, a full and accurate picture is not possible based on available budget documents.

Table 10 shows the categories into which Revenues and Expenditures were divided for each jurisdiction. Revenues considered “transportation source” include the gasoline and related taxes, state bridge program, street aid, and wheel tax.

**Table 10. Revenue and Expenditure Categories Used in Analysis**

Revenues	Expenditures
<b>Federal</b>	<b>Streets/Highways</b>
<b>State</b>	
Gasoline/Motor Fuel/Petroleum Special Tax	Capital
Street Aid	Roads
Shared Taxes	Bridges
Income Tax	Building Construction
Other State Grants	Equipment
<b>Local</b>	Special Projects/Grants
Property Taxes	Operations/ Maintenance
Local Option Sales Tax	Road Maintenance
Wheel Tax	Sidewalk Maintenance
Business Taxes	Vehicle/Equipment Maintenance
Severance Tax	Traffic Operations
Assessment Districts/Impact Fees	Studies/Planning/A&E
Other Local Taxes	Safety
Bonds	Salaries/Employee Expenses
Other Sources	Operating Expenses/Supplies/ Electric
	Building Maintenance
	Insurance
	Debt Service
	Flood Control
	Quarry Operations
	Other
Revenue sources in gray are from transportation	<b>Transit/Paratransit</b>



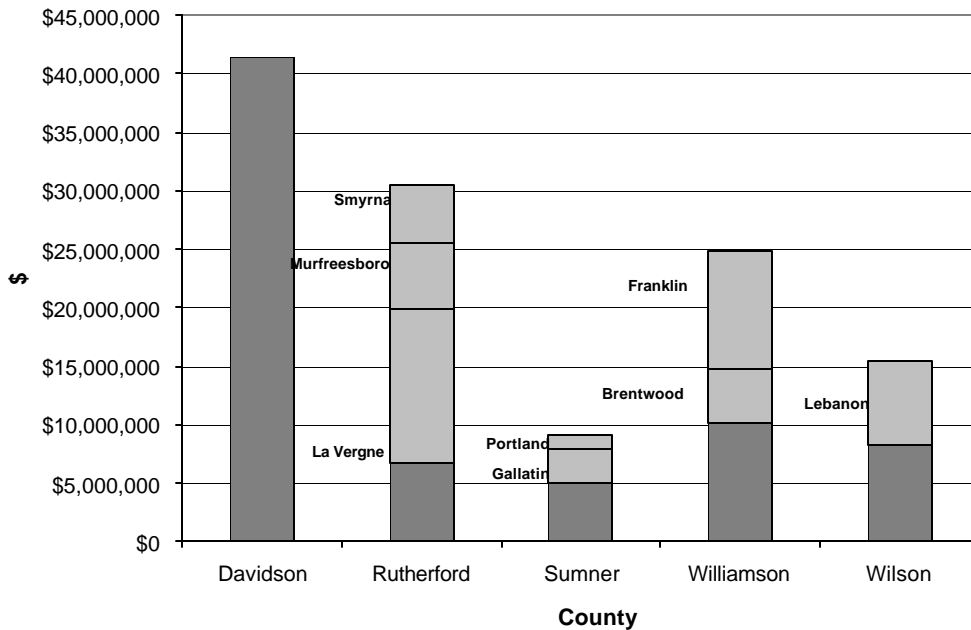
**3.2.2 Transportation Expenditures**

In FY 2002, the five-county area spent a total of \$121 million on transportation. Just over one-quarter (\$41 million) was spent by Nashville/Davidson. The second-largest expenditure was in La Vergne, which spent approximately \$13 million, largely on capital projects to support its growing population. The total for each jurisdiction is shown in Table 11, while Figure 3 contains a bar chart depicting the relative amount per county.

**Table 11. FY 02 Transportation Expenditures by County and City**

	Davidson	Rutherford	Sumner	Williamson	Wilson	5-Cty Total
Metro	\$ 41,374,585					
Rutherford Co.		\$6,680,346				
La Vergne		\$13,230,135				
Murfreesboro		\$5,600,607				
Smyrna		\$4,913,220				
Sumner Co.			\$4,995,905			
Gallatin			\$2,886,909			
Portland			\$1,154,399			
Williamson Co.				\$10,195,594		
Brentwood				\$4,589,125		
Franklin				\$9,980,567		
Wilson Co.					\$8,191,184	
Lebanon					\$7,239,353	
<b>Total by County</b>	<b>\$41,374,585</b>	<b>\$30,424,308</b>	<b>\$9,037,213</b>	<b>\$24,765,286</b>	<b>\$15,430,537</b>	<b>\$ 121,031,929</b>

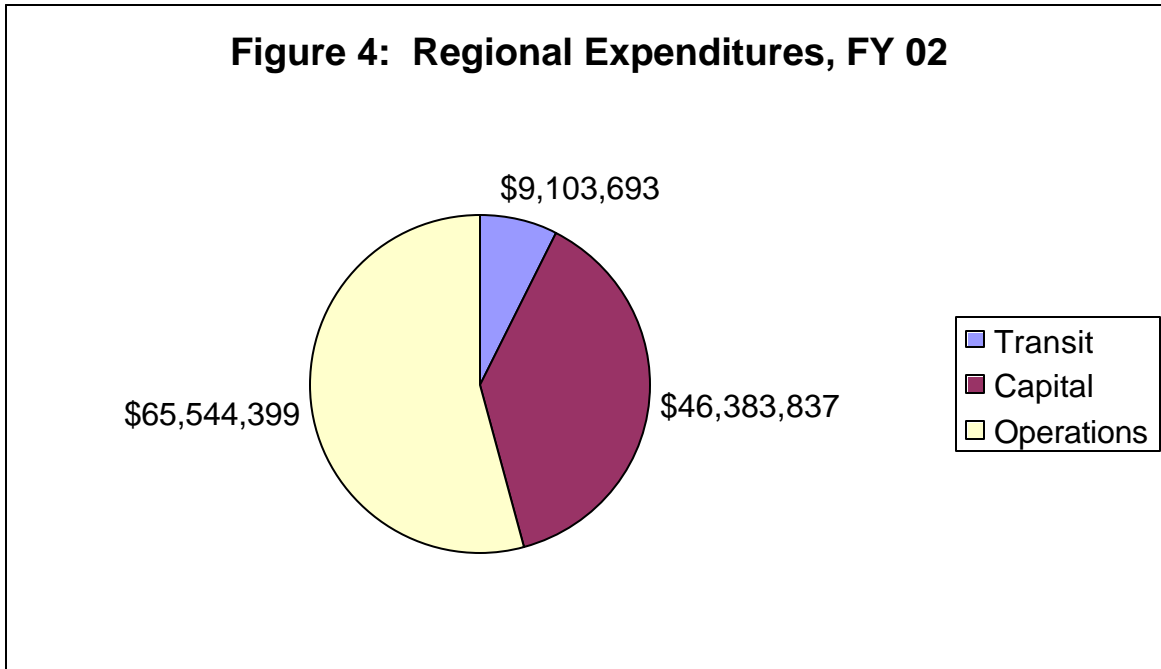
**Figure 3: Total Transportation Expenditures, FY 02**



Note: Dark gray indicates county expenditure; light gray indicates city expenditure

In general, transportation spending in the Nashville area tends to be more a county function than a city one. Approximately three-fifths of all transportation spending (\$70 million of a \$121 million total) was spent by counties, generally on road projects.

As depicted in Figure 4, these expenditures were almost exclusively on roadways; only Metro Nashville/Davidson County showed a significant expenditure for transit. Small expenditures for transit were shown for Rutherford and Williamson County, Franklin, LaVergne, Murfreesboro and Smyrna.



Furthermore, just over one-half of expenditures were for operations and maintenance. However, “operations” includes a variety of expenditures encompassing both road maintenance and operating expenses for salaries and other department expenses.

For most jurisdictions, it was impossible to tell accurately from the budgets the distinctions between funding for transportation and funding for other public works. Many jurisdictions, for example, had a single line item for public works salaries, even though not all of their employees were working in transportation. These operating figures are thus most likely inflated over actual operations related to the provision of transportation facilities and services.

Table 12, on the next page, shows transportation expenditures by various categories. As noted above, where it was impossible to determine from the budget documents the exact breakdown of items, we included the total amount.

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**Table 12. Expenditures by Category**

Jurisdiction	Streets/Highway Capital					Streets/Highway Operations									Total
	Roads	Bridges	Building Construction	Equipment	Special Projects/ Grants	Road & Sidewalk Maintenance	Vehicle/ Equipment Maintenance	Traffic Operations & Safety	Studies/ Planning/ A&E	Employee & Operating Expenses	Building Maintenance	Insurance & Debt Service	Flood, Quarry & Other	Transit	
Davidson	\$2,163,524	\$394,599	\$0	\$4,692,585	\$2,781,313	\$2,274,406	\$0	\$4,666,280	\$0	\$15,724,812	\$0	\$0	\$0	\$8,677,066	\$41,374,585
Rutherford	\$0	\$150,000	\$5,000	\$450,000	\$279,860	\$3,985,482	\$0	\$0	\$0	\$1,139,059	\$0	\$58,250	\$612,695	\$0	\$6,680,346
La Vergne	\$11,870,000	\$0	\$0	\$66,600	\$0	\$450,000	\$75,000	\$0	\$0	\$508,535	\$0	\$260,000	\$0	\$0	\$13,230,135
Murfreesboro	\$634,291	\$25,000	\$0	\$62,450	\$0	\$277,000	\$0	\$1,487,500	\$100,000	\$2,291,366	\$4,500	\$300,000	\$418,500	\$0	\$5,600,607
Smyrna	\$2,498,200	\$75,000	\$0	\$220,000	\$450,000	\$420,000	\$55,000	\$275,000	\$23,000	\$585,520	\$0	\$313,500	\$0	\$0	\$4,913,220
Sumner	\$0	\$0	\$0	\$211,500	\$0	\$3,509,118	\$564,025	\$0	\$0	\$675,581	\$0	\$0	\$35,681	\$0	\$4,995,905
Gallatin	\$989,864	\$0	\$0	\$19,500	\$79,625	\$952,202	\$0	\$209,300	\$522,822	\$0	\$0	\$0	\$113,596	\$0	\$2,886,909
Portland	\$150,000	\$0	\$317,926	\$20,000	\$227,000	\$21,250	\$14,500	\$9,000	\$5,280	\$337,685	\$19,000	\$2,758	\$30,000	\$0	\$1,154,399
Williamson	\$500,000	\$250,000	\$10,000	\$50,000	\$5,000	\$5,268,510	\$1,633,763	\$65,908	\$105,206	\$991,615	\$0	\$230,000	\$946,965	\$138,627	\$10,195,594
Brentwood	\$831,500	\$0	\$0	\$85,000	\$2,010,000	\$100,000	\$75,000	\$310,500	\$347,995	\$777,340		\$12,100	\$39,690	\$0	\$4,589,125
Franklin	\$1,110,000	\$775,000	\$1,144,600	\$355,900	\$3,168,000	\$0	\$92,000	\$516,591	\$172,000	\$1,209,481	\$10,000	\$1,097,495	\$41,500	\$288,000	\$9,980,567
Wilson	\$990,000	\$154,000	\$0	\$243,000	\$650,000	\$3,293,200	\$722,156	\$208,100	\$303,952	\$1,435,176	\$0	\$72,000	\$119,600	\$0	\$8,191,184
Lebanon	\$5,190,000	\$0	\$0	\$28,000	\$0	\$200,000	\$0	\$156,473	\$0	\$1,453,152	\$0	\$61,728	\$150,000	\$0	\$7,239,353
<b>Total</b>	<b>\$24,429,179</b>	<b>\$973,599</b>	<b>\$372,926</b>	<b>\$6,284,535</b>	<b>\$8,161,298</b>	<b>\$20,989,688</b>	<b>\$3,370,004</b>	<b>\$7,571,172</b>	<b>\$1,812,615</b>	<b>\$26,467,802</b>	<b>\$393,580</b>	<b>\$1,010,836</b>	<b>\$2,508,227</b>	<b>\$138,627</b>	<b>\$121,031,929</b>
<b>Total Capital: \$46,383,837</b>						<b>Total Operations: \$65,546,399</b>									<b>Grand Total: \$121,031,929</b>

### ***3.2.3 Transportation Source Revenues***

Where do jurisdictions obtain revenues for transportation expenditures? At the regional level, roughly half the funding comes through general funds (whose most common revenue source is the property tax) and half through public works or streets funds (which are more likely to contain state aid from transportation sources). The exception to the rule is Davidson County, which does not have a separate public works fund. The Davidson public works budget (for both the general and the urban services districts) is part of the general fund.

Of the \$121 million spent on transportation in FY 2002, \$60 million came through county and city general funds, which represented on just under half of all funds available to the jurisdictions. However, the general fund total is skewed because all of Davidson's \$41 million was spent through the general fund. An additional \$37 million was spent out of highway or public works funds. Finally, a total of \$23 million came from other funds, generally state street aid or special projects.

In general, tracking transportation funding was more straightforward for the counties. Cities tended to have more transportation expenditures scattered throughout a number of different budget areas, including state street aid, capital projects, and debt service.

For the streets and public works funds, the analysis showed that many jurisdictions spent more in FY 2002 than they received in revenues, due to carry-over funds from previous years. This points up the shortcomings of looking at only one year of revenues and expenditures.

Table 13 shows revenue derived from four transportation sources for each jurisdiction.

**Table 13. Transportation Source Revenue, FY 02**

<b>Location</b>	<b>Wheel Tax</b>	<b>Street Aid</b>	<b>Gas Tax</b>	<b>State Bridge Program/ Other</b>	<b>Total</b>
<b>Davidson Co. GSD</b>	\$15,300,000	N/A	\$15,000,000	\$5,686,975	\$35,986,974
<b>Davidson Co. USD</b>	N/A	N/A	\$1,500,000	N/A	\$1,500,000
<b>Rutherford Co.</b>	\$4,520,000	\$279,860	\$3,000,000	\$50,526	\$7,850,386
<b>La Vergne</b>	\$0	N/A	\$520,000	N/A	\$520,000
<b>Murfreesboro</b>	\$0	\$887,168	\$1,144,198	N/A	\$2,031,366
<b>Smyrna</b>	\$0	\$132,500	\$720,000	\$980,000	\$1,832,500
<b>Sumner Co.</b>	\$1,468,502	\$ 334,042	\$2,345,217	\$111,963	\$4,259,724
<b>Gallatin</b>	\$0	\$114,000	\$584,000	N/A	\$698,000
<b>Portland</b>	\$0	\$257,880	\$180,000	N/A	\$437,880
<b>Williamson Co.</b>	\$2,500,000	\$290,000	\$2,390,000	N/A	\$5,180,000
<b>Brentwood</b>	\$0	\$0	\$680,500	N/A	\$680,500
<b>Franklin</b>	\$0	\$1,350,000	N/A	\$2,806,180	\$3,886,180
<b>Wilson Co.</b>	\$1,750,000	\$350,000	\$2,142,128	\$110,000	\$4,352,128
<b>Lebanon</b>	\$12,000	\$687,500	\$200,000	N/A	\$899,500
<b>County Total</b>	\$25,538,502	\$1,253,902	\$26,377,345	\$5,959,464	\$59,129,212
<b>City Total</b>	\$12,000	\$3,429,048	\$4,028,698	\$3,286,180	\$10,985,926
<b>Five -County Total</b>	<b>\$25,550,502</b>	<b>\$4,682,950</b>	<b>\$30,406,043</b>	<b>\$9,245,644</b>	<b>\$70,115,138</b>

Note: Other revenue includes the following sources:

Nashville: Transit fare box recovery.

Smyrna: Federal grant for intermodal facilities and enhancements grant for sidewalks (\$480,000), and road impact fees (\$500,000).

Franklin: Federal grant traffic operations center (\$1,148,880), state grant for transit vehicle purchase (\$216,000) federal bridge funds (\$193,000) road impact fees and interest (\$1,235,000), and streetscape assessments (\$13,300)

Based on this incomplete picture, the most important source of transportation funding is the gasoline tax, which is collected at the state level and distributed to individual counties and cities (on the basis of population, area, and equal shares). The \$30.4 million in gasoline tax accounts for 43 percent of all revenues from transportation sources. At the county level, the wheel tax raised \$25.6 million in the four counties who reported their wheel tax collections. Note that unlike the other four counties, Wilson County uses its wheel tax for the General Debt Service Fund.

### ***3.2.5 Ratio of Transportation Revenues to Expenditures***

Almost all of the jurisdictions for which budget data were collected spend more on transportation than they collect in revenue from transportation sources. Revenues from the general fund, which for most jurisdictions consists of property and sales taxes, is often spent on transportation and money collected from transportation sources (such as the wheel tax) is often spent on non-transportation items. Within general funds it is impossible in most cases to tell which individual revenue streams are used for which expenditures; revenues are co-mingled.

Table 14, below, shows for each jurisdiction (where data are available) the ratio of transportation expenditures to revenues. A ratio of less than 1 means that the jurisdiction spends less on transportation than it collects in transportation revenues. Among the jurisdictions for which figures were available, only Rutherford County takes in more from transportation sources than it spends. The county receives \$3 million in state gasoline tax money, as well as \$4.5 million in wheel tax revenues, of which one-half is directed to the Road and Bridge fund. The General Services District in Davidson County takes in a substantial amount of transportation source revenue as well – \$37.4 million – but spends \$41.3 million.

The higher the ratio, the greater the imbalance between revenues and expenditures. For example, Murfreesboro's ratio of 2.76 means that the jurisdiction spent almost three times the amount on transportation than it took in from transportation sources. Given these current funding patterns, transportation cannot be a self-sustaining budget item, since it requires more revenues than it raises.

This table, which shows that the region spends far more money on transportation than it takes in from related sources, is of course only as accurate as the budget information provided.<sup>10</sup> Nevertheless, this analysis indicates a significant funding gap across the Nashville region, and points to the need for a concerted effort to identify alternative revenue sources to fund needed initiatives (both projects and programs). The next section discusses options that the Nashville Area MPO can consider in the future.

An additional finding that comes out of this work is the need for standardized financial reporting across agencies to facilitate similar analyses in the future. Given the need to creatively seek new sources of revenue to fund needed initiatives, analytic limitations arising from inadequate reporting of sources and uses of funds creates an unnecessary barrier. We recommend that the Nashville Area MPO develop reporting guidelines that can be readily adopted by local jurisdictions in the near future.

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<sup>10</sup> For information on the individual jurisdictions, see Appendix A.

**Table 14. Ratio of Transportation Source Revenue and Expenditure for Counties and Cities**

<b>Location</b>	<b>Total Transportation Source Revenue</b>	<b>Total Transportation Expenditures</b>	<b>Ratio of Expenditures to Revenue</b>
Davidson Co. (GSD and USD combined)	\$37,486,974	\$41,374,585	1.10
Rutherford Co.	\$7,850,386	\$6,680,346	0.85
La Vergne	\$520,000	\$13,230,135	25.44
Murfreesboro	\$2,031,366	\$5,600,607	2.76
Smyrna	\$1,832,500	\$4,913,220	2.68
Sumner Co.	\$4,259,724	\$4,995,905	1.17
Gallatin	\$698,000	\$2,886,909	4.14
Portland	\$437,880	\$1,154,399	2.64
Williamson Co.	\$5,180,000	\$10,195,594	1.97
Brentwood	\$680,500	\$4,589,125	6.74
Franklin	\$3,886,180	\$9,980,567	2.57
Wilson Co.	\$4,352,128	\$8,191,184	1.88
Lebanon	\$899,500	\$7,239,353	8.05
<b>County Total</b>	\$59,129,212	\$71,437,614	1.21
<b>City Total</b>	\$10,985,926	\$49,594,315	4.51
<b>Five - County Total</b>	\$70,115,138	\$121,031,929	1.73

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## 4. ALTERNATIVE FUNDING SOURCES

This section presents information on various financing options for dedicated transportation revenue. The main sources of ideas were the stakeholders themselves, who were asked in the interviews to comment on a list of funding sources, as well as suggest others. These suggestions – a total of 25 – were put to the project’s Technical Advisory Committee for a vote, from which ultimately five were selected for further study. This section details that selection process and presents revenue projections for each of the five selected sources, as well as an example from a region where the source is currently in use.

### 4.1 STAKEHOLDER OPINIONS ON FUNDING SOURCES

As noted above, we conducted 15 personal and telephone interviews with local officials, TDOT staff, and regional stakeholders to assess the probability of various revenue measures being implemented. Persons interviewed were also asked to comment on potential sources for new regional transportation funds. These results are summarized in Table 15.

The table is arranged in descending order of approval; the first row contains the funding sources with the least number of negative comments and the highest number of positive comments. In all, 25 potential funding sources were discussed by the 18 stakeholders, of which some are new sources and others are extensions of or increases to existing sources. The lighter the color, the more positive the comment. There are blanks in the table because not every person interviewed commented on each source.

**Table 15. Stakeholder Opinions on Potential Transportation Revenue Sources**

Stakeholder:	Number of Comments:																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Local Income Tax																		1	1	0
Tire Sales Surcharge																		0	2	0
Real Estate Transfer Tax																		0	1	0
VMT Fee																		0	1	0
Personal Property Tax																		2	1	1
HOT Lanes																		1	2	1
Hotel/Motel Tax																		1	1	1
Car Rental Tax																		1	3	3
County Wheel Taxes																		5	3	3
TDOT Revenue Sharing																		1	2	1
Lottery																		1	0	1
Increased Parking Fees																		0	2	1
Increased State Sales Tax																		1	1	3
Utilities Tax																		1	1	3
Interlocal Act																		0	0	1
Joint Development Revenues																		0	0	1
Toll Roads																		1	1	4
Vehicle Emissions Fees																		2	6	2
Local Option Gas Tax																		2	6	4
Property Taxes																		1	5	3
Impact Fees																		0	1	3
Benefit Assessment District																		0	0	4
State Income Tax																		0	4	10
Increased Local Sales Taxes																		1	1	10
Transportation Utility Tax																				

Key:  Positive comments  
 Neutral or mixed comments  
 Negative comments

Notes: Comments received on funding sources were characterized as positive, neutral or mixed, and negative. The lightest shade represents positive comments, while the darkest shade represents negative comments. Each column represents one interviewee; to protect the privacy of those interviewed, names and jurisdictions are not shown.

The Transportation Utility Tax was mentioned at a later meeting; no comments were made on it during the interviews.

Source: Various representatives of local jurisdictions, state agencies, and stakeholders; ICF Consulting

## 4.2 FUNDING SOURCE SELECTION CRITERIA

Members of the project steering committee were then asked to rank each of these 25 funding sources on a scale of one to five. We then considered all 25 sources in light of three factors:

1. Ease of implementation
2. Revenue generation potential
3. Ballot results from steering committee

These three factors are shown in Table 16.

From these 25 potential sources, we selected five to analyze in greater detail:

1. Wheel tax
2. Sales tax
3. Vehicle emissions fees

**Table 16. Ranking of Potential Revenue Sources on Revenue Potential, Ease of Implementation, and Balloting**

↑ Revenue Potential ↓	<b>High</b>	Local Option Gas Tax (4.3) Personal Property Tax (3) TDOT Revenue Sharing (3) State Income Tax (2.4) Increased Local Sales Tax (2.2) Lottery (2) Utilities Tax (1.6) VMT Fee (N/A)	County Wheel Tax (2.4) Real Estate Transfer Tax (1.6)	
	<b>Medium</b>	Interlocal Act (3.6) Toll Roads (2.6) Increased State Sales Tax (1.6)	Vehicle Emissions Fees (3.6) Impact Fees (3.2) Benefit Assessment Districts (3.2) Parking Fees (3.4) Transportation Utility Tax (2.6) Hotel/Motel Tax (2.2) Car Rental Tax (1.8) Property Taxes (1.4)	Tire Sales Surcharge (3) Downtown Income Tax (1)
	<b>Low</b>	HOT Lanes (2)		Joint Development Revenues (2.8)
		<b>Hard</b>	<b>Medium</b>	<b>Easy</b>
		<----- Ease of Implementation ----->		

Note: Score in parentheses indicated average score in balloting on scale of 1 (lowest) to 5 (highest). Five ballots received.

Source: ICF Consulting

4. Gas tax
5. Development fees/benefit assessment districts

These are the shaded cells in Table 16.

In making the final determination, we also considered the fact that it would likely be easier to work with an already-existing revenue source rather than institute a completely new source. These five sources are already in use in the Nashville region, to varying degrees. The first two sources, the wheel tax and sales tax, are county options that all five counties in the Nashville area have chosen to exercise. (Although the local sales tax received low marks from stakeholders, it is included here because of its high revenue potential.) The vehicle emission fee is adopted locally in response to federal regulations, and the gasoline tax is in place because of state regulations. Development (impact) fees are in use throughout the region, but implemented at the local level.

Other sources were eliminated for various reasons, despite having received high scores in the balloting. The tire sales surcharge does not currently exist in the Nashville region. The Interlocal Act, which permits local jurisdictions to share revenues, was eliminated because it does not constitute a new revenue source. Personal property tax on vehicles would constitute a similar source to wheel taxes, which already exist, although either could raise more money depending on the structure of the tax, and property taxes fall more heavily on the owners of new and expensive vehicles. TDOT revenue sharing is not a new revenue source. Finally, only five of the 12 steering committee members responded to the ballot, meaning that the results may not be representative.

Any of these five sources could also be implemented at the regional level, with revenues collected by a regional body. This would minimize the problems of unequal contributions, because all counties would pay at the same rates into the same fund. The regional body, whether a new body or an existing body with increased power to collect revenues, would have the authority to program these new funds for various transportation purposes.

Regionally generated transportation revenues are rare in the U.S. Most transportation funding is generated at the federal, state, county, and city levels. One recent comprehensive survey, *Local Option Transportation Taxes in the United States*, found that, “(M)any state governments have granted revenue and taxation powers to local and regional governments, in the form of local option transportation taxes.... Yet when state legislatures have delegated these powers, very few have created a role for MPOs in their implementation.”<sup>11</sup> Even when the agencies that collect revenues are not themselves county governments, many of them are affiliated with only one county. Probably the most common type of regional funding is taxing and fare collection by regional transit authorities, which use those revenues for operating funds.

### **4.3 REVENUE ESTIMATES**

For each of the five funding sources, we provide 1) a rough estimate of the level of revenue potential, and 2) examples of how the funding sources might be implemented, based on experiences in other jurisdictions. The revenue projections discussed below were developed by asking how total revenues of either \$5, \$10 or \$20 million could be generated. Therefore, each scenario begins with an end result of these figures and works backwards to a starting point of how

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<sup>11</sup> Goldman, Todd, Sam Corbett and Martin Wachs. *Local Option Transportation Taxes in the United States*. Institute of Transportation Studies, University of California at Berkeley, March 2001.

many dollars would need to be charged per unit. Assumptions for particular revenue sources are discussed individually in each section. However, for all five potential sources, it is assumed that demand for the goods or services taxed remains inelastic (i.e., the new tax itself does not decrease demand).

In addition to current year estimates, projections were made for 2005 and 2010. All revenue projections are in constant 2000 dollars.

Table 17 shows revenue projections for all five sources. In general, the amount of money charged per unit decreases in future years, because the population is expected to increase. We do not expect actual taxes to be structured this way; rather this approach is used to compare various years and types of taxes.

Figures 5 through 10 show how these revenues would grow over time. Using the rates shown for the year 2000/01 in Table 17, we show how revenues from each of these sources, if charged at the same rate over the next ten years, would grow.<sup>12</sup> Based on the revenue needed in 2001, as depicted in Table 17, growth of these revenue sources was forecast to 2005 and 2010 to see which would grow at the fastest rates. The rates of growth do not differ between the \$5, \$10, and \$20 million projections, because all sets of projections are based on the same data. Development impact fees are projected to grow the most quickly, because of the rapid rate of construction in the 1990s on which future year projections are based. The second-fastest growing source is the sales tax. The gas tax is third, while the vehicle inspection fee and wheel tax both grow at slower rates, tracking closely because they are based on the same set of projections about future vehicle ownership.

The sub-section following the projections in the Figures addresses each of the selected five funding sources, including:

- A description,
- Advantages and disadvantages (including discussions of current state law and county practice),
- An analysis of their revenue potential, and
- A case study from another region(s) of the country where an identical or similar source is in use.

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<sup>12</sup> These projections are compatible with the Long Range Plan projections, since those were also done in constant dollars (albeit 1998 constant dollars).

Calculations for each source are contained in Appendix B.

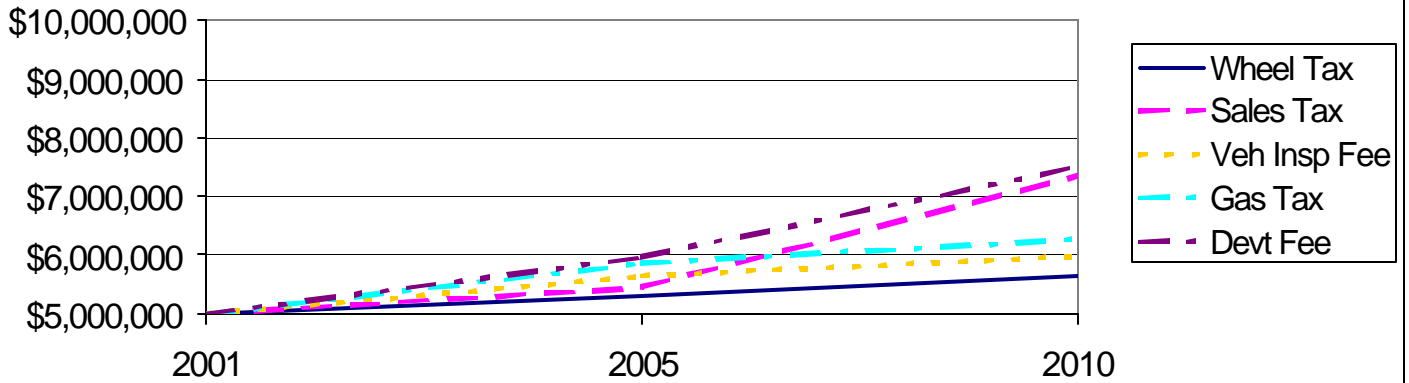
**Table 17. Estimated Revenue Generation for Five Potential Revenue Sources in the Five-County Nashville Area**

		<b>RATE NEEDED TO GENERATE:</b>								
		<b>\$5 M Annual Revenue</b>			<b>\$10 M Annual Revenue</b>			<b>\$20 M Annual Revenue</b>		
<b>SOURCE</b>	<b>UNIT</b>	<b>2000/01</b>	<b>2005</b>	<b>2010</b>	<b>2000/01</b>	<b>2005</b>	<b>2010</b>	<b>2000/01</b>	<b>2005</b>	<b>2010</b>
Wheel Tax	Per vehicle	\$4.72	\$4.44	\$4.19	\$9.45	\$8.88	\$8.37	\$18.89	\$17.76	\$16.74
Sales Tax	Per \$1	0.05 cent	0.05 cent	0.04 cent	0.11 cent	0.10 cent	0.07 cent	0.22 cent	0.20 cent	0.15 cent
(at 9.25 %)	(resulting new rate)	9.30 %	9.30 %	9.29 %	9.36 %	9.35 %	9.32 %	9.47 %	9.45 %	9.40 %
Vehicle Emissions Fee	Per vehicle	\$5.90	\$5.55	\$5.23	\$11.81	\$11.10	\$10.46	\$23.61	\$22.20	\$20.93
Gas Tax	Per gallon	0.8 cents	0.7 cents	0.6 cents	1.6 cents	1.3 cents	1.3 cents	3.2 cents	2.7 cents	2.5 cents
Development Impact Fees	Per new unit (residential)	\$154.03	\$114.40	\$78.88	\$308.07	\$228.81	\$157.76	\$616.13	\$457.61	\$315.52
	Per new sq ft (commercial)	\$2.89	\$2.60	\$2.26	\$5.79	\$5.19	\$4.53	\$11.57	\$10.38	\$9.06

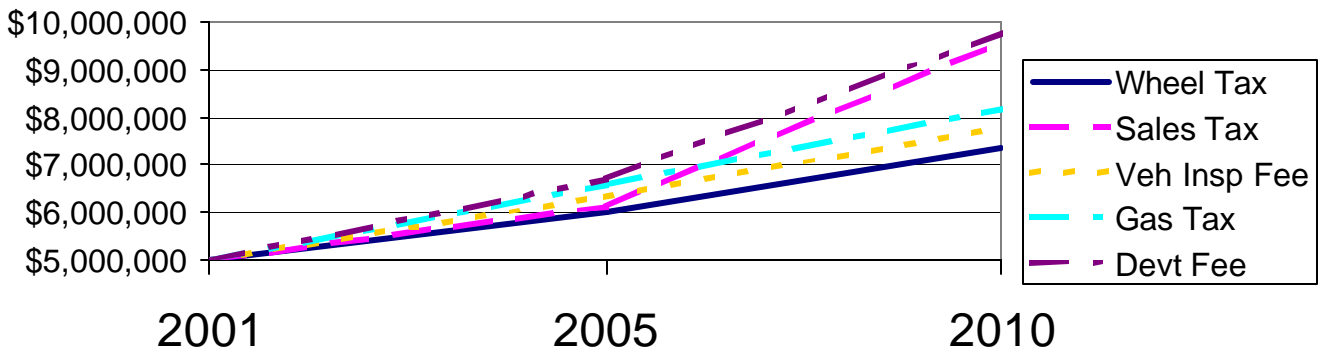
Notes: Because of the way that the Tennessee Department of Revenue collects sales tax data, sales tax estimates are based on the fiscal, not the calendar, year.  
 Wheel tax and vehicle emissions fee estimates for 2000/01 based on vehicle registration figures for 2000.  
 Gas tax estimates are based on VMT figures from 2000.  
 Impact fee estimates are based on housing starts and commercial development estimates for 2000.

Source: ICF Consulting. See Appendix A for individual data sources.

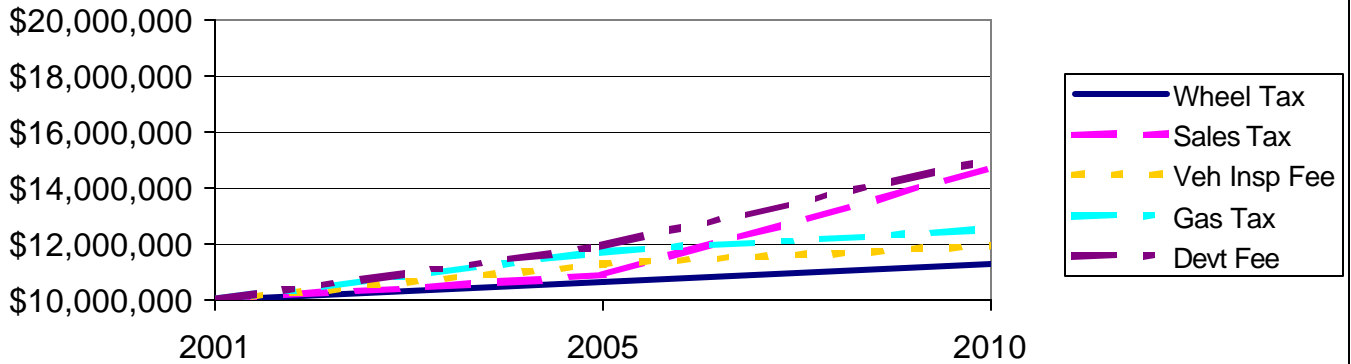
**Figure 5. \$5 Million Revenue Sources in 2001 Projected to 2010 (in Constant 2001 Dollars)**



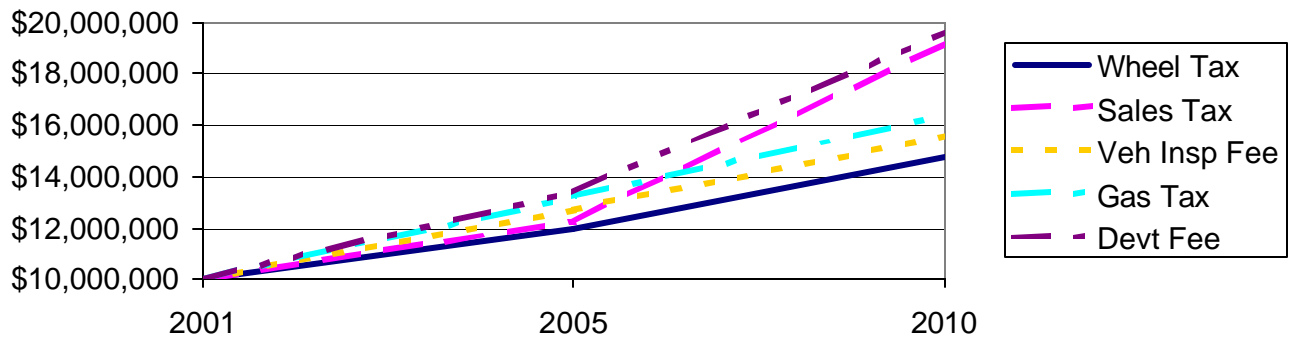
**Figure 6. \$5 Million Revenue Sources in 2001 Projected to 2010 (in Current Dollars with 3% Inflation)**



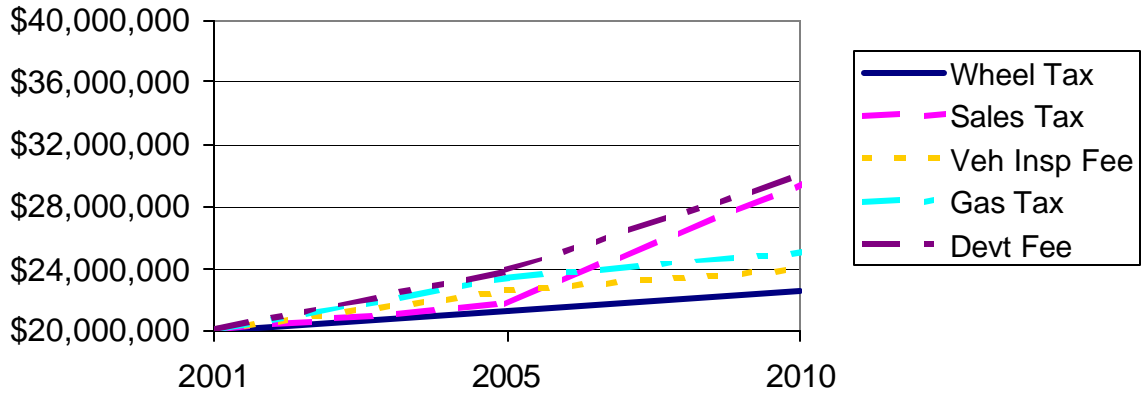
**Figure 7. \$10 Million Revenue Sources in 2001 Projected to 2010 (in Constant 2001 Dollars)**



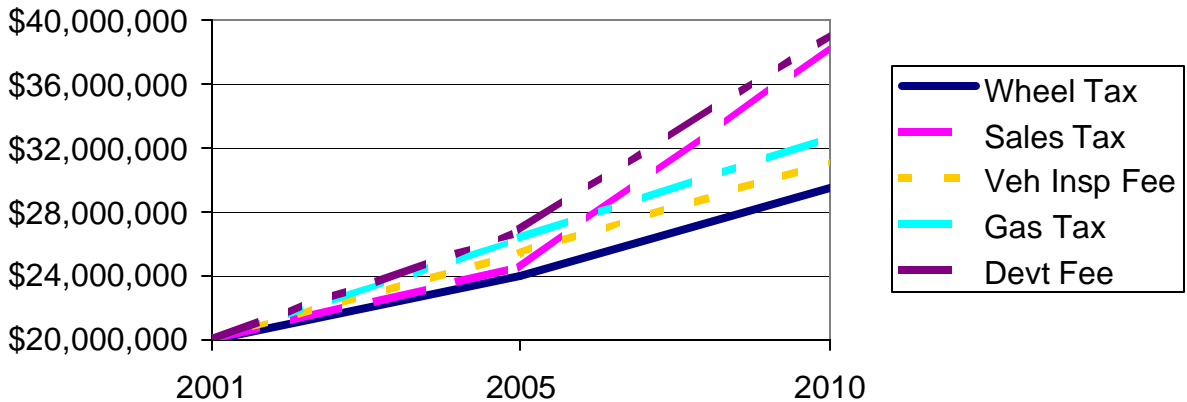
**Figure 8. \$10 Million Revenue Sources in 2001 Projected to 2010 (in Current Dollars with 3% Inflation)**



**Figure 9. \$20 Million Revenue Sources in 2001 Projected to 2010 (in Constant 2001 Dollars)**



**Figure 10. \$20 Million Revenue Sources in 2001 Projected to 2010 (in Current Dollars with 3% Inflation)**





## 4.4 FIVE POTENTIAL FUNDING SOURCES

This sub-section looks more closely at each of the five potential funding sources. For each source there is a brief description, a discussion of advantages and disadvantages, an assessment of the source's revenue-generating ability, and an example from an area where that source is already in use. Some of these sources are already in use in the Nashville area; the question then becomes whether that source could be increased to generate additional revenue.

### 4.4.1 County Wheel Taxes

**Description.** Within Tennessee, each county is allowed to levy a per-vehicle fee at the time of registration and on an annual basis thereafter. Wheel taxes can be levied in one of three ways: a two-thirds resolution of the county legislative body; a resolution of the county legislative body with a regular majority and a referendum; or via private act of the state legislature.

**Advantages.** Because these taxes are already in place, they would not be as difficult to raise as new taxes. In Williamson and Wilson Counties, the tax is only \$25 per vehicle per year. Rutherford and Sumner County have the highest wheel tax, at \$50 per vehicle per year. (See Table 8, in the Local Transportation Funding section, which also includes a breakdown of how wheel tax revenues are currently spent.)

**Disadvantages.** If a county had recently increased its wheel tax, it could be difficult politically to raise it again. Rutherford County was the last county to raise its wheel tax, in 2000.

**Potential Revenues.** Revenue estimates for the wheel tax are based on several assumptions:

- The ratio of vehicles to persons will remain constant, and therefore the number of vehicles will grow in direct proportion to the number of persons.
- All registered vehicles will pay a wheel tax.

Population forecasts done in 1998 were supplied by the Nashville Area MPO. Although the total estimated population for 2000 differed from the U.S. Census figures, MPO projections were used so that forecasts for the number of vehicles would be based on the same data set.

Although the ratio of vehicles to persons varies from county to county, in general the ratio is one-to-one. The MPO's population estimate for the year 2000 was 1,054,150, while the Department of Motor Vehicles put the number of registered vehicles in 2000 at 1,058,672. Thus, an assessment of \$5 per vehicle would result in revenues of approximately \$5 million. Because the population is expected to increase by only 150,000 persons over the next ten years, the size of the per-vehicle assessment decreases by only 50 cents. Raising \$10 million annually would require \$9.45 per vehicle in 2000 and \$8.37 in 2010.

#### Example: North Carolina<sup>13</sup>

According to North Carolina legislation, state vehicle taxes are credited to the State Highway Fund. The state-issued title fee is currently \$35. Other jurisdictions have the option to levy up to \$5 for a General Municipal Vehicle Tax. In addition, any city or town

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<sup>13</sup> This discussion is drawn from Goldman, et al, the Triangle Transit Authority web site ([www.ridetta.org](http://www.ridetta.org)), the North Carolina Department of Motor Vehicles web site ([www.dmv.dot.state.nc.us](http://www.dmv.dot.state.nc.us)), and the Orange County adopted budget, FY 2001-02.

that operates public transit can levy a tax of up to \$5 as a Municipal Vehicle Tax for Public Transportation. Together with other state, regional or local vehicle taxes, these cannot add up to more than \$30 per person per year. This money must be used to supplement public transportation funding.

In 1989, North Carolina created the Triangle Transit Authority (TTA), a regional planning organization for Wake, Durham and Orange Counties. The TTA's purpose is to plan, finance, organize and operate the area's public transit system. A Board of Trustees, appointed by the region's principal municipalities, counties and the North Carolina Secretary of Transportation, oversees the TTA. The General Assembly authorized the TTA to levy a vehicle registration tax of up to \$5 in 1991. This \$5 tax is collected as part of the state vehicle title fee, and is then passed from the state directly to TTA. The tax finances the regional bus operations, ridesharing program and planning program.

The first phase of the TTA's Regional Transit Plan for transportation improvements will be funded by a rental vehicle tax of up to five percent of gross receipts. This tax was passed by the General Assembly, subject to County approval, and went into effect January 1, 1998. However motor vehicle tax revenue will go toward funding the rest of the plan, which focuses on Regional Rail service and expanded bus service, shuttles, park and ride facilities, and pedestrian and bicycle access to transit.

Descriptions of vehicle taxes in the following three states are quoted from Goldman, et al, March 2001:

**Example: Ohio**

Cities, counties, townships, and transportation improvement districts may adopt vehicle license taxes at flat rates in increments of \$5 per vehicle, up to a maximum of \$20 in any particular location. These taxes require voter approval, and revenues must be used for road, street, bridge, and highway projects.

Currently, about two-thirds of all counties, half of all municipalities, and one-quarter of all townships impose a vehicle license tax. The number of counties imposing the tax has remained roughly constant over the past decade, but there has been a steady rise among cities and towns. A recent study estimated that local governments raise \$138 million from this tax statewide. Cities and towns indicate that they use the revenues from this tax primarily for maintenance and repair, rather than construction of new transportation facilities.

**Example: South Carolina**

Counties may adopt flat motor vehicle fees to pay for road maintenance. Although the legislature did not pass a statute that explicitly created this authority, it was found under existing, broader statutes by a state court in 1992. Since then, twelve counties and one city have adopted this tax, at rates ranging from \$5 to \$20 per vehicle. Statewide, it is estimated that counties generate \$11.3 million with this tax.

Regional transportation authorities may also adopt flat vehicle registration fees to provide transit services. Local governments tax automobiles as personal property, with the revenues going into their general funds. No distinction appears to be made between automobiles and other personal property under the law, either in how they are assessed or how the revenues are used.

**Example: Texas**

Counties may adopt a flat vehicle registration fee (up to \$10 annually), to provide revenues for their road and bridge funds. Of the state's 254 counties, 198 have adopted the full tax, 36 have adopted the tax at lower levels, and 20 have not adopted the tax. Statewide, this tax generates about \$156 million annually. In addition to the road and bridge tax, several counties have adopted small additional vehicle taxes for other purposes, including registration automation systems and child safety programs.

Metropolitan rapid transit authorities may also impose a vehicle emissions tax to fund transit infrastructure and services, but this tax has not been implemented anywhere in the state.

**4.4.2 Increased Sales Taxes**

**Description.** The state of Tennessee currently levies a seven percent sales tax, with many items exempted. Counties in Tennessee already have the option of levying a 2.75 percent sales tax on top of the seven percent charged by the state. In the Davidson area, only Rutherford is at 2.75 percent; the other four counties charge 2.25 percent sales tax.

In order to raise new sales tax revenues, those counties could raise their sales tax to the currently allowed 2.75 percent, or the state could raise the ceiling on the allowable local sales tax. In addition, the state could grant the region the authority to levy a regional sales tax that would be imposed at a uniform rate throughout the five-county area and be used exclusively for transportation purposes.

**Advantages.** As a sales tax is already in place, raising it would probably not incur the same reaction as imposing a new tax. In addition, the sales tax is reasonably inexpensive to administer.

**Disadvantages.** Sales taxes are already high, particularly after the state legislature voted in July 2002 to raise the state portion of the sales tax from six to seven percent. Counties could lose sales to neighboring counties with lower taxes. Sumner County also borders Kentucky, where the state sales tax rate is six percent, but unlike Tennessee, Kentucky exempts food sales from tax. Fifteen counties border the five counties in the Nashville area, and eight of them have local options rates of 2.25, the same as most Nashville area counties. The other seven have lower taxes. Local option sales tax rates in neighboring counties are shown in Table 18:

**Table 18. Local Option Sales Taxes in Counties that Border the Nashville Area MPO**

<b>Jurisdiction</b>	<b>Local Option Sales Tax Rate</b>	<b>Bordering Counties</b>
Robertson County	2.25	Sumner
Macon County	2.25	Sumner
Cheatham County	2.25	Davidson and Williamson
Dickson County	2.25	Williamson
Hickman County	2.25	Williamson
Maury County	2.25	Williamson
Marshall County	2.25	Williamson
Bedford County	1.75	Rutherford
Coffee County	2.00	Rutherford
Cannon County	1.75	Rutherford and Wilson
Dekalb County	1.50	Wilson
Smith County	2.00	Wilson
Trousdale County	2.25	Wilson and Sumner
Simpson County, KY	0.00	Sumner
Allen County, KY	0.00	Sumner

Source: County Technical Assistance Service, Tennessee County Tax Statistics, January, 2002.

Therefore, an additional regional sales tax could result in some consumers making purchases elsewhere.

Rutherford County, as noted above, has already “tapped out” its sales tax at the maximum allowable level of 2.75 percent. Without a change in law, Rutherford County would not be able to contribute to a regional sales tax. This could be dealt with in one of three ways:

- **Legislative change.** The state legislature could either raise the 9.75 total sales tax cap, or institute a new “regional sales tax” with different limits or separate from the state and local sales tax caps.
- **Revenue substitution.** Rutherford County could contribute an equivalent amount to what it might potentially raise through the sales tax from other sources to the regional fund.
- **Lesser service.** Rutherford County could accept a reduced share of regional transportation services.

In addition, the state has placed restrictions on the purposes for which sales tax increases can be used. Fifty percent of the local option sales tax must be spent on education expenses. Therefore, these estimates assume that to raise a given amount for transportation, the tax must be doubled to account for the increment set aside for schools.

**Potential Revenues.** Assumptions involved in determining the potential revenue from the sales tax include the following:

- The sales tax base (total value of all taxable items) will grow somewhat slowly for the next four years, and then regain its previous rate of growth through 2010.
- Exemptions and restrictions on taxable purchases will not change.
- Counties will be able to increase their portion of the sales tax above the current 2.75 percent limit.

- Counties will have to contribute one-half of their increased sales tax revenues to education purposes, leaving the rest for transportation.

The sales tax base was estimated by looking at state sales tax collections, which in 2001 were at six percent on the value of all taxable purchases. (Note: In July 2002, the state legislature voted to increase the state's rate to 7 percent, except for certain grocery items which remain taxed at 6 percent.) Based on sales tax data back to FY 1997, we calculated the average annual growth rates in the sales tax base. However, because sales tax collections slumped dramatically in FY 01, and the economy remains depressed, it was assumed that sales tax collections for the next two fiscal years will increase at the same low rate as they did from FY 00 to FY 01. Then there is an upturn in FY 03 and 04, and sales base growth resumes its previous rate from FY 05 forward. See Appendix A for details.

The sales tax increase needed to raise \$5, \$10, and \$20 million is relatively small, and remains fairly constant.

- To raise \$5 million requires approximately 0.027 percent in 2000 and 0.019 in 2010, the equivalent of paying 27 cents or 19 cents on a \$1,000 purchase.
- Total revenues of \$10 million require 0.055 percent in 2000 and 0.037 percent in 2010, or 55 and 37 cents on a \$1,000 purchase.
- For \$20 million, a sales tax of 0.11 percent (\$1.10 on a \$1,000 purchase) is needed in 2000; this amount falls to 0.74 percent (74 cents) by 2010.

It is also possible that these calculations would change, should sales tax regulations change. Even with the state's recent hikes, purchases are currently taxed on their value only up to \$3,200 (until 2002 the cap was \$1,600), so "big-ticket" items such as automobiles are taxed at proportionally lower rates. In addition, the state has a long list of products and services exempt from sales tax, or taxed at lower rates.

### **Example : Alameda County, CA<sup>14</sup>**

Since 1987, the state of California has allowed counties to levy a sales tax to be spent exclusively on transportation. Although only 19 of 58 counties in the state have such taxes, they represent over three-quarters of the state's population. There are several restrictions on how these taxes can be levied:

- Counties may impose sales taxes up to one percent; however, with one exception, all existing taxes are one-half cent.
- As "special taxes," they must be approved with a two-thirds vote of the electorate.
- The county must publish an Expenditure Plan, a detailed list of the projects to be undertaken with the tax revenues, before the vote.
- They must contain a sunset clause that allows for the expiration of the tax within 20 years.

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<sup>14</sup> This discussion is drawn from Goldman, et al, and Alameda County's 20-Year Transportation Expenditure Plan (July 2000), as well as other documents available at the Alameda County Transportation Authority web site, [www.acta2002.com](http://www.acta2002.com)

Alameda County is located in the San Francisco Bay Area. It contains both urban and rural areas. The county passed its second half-cent sales tax in November, 2000. (The first, passed in 1986, expires in 2002.) The new sales tax will be in effect for 20 years and is projected to raise \$1.4 billion in total revenues over that period, or an average of \$70 million annually. (With a county population of 1.4 million in 2000, this works out to approximately \$50 per capita annually.)

The sales tax passed at the ballot in November with a margin of 81.5 percent, one of the highest in the state's history. In 1998, another vote had failed, because it garnered only 58.5 percent of the vote (not the required two-thirds). At that time, there were a number of organized groups opposed to the Expenditure Plan. The November 2000 list was modified until most elected officials and groups were satisfied with the mix of projects and the measure faced no organized opposition. Proposed spending includes the following:

- \$612 million for transit, including both capital and operating assistance to at least six separate transit agencies;
- \$236 million for highway infrastructure;
- \$343 million for local roads;
- \$80 million for bicycle and pedestrian safety; and
- \$148 million for paratransit services.

Development of the plan took two years and involved hearings at all local jurisdictions, as well as extensive public input. A Citizens Advisory Committee is charged with overseeing funds expenditure.

The funds are administered by the Alameda County Transportation Authority, a public body whose board is composed of elected officials: county supervisors and persons appointed by the mayors of local jurisdictions. The Authority can issue bonds backed by anticipated sales tax revenue.

The Authority disburses the tax revenues to various agencies, including transit agencies and 14 cities. For capital projects, the project sponsor receives funds; in many cases this is the state Department of Transportation (Caltrans). Revenues set aside for local roads are spent according to local priorities; they may be used for street maintenance or construction, but also for transit and bicycle and pedestrian improvements. Within each geographic sub-area, funds are allocated to local jurisdictions according to a weighted formula: 50 percent on population and 50 percent on the number of road-miles within the area. The Expenditure Plan allows for the actual amounts allocated to change depending on population trends.

### **Example: Jacksonville Transportation Authority<sup>15</sup>**

The Jacksonville (Florida) Transportation Authority (JTA) is a public body charged with multi-modal transportation. It serves as the project sponsor for major road and highway construction projects (although it turns over the operations to either the Florida DOT or the local jurisdiction), but also operates the area's main transit system.

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<sup>15</sup> This discussion is based on information available at the Jacksonville Transportation Authority web site, [www.jtaonthemove.com](http://www.jtaonthemove.com)

JTA was founded in 1971 as a merger between the previous Jacksonville Expressway Authority, which had the main responsibility for construction of highways that formed part of the federal program, and a privately run transit system.

Although JTA was previously funded through bridge tolls, it changed to a half-cent sales tax in 1989. This tax is levied under the Transit System Surtax provision of Florida law, which allows any county chartered before 1976 to approve a sales tax up to one percent with either a majority electorate vote or a charter amendment. Duval County, where Jacksonville is located, is the only county in Florida to levy this tax.

Another half-cent sales tax was added by majority vote in September 2000, bringing the total sales tax in the county to seven percent. This tax is authorized by the Local Government Infrastructure Surtax, which allows counties to levy either a half-cent or one-cent sales tax with approval of a majority of the electorate and the county governing body. Local option taxes are limited to a total of one percent. Duval County's recent half-cent increase, which will expire after 30 years, will be used to finance a series of major capital projects, as outlined in the Better Jacksonville Plan. The plan includes \$1.5 billion in transportation improvements (resurfacing, bicycle paths, drainage, safety crossings, and right-of-way acquisition for rapid transit), as well as \$225 million in economic development and environmental projects (upkeep of trees and parks, the zoo, and sewer lines), and other capital projects (\$95 million for a main library and \$55 million for branches, \$125 for a sports complex, \$25 million for a baseball stadium, and \$195 million for a courthouse).

#### **4.4.3 Vehicle Emissions Fees**

**Description.** Vehicle emission fees are paid when vehicles are brought for emissions inspection. The five-county Nashville area requires annual inspections. Currently, vehicles less than one year old are exempted from inspection.

A \$10 fee is collected by a contractor for performance of the inspections. The Tennessee Department of Environment and Conservation, which runs the program, receives \$1.80 of every \$10 collected. According to TDEC, annual revenues amount to \$1,440,000 per year for testing of approximately 800,000 vehicles. Although DMV figures show approximately one million vehicles registered in the five counties, many vehicles are exempt from testing requirements: vehicles purchased within the year, vehicles older than 1975 or with a gross weight of over 8,500 lbs, diesel engine vehicles, and fleet vehicles.<sup>16</sup>

**Advantages.** Because vehicle emissions fees are already levied, it may be easier to increase this source than to implement a new one. Vehicle emissions fees also have the advantage that they are directly linked to transportation and air quality. Finally, they are relatively simple to administer, since they are collected at several centralized locations (there are 12 testing stations in all: six in Davidson County, two in Rutherford County, one each in the other three counties, and one mobile testing unit).

**Disadvantages.** New testing requirements will be implemented in July 2002. A fee increase from \$6 to \$10 per vehicle was implemented as of October 1, 2001, to cover the cost of the new testing equipment and training. The testing system changed for vehicles manufactured after 1996 to use computer diagnostic equipment instead of the previous tailpipe test. The new testing system is called OBD II (On-Board Diagnostic).

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<sup>16</sup> Telephone conversations with Vicki Lowe, Environmental Manager, Tennessee Department of Environment and Conservation, October 8 and October 29, 2001.

The fewer the number of vehicles tested, the higher the test fee must be, to cover costs. In addition, the state loses emissions credits for vehicles exempted from testing; these credits must be made up in another way, probably through tighter restrictions on stationary sources such as local industries and power plants.

**Potential Revenues.** Assumptions included the following:

- The ratio of vehicles to persons will remain constant, and therefore the number of vehicles will grow in direct proportion to the number of persons.
- Currently, only 80 percent of all vehicles are tested in any given year. The estimates assume that the same proportion of vehicles will be tested in the future.

The projections for the number of vehicles are the same as those used to estimate future wheel tax collection revenues.

As described above, there are various exemptions to vehicle emissions testing that result in only about 80 percent of all vehicles being tested annually.

In general, the per-vehicle amounts needed to raise \$5, \$10 and \$20 million are similar to those for the wheel tax, because the fees are both levied on a per-vehicle basis. However, the vehicle emissions fee must be somewhat higher because of the number of exemptions. In general, to raise \$5 million, per-vehicle fees must be about \$1 higher for vehicle inspection, and \$2 higher for \$10 million in revenues. For example, in the year 2005, a \$4.44 wheel tax and a \$5.55 inspections fee would both raise \$5 million.

**Example: Bay Area Air Quality Management District<sup>17</sup>**

The Bay Area Air Quality Management District (BAAQMD) is a regional body in the San Francisco Bay Area that monitors air quality within the nine member counties. BAAQMD was formed by the state legislature in 1955 as the state's first regional body dealing with air quality.

Since 1992, BAAQMD collects a \$4 fee on all vehicle registrations within the nine counties, raising approximately \$21 million annually. (This is paid at the same time as other vehicle registration fees, and is separate from the cost incurred during the mandated smog check.) This program is known as the Transportation Fund for Clean Air (TFCA). TFCA funds are divided into two pots of money:

**Regional Funds.** Sixty percent of funds collected are designated as regional funds. In FY 2001, \$5.7 million of these funds were spent on standing BAAQMD programs: a "smoking vehicle" program, vehicle buy-back, a "Spare the Air" campaign, and incentive programs for lower-polluting vehicles, as well as BAAQMD administration. An additional \$10.5 million was spent on various projects around the region.

**Program Manager Funds.** Forty percent of the funds are allocated to Program Managers within each of the nine counties. These Program Managers select projects from within their jurisdictions to receive funds, although BAAQMD retains approval over which projects can be funded. In FY 2001, BAAQMD made \$8.8 million in grants to these local programs.

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<sup>17</sup> Discussion based on the *Transportation Funds for Clean Air Annual Report, FY 2000/01*, published by the Bay Area Air Quality Management District.



Note: The total amount awarded in grants in FY 2001 was \$25 million. TFCA collections of \$21 million were supplemented by earned interest and funds returned from other projects.

All projects must have a direct link to improving air quality. Projects can be sponsored by various groups, including cities and counties, transit agencies, school districts and public safety departments (for alternative fuel school buses and other fleet vehicles), congestion management agencies, and transportation management associations. Eligible local projects for both regional and program manager funds include the following:

- Alternative fuels (purchase of vehicles and infrastructure)
- Shuttle and feeder bus projects
- Ridesharing
- Bicycle facilities (trails and bicycle parking)
- Pedestrian improvements and traffic calming
- Arterial management (signal timing to improve traffic flow)

Projects are rated primarily on their cost-effectiveness in reducing emissions. For all TFCA projects funded in FY 2001, it cost an average of \$14,500 to reduce emissions by one ton. Project awards range between \$5,000 (administrative funds for a transportation planning agency) to \$1 million (a fleet of 20 natural gas garbage trucks). While there are some administrative funds awarded, generally TFCA funds cannot be used to fund regular transit operations.

BAAQMD is supported by other funding sources, including permit fees, county property taxes, penalties, federal grants, and state subvention monies. However, the TFCA fund (which is only one part of BAAQMD's broader air quality work) is self-sufficient, with all monies generated from the \$4 vehicle surcharge.

#### **4.4.4 Regional Option Gas Tax**

**Description.** A local option gas tax would allow the region to charge an additional tax on top of the current 21.4 cents per gallon.

**Advantages.** This would allow counties to tap into a source that already generates a great deal of revenue to TDOT. Counties would not have to negotiate with TDOT for a larger share of the revenues; rather, they would be able to generate their own funds through the gas tax.

State law (see the Tennessee Code 67-3-2104) already allows counties, metropolitan governments, and incorporated municipalities to impose a one-cent local gasoline tax. Such a tax must be approved by a majority vote.

**Disadvantages.** Gas taxes are already high in Tennessee, at 21.4 cents per gallon, compared to states that border Tennessee (for example, Kentucky gas taxes are 16.4 cents per gallon). There is the possibility that drivers from the counties that levy an additional gas tax would simply go to neighboring counties to buy gas.

**Potential Revenues.** Assumptions for achieving revenue of \$5, \$10 and \$20 million from a gas tax increase include the following:

- According to the Tennessee Department of Revenue, gas is taxed at the supplier rather than the gas station level.<sup>18</sup> Therefore, it is virtually impossible to obtain an accurate sales estimate of the number of gallons of gasoline sold in the five-county region. As a proxy, vehicle miles traveled in the area were used to infer the number of gallons of gasoline purchased. Some gas purchased in the five counties is not used for driving within the region, but this is most likely balanced by vehicle miles traveled using gas purchased outside the region.
- Fuel economy factors will remain approximately the same over the next ten years. The average estimate for all vehicles is 18.9 miles per gallon.<sup>19</sup>

In order to estimate gas tax revenue for 2001, 2005 and 2010, vehicle miles traveled (VMT) in the five-county region were divided by fuel economy to derive the number of gallons of gas purchased. VMT forecasts are provided by the *Nashville Long Range 2025 Transportation Plan Conformity*,<sup>20</sup> as well as the Federal Highway Administration's Highway Performance Monitoring System data. VMT in the five-county region is expected to rise from 12 billion miles traveled in 2000 to 14.1 billion in 2005 and 15.1 billion in 2010. Fuel economy standards are taken from FHWA's weighted miles per gallon from *Highway Statistics 1999*.

To raise \$5 million in 2000, the per gallon gas tax would be \$0.008, or eight cents on a purchase of ten gallons. To raise \$10 million, the gas tax becomes \$0.016 per gallon, and for \$20 million, the gas tax would be \$0.032. In 2005, the gas tax should be approximately \$0.007, \$0.013, or \$0.027 to raise \$5, \$10, and \$20 million, respectively; for 2010, the tax should be \$0.006, \$0.013 or \$0.025. These projections show that the estimated gas tax remains relatively stable over at least the next ten years.

### **Example: Northern Virginia Transportation Commission<sup>21</sup>**

The Northern Virginia Transportation Commission (NVTC) is a regional body that does transportation planning and programming for a three-county area outside Washington, DC. (Several cities are also members.) NVTC programs \$120 million annually in federal, state, and regional transportation revenues; among these is a two percent sales tax on gasoline levied throughout this area that raises approximately \$15-17 million annually. (Average gas prices in the Washington, DC metropolitan area are currently \$1.44 per gallon, according to AAA, meaning that each gallon carries an additional 2.88 cents tax.)

The NVTC area is currently the only district within Virginia to levy a sales tax on gasoline. State law contains a provision that every jurisdiction within a transportation district containing a heavy rail and bus mass transit system must levy a two percent sales tax on motor fuels, but the other local transportation district does not meet the criteria.

As of 2001, NVTC is unique in Virginia, but state law allows any area within the state to establish a Local Transportation District. This district can consist of one or more jurisdictions. If multiple

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<sup>18</sup> Telephone conversations with Karen Blackburn and Reid Linn, Tennessee Dept. of Revenue, July 30, 2001.

<sup>19</sup> Federal Highway Administration. *Highway Statistics 1999*, available at [www.fhwa.dot.gov/ohim/hs99/index.htm](http://www.fhwa.dot.gov/ohim/hs99/index.htm).

<sup>20</sup> Hagler Bailly Inc. *Nashville Long Range 2025 Transportation Plan Conformity*. October 6, 1999.

<sup>21</sup> This discussion based on the *2001 Northern Virginia Transportation Commission Handbook*; the FY 2001/02 adopted budgets of Arlington County, Fairfax County, and the City of Alexandria; as well as other information available at the NVTC web site, [www.cns.state.va.us/nvtc](http://www.cns.state.va.us/nvtc).

jurisdictions are involved, landowners representing at least 51 percent (in total value) of all commercial and industrial property must petition their jurisdiction, and each jurisdiction must pass a resolution authorizing its creation. The petition must contain a list of the transportation projects that the District will undertake. Districts must expire after 35 years; they can also be abolished before the 35-year limit using a process similar to the one establishing the District.

The NVTC was formed by the state legislature in 1964, and began collecting gas tax revenues in 1981. The state collects the revenues and forwards them to NVTC. Motor fuel taxes are distributed among member jurisdictions according to the point of sale. Until FY 1999, tax revenues were distributed according to each jurisdiction's share of the Washington Metropolitan Area Transit Authority's (WMATA) operating subsidy (see below). A small percentage (under two percent) also goes towards debt service and some bus subsidies.

The \$17.2 million collected in FY 2001 was distributed among three counties and three cities, with distributions ranging from \$500,000 to \$9.8 million. In general, these funds are used for transit operating subsidies, largely to fund regional transit service provided by WMATA. WMATA is the region's main provider of heavy rail and bus service, and its operations are funded by a combination of fare box revenue and operating subsidies from local member jurisdictions. For example, both the City of Alexandria and Arlington County in their respective FY 2001 budgets allocated their entire regional gas tax to their portion of the WMATA operating subsidies. However, these revenues cover only a small percentage of each jurisdiction's share; a larger amount is covered by state transit aid and locally raised revenues.

There are exceptions, however. Fairfax County, the larger of the member jurisdictions, received in addition to its FY 2002 gas tax allocation of \$8.6 million another \$1.1 million from NVTC interest revenue. The additional funding could not be used to offset general fund transfers to the Fairfax share of WMATA's operating expenses, but was rather transferred to a separate account that funds county-run transit service, separate from WMATA.

NVTC receives contributions for its administrative expenses from both the member jurisdictions and the state, which matches local contributions. Administrative expenses amount to approximately \$1 million annually.

Northern Virginia is also considering levying a separate sales tax to finance transportation. This issue was widely discussed in the 2001 gubernatorial election, when the new Democratic governor, Mark Warner, said he would support a vote on the issue. The Republican contender, Mark Earley, did not support such a vote, and many observers think this cost him support in the area, where growing congestion is viewed as a serious problem.

#### ***4.4.5 Development Fees and Benefit Assessment Districts***

**Description.** Development fees are levied on developers as a condition of real estate construction. Such fees (also called impact fees) may be levied on commercial, industrial, or residential development; they may be assessed on a per-unit or per-square foot basis. While taxes can be used for general purposes without any link between the taxpayer and the outcome, fees must be shown to have a link with the purposes on which they are being spent. Impact fees must therefore only be used to mitigate the impacts of particular developments (for example, if a commercial development will cause more traffic at a particular intersection, the impact fees can be used to signalize the intersection).

Development fees could be levied on the construction of new parking, whether in the form of entirely new facilities or expansion of existing parking lots or garages. This could serve an important secondary effect

of steering development to infill areas, if parking construction in outlying areas carried heavy development fees.

Development fees could be combined with benefit assessment districts to create a more stable revenue source. Benefit assessment districts are special districts whose residents or businesses pay an assessment in exchange for a particular service or benefit. For example, residents of a particular neighborhood might be charged an annual fee to maintain the public landscaping. Like development fees, the fees charged within a benefit assessment district must have a direct relationship to services or benefits received.

**Advantages.** Because impact fees are paid only indirectly by the public, through increased costs of development, they are less controversial than general fees or taxes. Benefit assessment districts charge more directly the people benefiting from a particular service than general taxes. Also, unlike impact fees, benefits are generally assessed on an annual basis.

**Disadvantages.** Because of the restrictions on the use of development fee and benefit assessment district revenues, they can only fund certain related projects. In addition, impact fees constitute a one-time revenue source, not a continuing one. They tend to be unpopular among developers. Finally, impact fees are currently in use in some jurisdictions, but not in others. If levied on a consistent basis throughout the five counties, such fees might raise development costs prohibitively high in some areas, and slow development in others that have not previously had such fees.

The types of districts within which special assessments can be charged are generally instituted only with the concurrence of affected property owners, and are therefore harder to implement than impact fees. It would also be difficult to implement a benefit assessment district on a regional basis, since state law assumes that the district would be located within a single jurisdiction.

**Legal Issues.** Tennessee state law contains a number of provisions that deal with development fees and benefit assessment districts. Several pertinent areas are discussed below.<sup>22</sup>

**Special Assessments** Special assessments can be levied in conjunction with a variety of types of special districts. Special assessments are charged to property owners in the affected area for the costs of specific improvements. Some uses of special assessments are as follows:

- *Road Improvement Districts* These districts serve as mechanisms by which revenues can be raised to fund road construction and maintenance. Creation of the district must be initiated by petition by at least 25 percent of landowners affected. Assessments are to be levied in proportion to the benefit received.
- *Central Business Improvement Districts* These are used to finance projects that contribute to the renewal of downtown areas. Creation of the district must be approved by a majority of landowners who own at least two-thirds of all property within the designated area.

**Impact Fees** There are no state laws specifically dealing with impact fees, which means that regulations to establish impact fees can only be made by private act.

**Adequate Facilities Taxes** Adequate facilities taxes can be levied on new development, but as taxes they do not have to demonstrate a nexus between the source of the funds and the project, as do impact fees.

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<sup>22</sup> This discussion drawn from the Tennessee County Technical Assistance Service, *Tennessee County Tax Statistics*, January, 2001.

Currently, three of the five counties in the Nashville Area MPO levy these types of fees and taxes:

- Rutherford County recently raised its per-parcel development tax from \$750 to \$1500.
- Sumner County has an adequate facilities tax of \$.40 per square foot on industrial property, and \$.70 per square foot on residential property.
- Williamson County has a privilege tax within the county of \$.90 per square foot for residential construction, and \$.34 for commercial. Within the cities of Brentwood there is a \$.68 per square foot fee on residential, but no fee for commercial.

**Potential Revenues.** The following assumptions were used in developing estimates of the amount of development fees needed to raise \$5, \$10 and \$20 million:

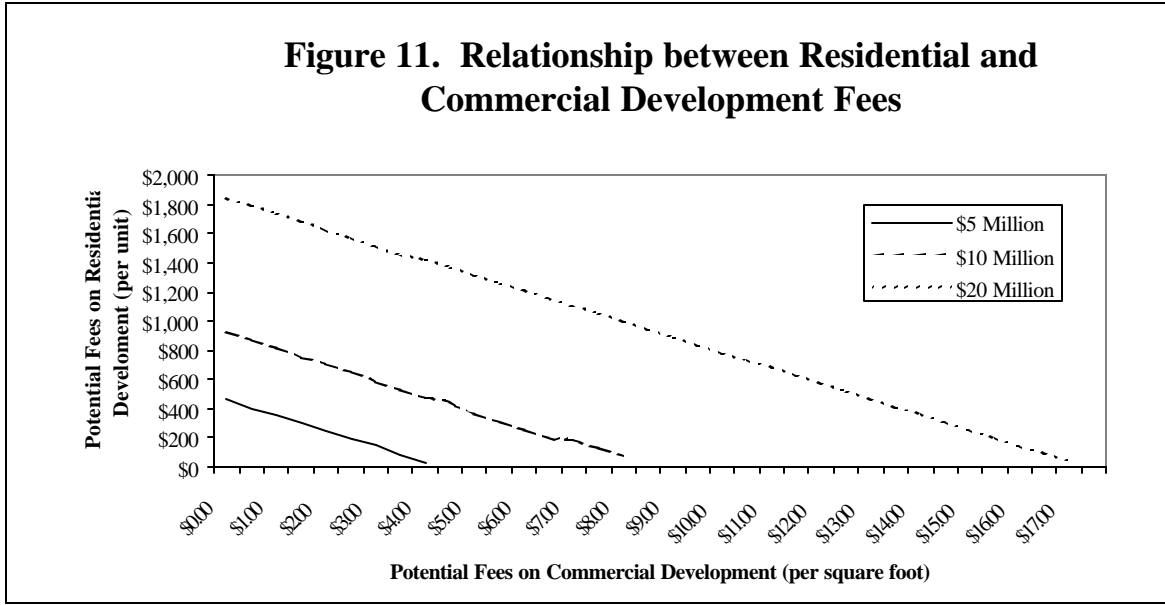
- Commercial office and residential construction will continue at the same pace.
- Only office, retail, and residential property will be assessed (industrial will be excluded); commercial property will be expected to carry two-thirds of the revenue burden, and residential construction one-third.
- Commercial development will be assessed on a per-square foot basis, while residential construction will be assessed on a per-unit basis. Office and retail will be assessed at the same rate.

The commercial development forecasts are based on figures obtained from the Greater Nashville Chamber of Commerce. These included the amount of new office, and retail construction for the years 1992 through 1999. However, there were no figures available by county, only for an eight-county area (in addition to the five counties in the MPO, this includes Cheatham, Dickson, and Robertson Counties), so it was assumed that 90 percent of the development is within the MPO's five counties. Commercial construction was estimated to continue at the same average growth rate from 1992 to 1999.

Housing starts for 1995 to 1999 were obtained from a Grubb & Ellis report provided by the Nashville Chamber of Commerce. It was assumed that housing starts continue growing by 7.7 percent annually.

For the scenario described above, in which residential development is expected to cover one-third of \$5 million and office/retail development the remaining two-thirds, in 2000 fees would be set at \$165.92 per residential unit and \$2.75 per square foot for office/retail development. To raise \$10 million, those numbers would rise to \$331.85 per unit and \$5.49 per square foot. For \$20 million, \$616.13 per unit and \$11.57 per square foot would be needed. By 2010, these fees would be \$78.88 per unit and \$2.26 per square foot to raise \$5 million, \$157.76 and \$4.53 to raise \$10 million, and \$315.52 and \$9.06 for \$20 million.

Other scenarios are possible. The figures above assume that the split between residential and commercial development fees is one-third and two-thirds, but this split could be at any percentage point. Figure 11, on the next page, shows the relationship between residential and commercial development fees for \$5, \$10, and \$20 million for 2001:



Also, these estimates assume that benefit assessment districts will not be used to support development fees for funding purposes.

**Example: The Los Angeles MTA**

The Los Angeles MTA has two benefit assessment districts to pay off bonds taken out for Red Line construction. Only commercial properties are assessed. Assessments will end in FY 2008-09. For Segment 1 of the Red Line, the assessments amounted to \$130 million, or nine percent of total capital costs. For District A1, which includes buildings within one-half mile of four stations, commercial properties pay \$.218 per assessable square foot. For District A2, a one-third mile radius around a single station, commercial properties pay \$.273 per assessable square foot.

**Example: Ferguson Township**

Ferguson Township (PA) recently adopted a Transportation Partnership District (TPD) to fund road improvements. TPDs are authorized under state law (Act 47, 3). The trip assessment fee is levied on 3,600 properties within a 7,700-acre area. The fee is paid once for each property – upon sale, expansion, or change in use.

**Example: City of Fort Collins**

The City of Fort Collins (CO) has had a Street Oversizing Fee in place since 1979. Fees are paid once, during construction. Recent changes in the program increased the number of categories from five to 50. The average fee for a single-family house increased from \$895 to \$1,480 per unit, while fees on commercial development rose from an average of \$19,443 per acre to \$4.93 per square foot of development. Fees are based on trip generation rates.

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**APPENDIX A: REVENUE CALCULATIONS**

This appendix shows calculations for revenues estimates for each of the five proposed funding sources.

***Wheel Tax***

Calculations of wheel tax and estimated revenue are based on vehicle registration statistics provided by the County Technical Assistance Service in its publication Tennessee County Tax Statistics, Table IV (Motor Vehicle Registrations), January 2001. Original data supplied by the Motor Vehicle Division of the Tennessee Department of Safety. Vehicle registrations were assumed to be directly proportional to the county population; estimates of growth in county population were produced by the Nashville Area MPO (1998 – 2025 Population and Employment by TAZ).

**Table A-1. Wheel Tax: Estimated Per-Vehicle Tax Needed, 2000-2010**

	2000			2005		2010	
	Pop	Vehs	Ratio of Vehs to Pop	Pop	Vehs	Pop	Vehs
Davidson	543,103	654,843	1.2057	558,770	673,733	574,279	692,433
Rutherford	162,673	109,163	0.6711	182,062	122,174	202,445	135,852
Sumner	135,757	106,307	0.7831	149,747	117,262	163,953	128,386
Williamson	120,641	108,832	0.9021	136,705	123,324	153,589	138,555
Wilson	91,976	79,527	0.8646	103,488	89,481	115,038	99,468
Total	1,054,150	1,058,672		1,130,772	1,125,974	1,209,304	1,194,694

<b>Wheel Tax</b>	<b>\$5 M</b>	\$4.72			\$4.44		\$4.19
<b>Needed to</b>	<b>\$10 M</b>	\$9.45			\$8.88		\$8.37
<b>Produce:</b>	<b>\$20M</b>	\$19.89			\$17.76		\$16.74

***Sales Tax***

Sales tax estimates are based on sales tax collections provided by the Tennessee Department of Revenue for fiscal years 1997 to 2001. Estimates of the current level of taxable sales were imputed based on this data.

Estimating future growth in taxable sales was made more difficult by the fact that after four years of robust growth, FY 2001 was a significant decline (sinking to negative growth in one county). Because at the time of this writing the economy overall appeared to be in a recession, we used the FY 00 to 01 growth for the next two fiscal years, then assumed that the following two years would rise somewhat. We used the average annual growth rate after FY 05.

Also, because of state law mandating that one-half of locally collected sales tax revenue must be earmarked for schools, the percentage required to raise the target amount is double what it would otherwise be (i.e., you must raise \$2 to get \$1 for transportation.)



**Table A-2. Sales Tax: Base Sales, FY 97 – FY 01**

	<b>FY 97</b>	<b>FY 98</b>	<b>FY 99</b>	<b>FY 00</b>	<b>FY 01</b>
Davidson	\$10,448,705,733	\$10,885,031,500	\$11,239,558,200	\$11,949,535,350	\$11,954,401,100
Rutherford	\$1,642,887,983	\$1,796,278,917	\$1,966,531,950	\$2,130,108,083	\$2,164,505,250
Sumner	\$780,178,400	\$810,115,700	\$884,105,433	\$952,811,017	\$933,230,700
Williamson	\$1,579,475,850	\$1,793,143,700	\$2,011,050,450	\$2,259,103,433	\$2,391,503,250
Wilson	\$577,958,567	\$644,600,533	\$704,151,800	\$799,663,667	\$804,089,683

**Table A-3. Sales Tax: Estimated Increase Needed, 2001 - 2010**

**Base Sales Growth Rates**

A                      B                      C

<b>Annual % Growth Used</b>	Annual Growth FY 01 to 03	Annual Growth FY 03 to 05	Annual Growth FY 05 to 10
<b>Calculation of Annual % Growth Rate:</b>	% Change FY 00 to 01	Average of Columns A and C	Avg Annual Growth FY 97 to 01
Davidson	0.04%	1.82%	3.60%
Rutherford	1.61%	4.78%	7.94%
Sumner	-2.06%	1.42%	4.90%
Williamson	5.86%	9.36%	12.85%
Wilson	0.55%	5.17%	9.78%

Total:

**Sales Tax                      \$5 M**  
**Needed to                     \$10 M**  
**Produce:                        \$20 M**

**Taxable Sales in**

<b>2001</b>	<b>2005</b>	<b>2010</b>
\$11,954,401,100	\$12,403,999,093	\$14,805,216,127
\$2,164,505,250	\$2,453,565,060	\$3,594,673,538
\$933,230,700	\$920,960,398	\$1,170,063,660
\$2,391,503,250	\$3,205,029,080	\$5,866,696,774
\$804,089,683	\$899,210,997	\$1,433,859,498
\$18,247,729,983	\$19,882,764,628	\$26,870,509,596

0.055%	0.050%	0.037%
0.110%	0.101%	0.074%
0.219%	0.201%	0.149%

***Vehicle Emissions Fee***

The vehicle emissions fee is based on the same vehicle registration numbers as shown above under the wheel tax discussion, with the exception that currently only 80 percent of registered vehicles are subject to the fee. It is assumed this percentage would remain constant in the future.

**Table A-4. Vehicle Emissions Fee: Estimated Per-Vehicle Fee Needed, 2000-2015**

	2000		2005		2010	
	Total Vehs	Vehs Tested	Total Vehs	Vehs Tested	Total Vehs	Vehs Tested
Davidson	654,843	523,874	673,733	538,987	692,433	553,947
Rutherford	109,163	87,330	122,174	97,739	135,852	108,682
Sumner	106,307	85,046	117,262	93,810	128,386	102,709
Williamson	108,832	87,066	123,324	98,659	138,555	110,844
Wilson	79,527	63,622	89,481	71,585	99,468	79,574
<b>Total</b>	<b>1,058,672</b>	<b>846,938</b>	<b>1,125,974</b>	<b>900,779</b>	<b>1,194,694</b>	<b>955,756</b>

<b>Wheel Tax</b>	<b>\$5 M</b>	\$5.90		\$5.55		\$5.23
<b>Needed to</b>	<b>\$10 M</b>	\$11.81		\$11.10		\$10.46
<b>Produce:</b>	<b>\$20M</b>	\$23.61		\$22.20		\$20.93

**Gas Tax**

Because taxes are collected at the supplier level and not at the level of individual gas stations, we could not obtain a figure for the number of gallons of gasoline sold in the five-county region. Instead, we used as a proxy VMT traveled in the region. VMT figures were supplied in the Nashville Long Range 2025 Transportation Plan Conformity; however, these figures are not broken down by county. In addition, projections were made only for 2002, 2006, and 2015, so VMT in intervening years was calculated based on an average annual percentage increase. Gallons of gasoline sold in the region were imputed from average vehicle fuel economy (18.9 miles to the gallon), derived from FHWA’s Highway Statistics, 1999.

**Table A-5. Gas Tax: Estimated Per-Gallon Tax Needed, 2000-2015**

	2000	2002	2005	2006	2010	2015
Regional VMT	<b>12,008,021,177</b>	<b>12,977,522,805</b>	14,072,110,811	<b>14,436,973,480</b>	15,054,976,880	<b>15,827,481,130</b>
Gallons Sold	<b>635,345,036</b>		744,556,128		796,559,623	
<b>Gas Tax</b>	<b>\$5M</b>	\$0.0079		\$0.0067		\$0.0063
<b>Needed to</b>	<b>\$10M</b>	\$0.0157		\$0.0134		\$0.0126
<b>Produce:</b>	<b>\$20M</b>	\$0.0315		\$0.0269		\$0.0251

Note: Number in bold are projections from the Long Range Plan; other figures imputed.

***Development Impact Fees***

Development impact fees were assumed to be levied on three types of development: office, retail, and residential. Office and retail construction were projected based on past trends, with data supplied by the Nashville Area Chamber of Commerce. However, their figures were compiled by an eight-county area (which included Cheatham, Robertson, and Dickson Counties), so it was assumed that 90 percent of the space was in the five-county area. Future construction was projected using the annual growth rate for each type of construction over the period from 1992 to 1999.

**Table A-6: Development Fees: Office and Retail Construction in 1,000 SF, 1992 - 1999**

	1992	1993	1994	1995	1996	1997	1998	1999	Avg Annual Growth
Office Total	16,846	16,740	16,909	16,909	17,871	18,521	20,252	20,779	
Retail Total	23,927	24,623	24,999	25,233	25,150	24,910	26,284	27,138	
Office (5-Cty)	15,161	15,066	15,218	15,218	16,084	16,669	18,227	18,701	3.34%
Retail (5-Cty)	21,534	22,161	22,499	22,710	22,635	22,419	23,656	24,424	1.92%

**Table A-7: Development Fees: Projected Office and Retail Construction in SF, 2001 - 2010**

	2001	2005	2010
Total Office	19,969,362	22,769,750	26,828,775
New Office	666,029	759,429	894,808
Total Retail	25,369,670	27,371,824	30,098,156
New Retail	486,372	524,756	577,024
Total New Construction	1,152,402	1,284,186	1,471,832

The number of housing starts was obtained from real estate brokers Grubb & Ellis' publication Counties in the Nashville MSA, 2001 Real Estate Forecast (estimated from Housing Starts table). Although figures were available for each county, future projections were based on the average growth rate for the region because growth rates within individual counties of over 15 percent annually would not seem to be sustainable over a 10-year period.

**Table A-8: Development Fees: Housing Starts, 1995 - 1999**

	1995	1996	1997	1998	1999	Avg Annual Growth	2001	2005	2010
Davidson	2,000	2,200	2,200	2,475	2,575	7.2%			
Rutherford	2,400	2,650	2,200	2,400	2,550	1.6%			
Sumner	875	1,025	1,125	1,150	1,500	17.9%			
Williamson	1,050	1,625	1,550	2,000	1,850	19.0%			
Wilson	800	825	825	1,000	850	1.6%			
<b>Total</b>	<b>7,125</b>	<b>8,325</b>	<b>7,900</b>	<b>9,025</b>	<b>9,325</b>	<b>7.7%</b>	<b>10,820</b>	<b>14,568</b>	<b>21,129</b>

We made an arbitrary decision that two-thirds of the \$5, \$10, and \$20 million revenue would be generated by office and retail development, and the remaining one-third by residential development. The needed development impact fees for both types of development are as follows:

**Table A-9: Development Fees: Estimated Fees Needed, 2001 - 2010**

	2001		2005		2010	
	Total New Office/ Retail Const in SF	Total New Housing Starts	Total New Office/ Retail Const in SF	Total New Housing Starts	Total New Office/ Retail Const in SF	Total New Housing Starts
	1,152,402	10,820	1,284,186	14,568	1,471,832	21,129
<b>Devt Fees Needed to Raise:</b>	(per SF)	(per unit)				
\$5 M	\$2.89	\$154.03	\$2.60	\$114.40	\$2.26	\$78.88
\$10 M	\$5.79	\$308.07	\$5.19	\$228.81	\$4.53	\$157.76
\$20 M	\$11.57	\$616.13	\$10.38	\$457.61	\$9.06	\$315.52

## **APPENDIX B: PUBLIC OPINION SURVEY INSTRUMENT**

The pages following contain a public opinion survey developed by ETC Institute for use in the five-county Nashville area. The survey was originally developed with the intention to assess public support for funding increases in the region, but was not administered.

# Nashville Regional Transportation Funding Survey

Date: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Interviewer: \_\_\_\_\_

*This is \_\_\_\_\_. I am calling on behalf of the Nashville Area Metropolitan Planning Organization. They are an association of local governments in a five-county region consisting of Davidson, Rutherford, Sumner, Wilson, and Williamson counties. The reason I am calling is that we are gathering input from residents in order to plan improvements to the region's transportation system. Is now a convenient time to ask you a few questions?*

1. **Counting yourself**, how many people regularly live in your household? \_\_\_\_\_

2. How many people in your household (**counting yourself**) are?

Under age 5	_____	Ages 20-24	_____	Ages 55-64	_____
Ages 5-9	_____	Ages 25-34	_____	Ages 65-74	_____
Ages 10-14	_____	Ages 35-44	_____	Ages 75+	_____
Ages 15-19	_____	Ages 45-54	_____		

3. I am going to read you a short list of community needs. Using a five-point scale where '5' means "Very Satisfied" AND '1' means "Very Dissatisfied," please indicate how satisfied you are with the overall quality of each the following items in the five-county Nashville region.

	Very Satisfied	Neutral	Very Dissatisfied
(A) Overall quality of public safety services, such as police & fire .....	5	4	3
(B) Overall quality of public education .....	5	4	3
(C) Overall quality of parks and trails .....	5	4	3
(D) Overall quality of the region's transportation system.....	5	4	3
(E) Overall quality of stormwater management/flood prevention.....	5	4	3

4. Which **THREE** of these areas do you think should receive the most increase in funding over the next five years? [Write the letters for their top 3 choices using the list in Q #3]

\_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_  
 1<sup>st</sup>                                      2<sup>nd</sup>                                      3<sup>rd</sup>

**5. Overall, how satisfied are you with the transportation system in the County Where You Live? [read list]**

- \_\_\_(5) Very Satisfied
- \_\_\_(4) Satisfied
- \_\_\_(3) Neutral
- \_\_\_(2) Dissatisfied
- \_\_\_(1) Very Dissatisfied

**6. How much do you think the current level of funding for transportation in the five-county Nashville region should change over the next five years? [read list]**

- \_\_\_(1) Should be *reduced*
- \_\_\_(2) Should *stay the same*
- \_\_\_(3) Should be *somewhat greater* than it is now
- \_\_\_(4) Should be *much greater* than it is now

**7. I am going to read you a list of ways that transportation funds are spent. Using a five-point scale where '5' means "Very LARGE Percentage" AND '1' means "Very SMALL Percentage," please indicate what portion of the region's transportation funding should be spent in each of the following areas over the next five years.**

	<u>Very Large %</u>		<u>Neutral</u>		<u>Very Small %</u>
(A) Building new roads and highways .....	5	4	3	2	1
(B) Improving public transit (bus & perhaps rail) .....	5	4	3	2	1
(C) Improving transportation services for the elderly & persons with disabilities .....	5	4	3	2	1
(D) Widening existing roads (e.g., more lanes) .....	5	4	3	2	1
(E) Maintaining existing roads and bridges .....	5	4	3	2	1
(F) Improving airports .....	5	4	3	2	1
(G) Improving sidewalks .....	5	4	3	2	1
(H) Expanding bicycle facilities .....	5	4	3	2	1
(I) Improving traffic management (traffic signal timing) .....	5	4	3	2	1

**8. If a tax increase were proposed at a future election to fund transportation improvements in the five-county Nashville region, which **THREE** items from the list I just read would you support **MOST**? [Write the letters for their top 3 choices using the list in Q #7]**

\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

1<sup>st</sup>
2<sup>nd</sup>
3<sup>rd</sup>

9. Which ONE would you be the LEAST likely to support? [Write the letter for their top choice using the list in Q #7]

\_\_\_\_\_ <sup>1<sup>st</sup></sup>

10. How supportive would you be of establishing a regional transportation fund that would help pay for regional transportation improvements in the five-county, metropolitan Nashville area?

- \_\_\_(1) Very supportive
- \_\_\_(2) Somewhat supportive
- \_\_\_(3) Not sure
- \_\_\_(4) Not supportive (ask #10a)

10a. [ONLY IF NOT SUPPORTIVE] What is the main reason that you are not supportive of establishing a regional transportation fund?

- \_\_\_(1) I'm concerned that my county would not get its fair share
- \_\_\_(2) Transportation improvements are not a high enough priority
- \_\_\_(3) I need more information to make a decision
- \_\_\_(4) Other: \_\_\_\_\_

11. I am going to read you a list of funding sources that could be used to fund transportation improvements in the five-county Nashville region. For each one, please indicate whether you would be very supportive, somewhat supportive, or not supportive of using the source of revenue:

	<u>Very Supportive</u>	<u>Somewhat Supportive</u>	<u>Not Sure</u>	<u>Not Supportive</u>
(A) Sales Tax .....	1.....	2.....	3.....	4.....
(B) Wheel Tax .....	1.....	2.....	3.....	4.....
(C) Vehicle Emission Testing Fees .....	1.....	2.....	3.....	4.....
(D) Gasoline Tax .....	1.....	2.....	3.....	4.....
(E) Toll Roads .....	1.....	2.....	3.....	4.....
(F) Development (impact) Fees .....	1.....	2.....	3.....	4.....



**12. If a SALES TAX increase were proposed at a future election to fund transportation improvements in the five-county Nashville area, what is the maximum increase in the sales tax rate you would be willing to support? [read list]**

- \_\_\_(1) 2 cent increase
- \_\_\_(2) 1 cent increase
- \_\_\_(3) 3/4 cent increase
- \_\_\_(4) 1/2 cent increase
- \_\_\_(5) 1/4 cent increase
- \_\_\_(6) 1/8 cent increase
- \_\_\_(0) NOTHING

**13. If a GAS TAX increase were proposed at a future election to fund transportation improvements in the five-county Nashville area, what is the maximum increase per gallon that you would you be willing to support? [read list]**

- \_\_\_(1) 10 cents per gallon
- \_\_\_(2) 5 cents per gallon
- \_\_\_(3) 3 cents per gallon
- \_\_\_(4) 2 cents per gallon
- \_\_\_(5) 1 cent per gallon
- \_\_\_(0) NOTHING

**I'd like to conclude our survey by asking you a few demographic questions to ensure that our sample is representative of the people who live in the region.**

**14. What is your age?**

- |                 |                 |                 |
|-----------------|-----------------|-----------------|
| ___(1) Under 20 | ___(4) 35 to 44 | ___(7) 65 to 74 |
| ___(2) 20 to 24 | ___(5) 45 to 54 | ___(8) 75+      |
| ___(3) 25 to 34 | ___(6) 55 to 64 |                 |

**15. What is your employment status?**

- |                                    |                   |
|------------------------------------|-------------------|
| ___(1) Employed outside the home   | [Answer Q15a-15b] |
| ___(2) Student                     | [GO TO Q16]       |
| ___(3) Operate home-based business | [GO TO Q16]       |
| ___(4) Not currently employed      | [GO TO Q16]       |
| ___(5) Retired                     | [GO TO Q16]       |

**15a. How many miles is your place of employment from your home?**

\_\_\_\_\_ miles

**15b. What method of transportation do you normally use to go to work?**

- (1) Car/truck--drive alone
- (2) Carpool
- (3) Vanpool
- (4) Walk
- (5) Taxi
- (6) Bicycle
- (7) Bus (Public transit)
- (8) Motorcycle
- (9) Other: \_\_\_\_\_

**16. In which county do you live?**

- (1) Davidson
- (2) Rutherford
- (3) Sumner
- (4) Williamson
- (5) Wilson

**17. Would you say your total annual household income is:**

- (1) Under \$20,000       (4) \$60,000 to \$99,999
- (2) \$20,000 to \$39,999       (5) \$100,000 & up
- (3) \$40,000 to \$59,999       (6) not provided

**18. Which of the following best describes your ethnic background?**

- (1) White       (4) African-American
- (2) Hispanic/Latino       (5) Asian/Pacific Islander
- (3) American Indian       (6) Other

**19. Gender of the respondent:**     (1) Male     (2) Female

***THANKS FOR YOUR TIME THIS CONCLUDES THE SURVEY***