

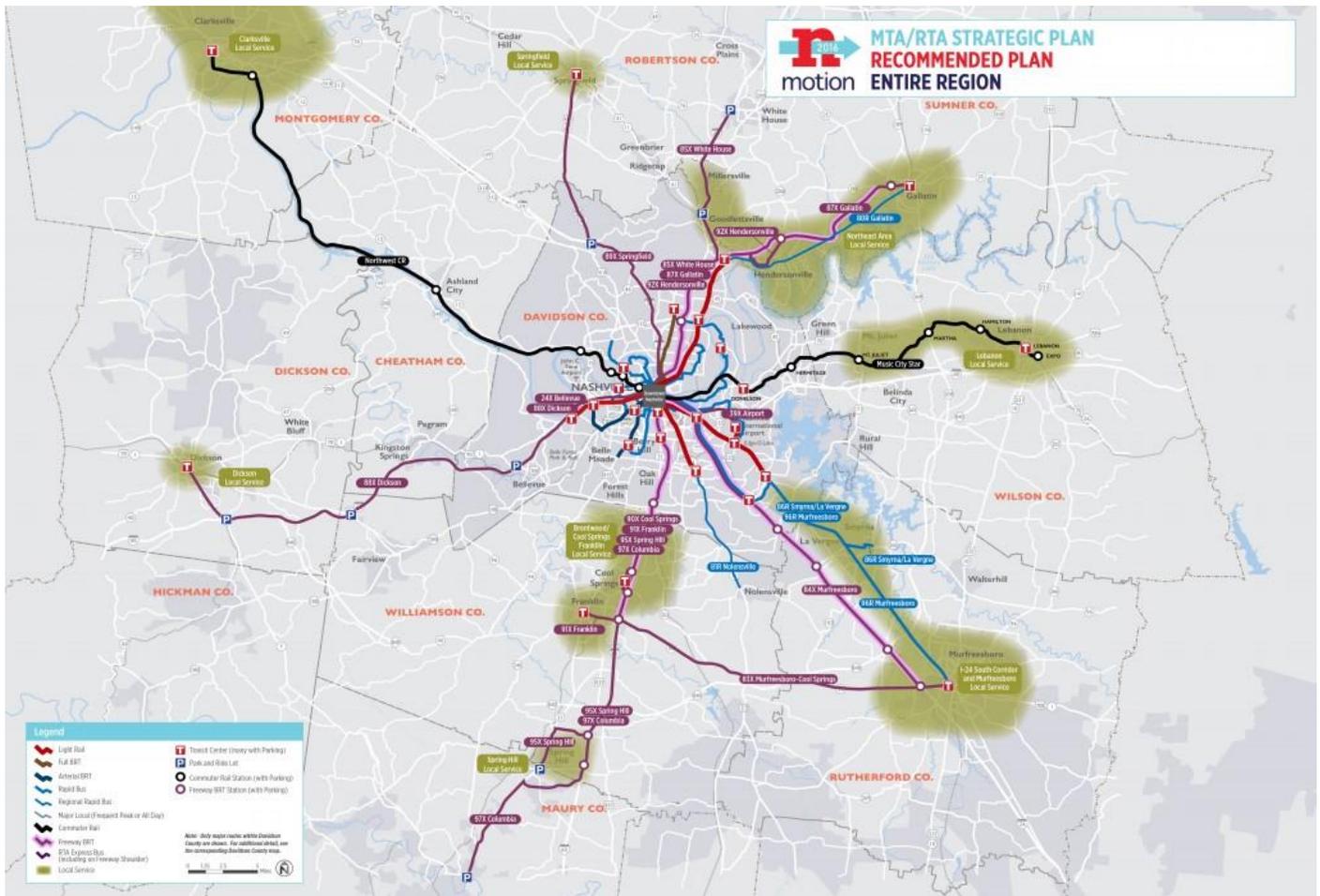
Evaluating Middle Tennessee Region Public Transportation Funding Sources

November 9, 2016

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Summary

This report identifies and analyzes potential funding sources that could help finance the local portion of investments needed to develop high-quality public transit services in the Middle Tennessee region. It evaluates 20 potential funding sources according to eight criteria, including potential revenue, predictability and stability, social equity impacts, contributions from non-residents, travel impacts, consistency with economic development objectives, public acceptability, and implementation requirements. This information can help policy-makers and the public identify the most suitable financing package for achieving the region's transportation improvement goals.



The Middle Tennessee region has a strategic plan that will improve transportation system performance and increase travel options. This plan will qualify for state and federal funds, but will also require significant local funding.

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Executive Summary

To help identify and evaluate potential public transit funding options, the Moving Forward Revenue & Finance Task Force commissioned this study by Todd Litman of the Victoria Transport Policy Institute (VTPI). It involved an extensive review of transportation funding research and experience from other jurisdictions, including peer regions that are currently investing in major public transit service improvements. VTPI interviewed more than a dozen state and local elected officials to understand the regional context. This report summarizes the results.

The 10-county Middle Tennessee region is growing rapidly. To support efficient growth and address current and future transportation challenges, the region plans to significantly improve public transit services, as indicated in Middle Tennessee Connected, the regional long-range transportation plan, and nMotion, the regional transit plan. Moving Forward, a community and volunteer-led initiative, endorsed the boldest nMotion scenario as the starting point for a regional transit plan.

Building the system outlined in the nMotion plan over a 25-year period will require an estimated \$5.9 billion in capital investment, plus a gradual increase in operating funds. Although federal and state funds typically help finance such projects, significant local funding is generally needed. In order to implement the nMotion plan on schedule, the Moving Forward Revenue & Finance Task Force considered scenarios generating \$260 million per year across the region to fund capital and operations, assuming half of the total funding for the plan will need to come from local sources.

It is useful to put these funding needs into perspective with other transportation expenditures. The Nashville region currently spends about \$110 per capita on public transit services, of which \$60 is local government funding. This is less than national average spending and smaller than other transportation costs, including road and parking facility costs, the costs of owning and operating a motor vehicle, and some auto club memberships. This current transit funding equals 1-2 percent of what households currently spend on transportation, and the major proposed investments would raise that figure to about 3 percent. If public transit improvements can reduce road, parking and vehicle costs by just 2 percent, they can provide a positive return on investment.

This study identifies 20 potential funding options, as summarized in Table ES-1. Each was evaluated according to eight criteria, including potential revenue, predictability and sustainability, horizontal and vertical equity, travel impacts, strategic development objectives, public acceptance and implementation requirements. The Moving Forward Revenue & Finance Task Force conducted additional research concerning their use in other regions, potential barriers to their implementation in Middle Tennessee, and how much each might generate within the 10-county Nashville region. The Task Force, along with mayors, legislators, and other public officials, provided crucial feedback regarding these various local funding sources and their potential applicability in the region.

The analysis in this report and subsequent stakeholder consultations identified seven funding options that appear to be particularly worthy of further analysis beyond the scope of this project. These include:

- property tax
- sales tax
- tourist services tax
- gasoline/fuel tax
- vehicle fee
- parking tax/fee
- land value capture

The recommendation to explore these seven potential revenue sources further does not constitute an endorsement; it simply reflects their relative strength according to the eight evaluation criteria considered by this report. Most would require new state legislation to make them available to local governments.

Table ES-1 Potential Public Transport Funding Sources

Name	Description	Advantages	Disadvantages
1. Fare increases	Increase fares or change fare structure to increase revenues.	Widely applied. Is a user fee (considered equitable).	Discourages transit use. Is regressive.
2. Discounted bulk passes	Discounted passes sold to groups based on their ridership.	Increases revenue and transit ridership.	Increases transit service costs and so may provide little net revenue.
3. Property taxes	Increase local property taxes.	Widely applied. Distributes burden widely. Produces significant revenue.	Supports no other objectives. Is considered regressive.
4. Sales taxes	A special local sales tax	Distributes burden widely, including to non-residents. Significant revenue.	Supports no other objectives. Is regressive.
5. Tourist services taxes	Taxes on tourist services such as hotel rooms and vehicle rentals.	Primarily borne by non-residents. Is already collected.	If excessive, may reduce tourism.
6. Sin taxes	Taxes on goods such as liquor, cigarettes and gambling.	Incentivizes healthy behaviors.	These taxes are already high, and increases may harm local businesses.
7. Gas/fuel taxes	Obtain a dedicated portion of state fuel taxes, or use and potentially increase the local option fuel taxes.	Widely applied. Reduces vehicle traffic and fuel use.	Is considered regressive. Becomes less stable as fuel efficiency increases.
8. Vehicle fees, wheel levy	An additional fee for vehicles registered in the region.	Applied in some jurisdictions. Charges motorists for costs.	Is considered regressive.
9. Utility levy	A levy to all utility accounts in the region.	Easy to apply. Distributes burden widely.	Is small, regressive and support no other objectives.
10. Employee levy	A levy on each employee within a designated area or jurisdiction.	Charges for commuters.	Requires administration. May encourage sprawl and discourage job creation.
11. Road tolls	Tolls on some roads or bridges.	Reduces traffic congestion.	Costly to implement. Can encourage sprawl if only applied in city centers. Currently illegal on current roads.
12. Vehicle-mile tax	A distance-based fee on vehicles registered in the region.	Reduces vehicle traffic.	Costly to implement.
13. Parking taxes	Special tax on commercial parking transactions.	Is applied in other cities.	Discourages parking pricing and downtown development.
14. Parking levy	A special property tax on parking spaces throughout the region.	Large potential. Distributes burden widely. Encourages compact development.	Costly to implement. Opposed by suburban property owners.
15. Expanded parking pricing	Increase when and where public parking facilities (e.g. on-street parking) are priced.	Moderate to large potential. Distributes burden widely. Reduces parking & traffic problems.	Requires parking meters and enforcement, and imposes transaction costs.
16. Development or transport impact fees	A fee on new development to help finance infrastructure, including transit improvements.	Charges beneficiaries.	Limited potential.
17. Land value capture	Special taxes on property that benefit from the transit service.	Large potential. Charges beneficiaries.	May be costly to implement. May discourage TOD.
18. Station rents	Collect revenues from public-private development at stations.	Charges beneficiaries.	Limited potential.
19. Station air rights	Sell rights to build over stations.	Charges beneficiaries.	Limited potential.
20. Advertising	Additional vehicle & station advertising	Already used.	Limited potential. May be unattractive.

This table summarizes potential funding options identified in this study.

Introduction

The Middle Tennessee region, including Nashville/Davidson County and nine nearby counties, is rapidly growing. Like other growing metropolitan areas, it faces various transportation problems, including traffic and parking congestion, growing consumer cost burdens, inadequate mobility options for non-drivers, and high traffic crash rates. According to forecasts, with current trends, by 2040 the region will experience (Nashville Area MPO, 2016):

- 76 percent more residents
- 81 percent more jobs
- 86 percent travel volume growth
- 26 percent slower traffic speeds
- 162 percent increase in miles traveled on congested routes
- 141 percent more freight trucks stuck in traffic

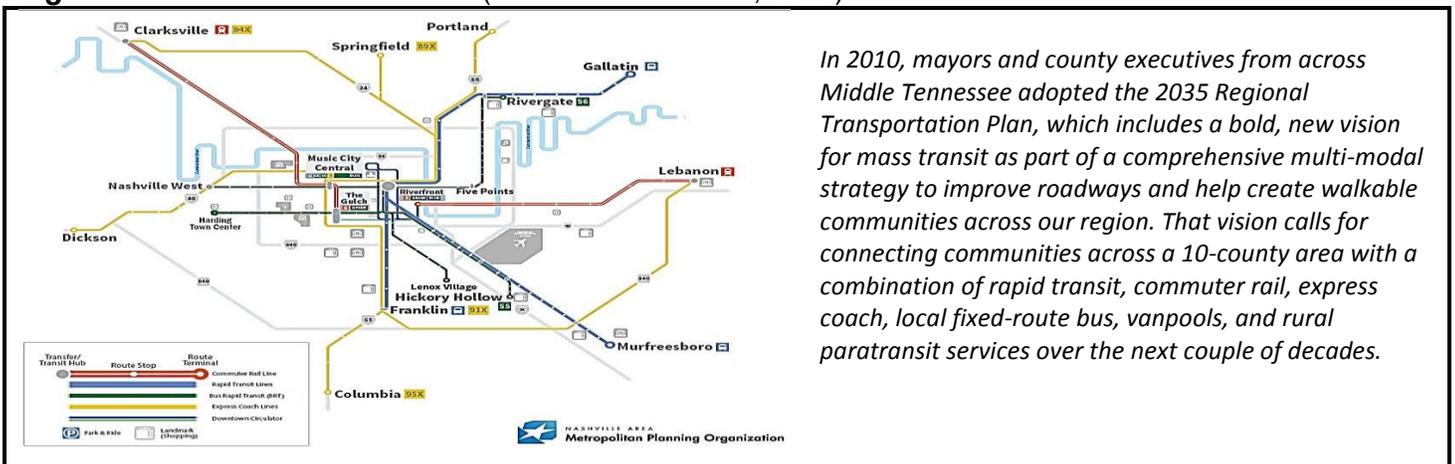
These problems can be addressed, in part, by improving public transit services, particularly on major travel corridors. Travelers on corridors with high-quality transit tend to own fewer motor vehicles, drive less, and cause less congestion than they would in more automobile-oriented locations. This, in turn, reduces road and parking facility costs to businesses and governments, and supports economic development. Appropriate public transit investments can provide savings and benefits that more than offset their costs. Surveys indicate that regional residents are concerned about these problems and support public transit improvements (ETC Institute, 2014).

Middle Tennessee Connected, the regional long-range transportation plan that the Nashville Area MPO adopted in February 2016, includes goals to develop high-quality transit. It states, “It is critical that the region place significant emphasis on improving public transit in the years to come. This will provide alternatives to congested roadways, and ensure Middle Tennessee remains a livable marketplace that can compete on a national and global scale.”

nMotion, the regional transit planning process led by the Metropolitan Transit Authority (MTA) and the Regional Transportation Authority (RTA), calls for connecting communities across a 10-county area with a combination of BRT, light and commuter rail, fixed-route bus, vanpools and paratransit services (Figure 1). Moving Forward, a community and volunteer-led initiative, has endorsed the boldest nMotion scenario as the starting point for a regional transit plan (Garrison, 2016). Building this system is estimated to cost \$5.9 billion, depending on routes, technology and design, which will require approximately \$100-\$200 million annually over a 25-year period.

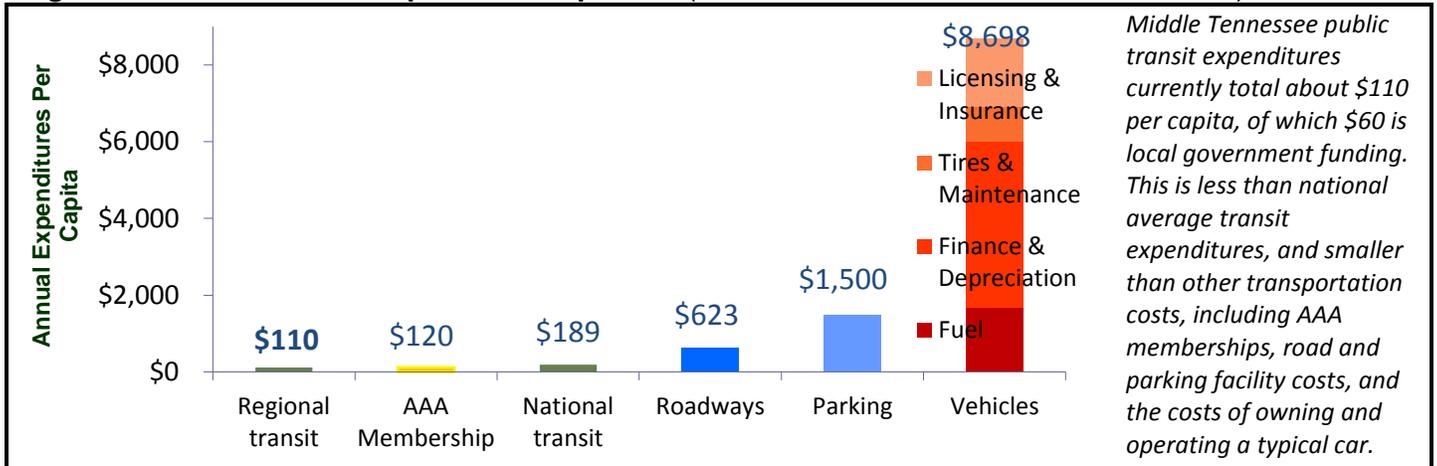
Although federal and state funds often help finance transit improvements, significant local funding is generally needed. To minimize borrowing costs, this funding must be reliable, which requires dedicated funding sources. In response, the Moving Forward Revenue & Finance Task Force has convened to investigate local funding sources.

Figure 1 Public Transit Plan (Nashville Area MPO, 2016)



The Nashville MTA currently spends \$74 million annually, consisting of \$17 million in fares, \$17 million in state and federal grants, and \$40 million in local funding (MTA, 2016). This averages approximately \$110 annual per capita, of which about \$60 is local funding. Figure 2 compares this with various other transportation costs, including roadway and parking expenditures, and the estimated costs of owning and operating a typical car.

Figure 2 Various Transportation Expenses (VTPI Estimate Based on Various Sources)



This report evaluates 20 potential local funding sources according to eight criteria, including potential revenue, predictability and sustainability, horizontal and vertical equity, travel impacts, strategic development objectives, public acceptance and implementation requirements.

This report incorporates information gathered through more than a dozen stakeholder interviews with county mayors, state legislators, city council members, RTA/MTA, Nashville Area MPO, Tennessee Department of Transportation, Greater Nashville Regional Council, and the Transit Alliance of Middle Tennessee. In addition, VTPI conducted two work sessions with the Moving Forward Revenue & Finance Task Force in July and September 2016 in which revenue sources were identified for further research.

Evaluation Criteria

This section describes the eight criteria used to evaluate funding sources in this study.

Potential Revenue

This refers to the amount of money that a source can realistically generate. Some sources have natural constraints. For example, there are limits to the amount of money transit agencies can generate through advertising and station rents; for others, maximum potential revenues depend on how they are implemented.

Predictability and Stability

Funding sources vary in the amount that they fluctuate from year to year. Predictable and stable funding is desirable for planning and budgeting purposes, and increases bond ratings which reduces borrowing costs.

Equity Analysis

Equity analysis refers to how costs and benefits are distributed. There are two general categories of equity:

- *Horizontal equity* refers to the distribution of impacts between people with similar needs, abilities and wealth. It assumes that people should generally be treated equally, and implies that people should “get what they pay for and pay for what they get” unless subsidies are specifically justified.
- *Vertical equity* refers to the distribution of impacts between people who differ in need, ability and wealth. It assumes that public policies should generally favor physically, economically and socially disadvantaged people. Policies that do this are called *progressive* and those that impose higher costs on disadvantaged people are called *regressive* (Semuels, 2015).

High quality public transportation can provide widely distributed benefits, as indicated in Table 1. Even people who do not currently use transit services can benefit if it reduces their traffic and parking congestion, reduces infrastructure costs, supports their businesses, increases traffic safety or reduces their chauffeuring burdens. This suggests that various funding sources can be justified on a beneficiary-pays basis, including funding from people who do not currently use public transit but enjoy savings and benefits.

Table 1 Distribution of Transit Benefits

	Transit Users	Motorists	Taxpayers	Businesses	Residents
Improved convenience and comfort	✓				
Congestion reductions		✓		✓	
Roadway cost savings			✓	✓	✓
Parking cost savings	✓		✓	✓	✓
User savings and affordability	✓				
Improved mobility for non-drivers	✓	✓		✓	
Improved traffic safety	✓	✓	✓	✓	✓
Energy conservation	✓				
Emission reductions		✓			✓
Improved public health	✓		✓	✓	✓

High-quality public transport can provide various types of benefits to various groups, including people who do not currently use the service themselves but benefit from having it in their communities. For example, improving mobility for non-drivers benefits motorists by reducing their chauffeuring burdens, and benefits businesses by expanding their pool of potential employees. As a result, it is fair that these groups help finance public transit improvements.

Contributions from Non-residents

Since non-residents, such as tourists, visitors and travelers journeying through the region, impose transportation challenges, including traffic and parking congestion, and public transit demand, horizontal equity justifies collecting funding from them to support transport system improvements. This considers the extent that a revenue source collects funds from these non-residents.

Travel Impacts

This refers to the effects a funding source has on how and how much people travel, and whether this supports or contradicts strategic transport planning objectives, such as objectives to increase use of alternative modes. The regional transportation plan (Nashville Area MPO, 2016) includes goals to reduce motor vehicle travel, particularly on congested travel corridors.

Economic Development Objectives

This refers to the effects a source has on the type and location of development in a community, and whether this supports or contradicts strategic planning objectives such as encouraging more compact development and discouraging sprawl, and creating more walkable communities.

Public Acceptability

Another important issue for this analysis is the degree of public acceptability of each funding source (Agrawal, 2015; Weinstein and Nixon, 2015 and 2016). Such preferences can vary significantly depending on the group surveyed, existing tax conditions, and exactly how funding sources are designed and implemented. For example, the public acceptability of a gasoline/fuel tax increase may depend on existing gasoline/fuel tax levels, when they were last raised, and exactly how revenues are used. The Nashville transit funding research project included surveys and focus groups that investigated public preferences concerning funding sources (ETC Institute, 2014).

Implementation Process

This refers to the process required to implement a funding source, including any policy and legal changes required.

Analysis

This section describes and evaluates 20 potential public transit funding sources.

Fare Increases

The Regional Transportation Authority (RTA) or the Nashville Metropolitan Transit Authority (MTA) may increase fares or change its fare structure to increase revenues, such as eliminating discounts.

Potential Revenue

Fare increases tend to increase revenues, but less than proportionately since higher fares tend to reduce ridership. Typically, each 10 percent fare increase reduces ridership 3 percent, resulting in a 7 percent net revenue gain. Table 2 summarizes current Nashville MTA fares, which are typical for smaller cities but lower than most large cities. For example, for a single fare, Chattanooga's CARTA, Jackson's JATA and Knoxville's KAT all charge \$1.50, Atlanta's MARTA charges \$2.50, Denver's RTD charges \$2.60, and New York's MTA charges \$2.75. However, the larger systems' higher fares tend to purchase more services, including greater frequency, express services and free transfers.

Potential yield is also affected by pricing of other products, such as day passes, multiple trip tickets and monthly passes.

Table 2 Nashville MTA Fares

	Adults	Youths 5-19 years (under 5 are free)	Seniors (65+) and people with disabilities
Local service & BRT lite	\$1.70	\$1	\$0.85
Express service	\$2.25		
All-day pass	\$5.25	\$3.50	\$3.25
7-day Pass	\$24	\$16	
20-ride local	\$32		\$17
20-ride express	\$42		
31-day pass	\$84	\$58.50	\$44
StriDe pass (MNPS students grades 9-12)		No charge	
Access ride (single ride)		\$ 3.40	
RTA 1-ride express bus		\$ 4.25	
RTA 20-ride express bus		\$ 73.50	

(www.nashvillemta.org/Nashville-MTA-bus-fares.asp)

Nashville MTA's current fares are typical for smaller cities but lower than most large cities. They could increase, although doing so would burden some low-income users and reduce ridership.

If the Nashville MTA increased their zone 1 base fare from the current \$1.70 to \$2, it would generate about \$392,000 in additional revenue if the increase only applied to the full adult fare (14 percent of current ridership); a 30-cent increase could generate as much as an estimated \$2.8 million in additional annual revenue if the increase was applied to most fare levels and options, including increasing the contribution from employers and organizations associated with contract passes.

Predictability and Stability

Fare increase net revenues tend to have moderate predictability and stability due to fluctuations in ridership, particularly over the long run.

Horizontal Equity

Since transit services are subsidized, fare increases can be considered horizontally equitable (users pay for the services they receive). However, since about half of all roadway costs are borne by general taxes (gasoline/fuel taxes and registration fees finance most state highway expenses, but local roads are primarily funded by general taxes) and automobile travel imposes other external costs (parking subsidies, traffic congestion, accident risks and pollution damages imposed on others), transit subsidies are justified on horizontal equity grounds, because they help ensure that non-drivers receive a fair share of public expenditures on transportation.

Vertical Equity

Since public transit provides basic mobility and many users are lower-income, fare increases tend to be regressive and vertically inequitable (they burden poor people). This impact varies depending on specific factors, such as transit user incomes and price structures.

Contributions from Non-residents

Non-resident transit users, including visitors and residents of nearby jurisdictions, will bear a share of these costs.

Travel Impacts

Fare increases tend to reduce public transit travel and shift travel to automobile (Litman, 2004; McCollom and Pratt, 2004; Wardman and Shires, 2011), thus working against vehicle travel reduction goals.

Economic Development Objectives

Transit fare increases may reduce the attractiveness of transit travel and transit-oriented locations, such as downtowns and station areas.

Public Acceptance

Although public opinion typically supports the user pay principle, surveys and focus groups indicate opposition to significant fare increases due to equity concerns (a desire to keep public transit affordable to lower-income users), and a desire to encourage public transit travel.

Implementation Requirements

The process to increase fares is clear, yet conversations with users about raising fares can be challenging.

Legal Status

Fare increases do not require any enabling legislation. Fare changes could be made through a decision by the MTA or RTA board, following a public hearing process.

Examples

The last fare increase for the Nashville MTA was in January 2012, where the zone 1 base fare was increased from \$1.60 to \$1.70. There was no significant ridership loss, likely because the MTA system was adding additional services at the time and the fare did not create an odd coin combination.

Discounted Bulk Transit Passes

Public transit agencies can sell transit passes to a group, such as all students at a university (called U-Pass programs), all employees at a worksite, or all residents of a neighborhood.

Potential Revenue

Potential revenues depend on the scope of these programs, which could add hundreds or thousands of new users. However, it also tends to increase transit service costs, so there is generally little or no net revenue. Currently, the Nashville MTA receives \$750,000 from the Metropolitan Nashville Public Schools to help fund the implementation of the StriDe program for public high school students.

Predictability and Stability

Contracts for such services tend to be for one or more years, so transit agencies can generally plan for the additional revenue and ridership on an annual basis.

Horizontal Equity

Bulk passes tend to create cross-subsidies from those participants who seldom or never ride transit to those who ride more than average, although non-riders may benefit from reduced congestion and accident risk.

Vertical Equity

Since physically and economically disadvantaged people tend to ride transit, and since such programs tend to increase total transit service, this strategy tends to support vertical equity objectives.

Contributions from Non-residents

This source could increase revenue from some non-residents, but the amounts are probably minimal.

Travel Impacts

This tends to increase transit ridership and reduce automobile travel. Impacts vary depending on participation.

Economic Development Objectives

This can increase the attractiveness of transit-oriented locations such as downtown employers and campuses.

Public Acceptance

There is often high public acceptance of such programs. U-Pass programs often receive strong student and employee support, depending on the quality and convenience of the service.

Implementation Requirements

Once a price structure is established, implementation is relatively easy.

Legal Status

Most transit agencies have the legal ability to negotiate discounted fares for particular groups.

Examples

Many colleges and universities have U-Pass programs which provide transit passes to all students and sometimes staff at a campus (Brown, Hess and Shoup, 2003).

Here in the Middle Tennessee region, the RTA and Nashville MTA have contract pass programs with the State of Tennessee, Metro Nashville government, Vanderbilt University, Belmont University and Lipscomb University, as well as the StriDe program with Metropolitan Nashville Public Schools (for all MNPS students enrolled in grades 9 through 12,

and students in grades 5 through 8 who attend an out-of-zone school with no yellow bus service). These partnerships allow unlimited rides for employees, staff and students on the MTA bus.

In other cities, TransLink's Employer Pass Program offers a 15 percent discount to transit passes purchased through employers. Boulder, Colo., offers such a pass to residential neighborhoods, called the Neighborhood Eco Pass (Boulder, 2013).

Property Taxes

Property taxes are the primary source of local government funding in Tennessee, providing general funds that support the operation of public transit. Local governments (particularly counties) rely significantly on this tax for general government operations, particularly K-12 education. In Tennessee, property tax is assessed on 25 percent of appraised value for residential property. Commercial and industrial property owners pay 40 percent of the assessed value of real property and 30 percent of the assessed value of personal property.

Potential Revenue

Currently, the 10-county region covered by the nMotion plan generates approximately \$2.3 billion in property tax revenue each year. A one-cent property tax increase across the region would generate about \$5.2 million, with a little more than \$2 million of that coming from Davidson County.

Predictability and Stability

Property taxes are relatively stable over time.

Horizontal Equity

To the degree that public transit improvements increase nearby property values or provide other savings and benefits to nearby residents and businesses (congestion reductions, parking cost savings, household savings, emission reductions, etc.), property tax funding can be considered horizontally equitable.

Vertical Equity

Property ownership tends to increase with income, and many lower-income residents qualify for property tax discounts and exemptions, so this tax tends to be relatively progressive with respect to income, but property taxes are burdensome to some lower-income home owners.

Contributions from Non-residents

Non-residents do not pay this tax.

Travel Impacts

Property taxes have few direct travel impacts.

Economic Development Objectives

Large property tax differences may cause development to shift between jurisdictions, but transit taxes are typically small and usually applied region-wide, so impacts are likely to be minimal.

Public Acceptance

Although property taxes are sometimes used to finance public transit, and tend to be considered a default funding source (the source used if other options are infeasible), there may be resistance to significant increases in this tax.

Implementation Requirements

Since property taxes are already collected in most jurisdictions, increases are easy to administer.

Legal Status

Tennessee state law gives counties and municipalities the power to set property tax rates in their jurisdictions through their local legislative body.

In order for a county or municipality to raise the certified property tax rate, an intent to raise the tax rate must be advertised in a newspaper of general circulation, the mayor must file an affidavit of publication with the State Board of

Equalization within 30 days, a public hearing must be held, and the new tax rate must be approved by the local government’s legislative body (CTAS & MTAS, 2016).

In addition to the ability of local legislative bodies to raise their property tax rate to support transit, state law outlining the powers of regional transportation authorities currently allows local governments within an RTA to hold an election for the purpose of raising property tax revenues to fund an RTA plan (TCA 64-8-207).

In November 2006, voters in Davidson County approved a charter referendum requiring that any future property tax increases over the rate of \$4.69 be approved by public referendum.

Table 3 2014-2015 Property Tax Rates and Revenues in the Middle Tennessee Region

Counties/Major Cities	Current Property Tax Rate (FY 2015)	Current Revenue per County/City (FY 2015)	Amount Generated per Penny of Property Tax
Cheatham County	\$2.9010	\$21,486,885	\$73,723
Davidson County *	\$4.5160	\$810,462,081	\$2,029,633
Dickson County	\$2.9000	\$28,838,808	\$97,731
Maury County	\$2.6200	\$46,701,975	\$173,494
Montgomery County	\$3.0700	\$111,058,420	\$355,399
Clarksville	\$4.3100	\$112,746,507	\$261,593
Robertson County	\$3.0850	\$42,992,540	\$136,658
Rutherford County	\$2.6800	\$176,935,365	\$605,001
Murfreesboro	\$3.8866	\$120,334,254	\$309,613
Sumner County	\$2.5000	\$106,783,413	\$417,211
Gallatin	\$3.4900	\$35,964,902	\$103,051
Hendersonville	\$3.2580	\$50,088,427	\$156,740
Williamson County	\$2.3100	\$212,600,317	\$887,854
Franklin (city only)	\$2.4576	\$39,494,898	\$160,705
Franklin (special school district)	\$3.0966	\$61,000,717	\$196,992
Wilson County	\$2.5704	\$84,187,105	\$320,004
Lebanon	\$2.7704	\$51,220,571	\$184,885
Mt. Juliet	\$3.1779	\$26,540,680	\$83,516
Middle Tennessee region (county only)			\$5,096,708**

* Uses Urban Services District (USD) rate. General Services District (GSD) rate is \$3.924.

**Total does not include municipal property taxes.

Examples

Many transit agencies rely on property taxes (TCRP, 2009; UTCM, 2010). The Southeast Michigan Regional Transit Authority (RTA) proposed a referendum for a 1.2 mill property tax (\$1.20 in taxes for every \$1,000 of taxable value) dedicated to transit in Macomb, Oakland, Washtenaw and Wayne counties in November 2016.

Sales Taxes

Sales taxes are the most common dedicated local transit funding source in the United States (IPIRG, 2007). According to the FTA’s National Transit Database, sales taxes are the largest local source of transit agency capital spending (38 percent), and the second-largest source of operating expenses (27 percent) after fares (32 percent).

In Tennessee, the state levies a 7 percent sales tax (5 percent for food), with local counties and municipalities having the option to levy up to 2.75 percent. Half of any county local option sales tax must be dedicated to funding K-12 education, with the other half going to the jurisdiction in which it was collected. Municipal local option sales tax revenues do not have a requirement for funding education. The county local sales tax option supersedes that of municipalities within the county, so municipalities may only raise the local option sales tax within their jurisdiction if the county local option sales tax is below the cap of 2.75 percent. Likewise, if a county raises its local option sales tax rate, any municipal local option sales tax up to that new county rate will terminate at the end of the current fiscal year. Unlike the state portion of the sales tax, local option sales taxes are only collected on the first \$1,600 of each purchase (MTAS, 2016).

Potential Revenue

In 2015, the local option sales tax generated \$672.5 million annually across the 10-county region covered by the nMotion plan. A half-cent sales tax generated approximately \$143 million across this region, with \$68 million coming from Davidson County.

Three of the 10 counties covered in the nMotion plan already assess the maximum local option sales tax rate of 2.75 percent.

Table 4 2014-2015 Sales Tax Rates and Revenues in the Middle Tennessee Region

Counties/Major Cities	Current Sales Tax Rate (FY 2015)	Current Revenue per County/City (FY 2015)	Amount Generated per Half-Cent Sales Tax
Cheatham County	2.25%	\$6,020,294	\$1,337,843
Davidson County	2.25%	\$304,643,369	\$67,698,526
Dickson County	2.75%	\$15,374,778	\$2,795,414
Maury County	2.25%	\$20,973,945	\$4,660,877
Montgomery County	2.50%	\$51,140,358	\$10,228,072
Clarksville	2.50%	\$50,356,109	\$10,071,222
Robertson County	2.75%	\$16,358,469	\$2,974,267
Rutherford County	2.75%	\$101,111,912	\$18,383,984
Murfreesboro	2.75%	\$70,661,639	\$12,847,571
Sumner County	2.25%	\$36,662,431	\$8,147,207
Gallatin	2.25%	\$13,070,858	\$2,904,635
Hendersonville	2.25%	\$19,706,310	\$4,379,180
Williamson County	2.25%	\$84,832,935	\$18,851,763
Franklin	2.25%	\$53,876,676	\$11,972,595
Wilson County	2.25%	\$35,412,428	\$7,869,428
Lebanon	2.25%	\$19,522,301	\$4,338,289
Mt. Juliet	2.25%	\$15,953,358	\$3,545,191
Middle Tennessee region (county only)			\$142,947,382*

* Total does not include municipal sales tax revenues

Predictability and Stability

Moderately stable. Sales taxes tend to fluctuate more than property taxes. Periods of economic growth bring increased sales tax collections, while economic downturns result in a decline in sales tax revenues.

Horizontal Equity

To the degree that transit benefits consumers, sales taxes can be considered horizontally equitable, though the relationship is indirect (people and businesses do not necessarily pay sales taxes in proportion to their benefits).

Vertical Equity

Sales taxes are regressive, and so tend to be vertically inequitable.

Contributions from Non-residents

Non-residents pay this tax when they purchase goods in the region.

Travel Impacts

Sales taxes do not directly affect travel activity.

Strategic Development Objectives

Large sales tax differences may cause development to shift between jurisdictions, but transit taxes are relatively small and usually applied region-wide, so impacts are likely to be minimal.

Public Acceptance

Sales taxes are among the most common public transit funding sources, and tend to be considered acceptable because they are widely distributed and collected in small amounts. It received slightly more support (37 percent) than property taxes (35 percent) in the Nashville Area MPO's 2014 public opinion survey in their seven counties, which was conducted before the nMotion process and plan (ETC Institute, 2014).

Implementation Requirements

Since sales taxes are already collected, there is minimal administrative cost to increasing them to fund public transit.

Legal Status

Current Tennessee law allows counties and cities to levy a local option sales tax up to 2.75 percent. In order to exercise this option, a resolution must be adopted by the county commission or an ordinance must be adopted by a municipality's legislative body. The proposed sales tax increase must then be approved by majority vote in a public referendum. The local option sales tax remains in effect until it is terminated through the same process, or when it expires, if a termination date was specified in the initiating legislation. A referendum on a local option sales tax increase can also be initiated through a petition of 10 percent of the registered voters in the jurisdiction (MTAS, CTAS, 2016).

Because three of the 10 counties in the nMotion plan are already at the maximum local option sales tax rate, new state legislation would be required to allow every county in the Nashville region to pursue a local sales tax dedicated to transportation. During the 2016 legislative session, legislation discussed in the state legislature (SB1460/HB1526) would have allowed local governments to levy a "transportation improvement surcharge" in connection with any tax a county or municipality is authorized by the state to levy. Approval of this new surcharge would be subject to a two-thirds vote of the county commission or a majority vote in a public referendum. By creating a new category of local revenue, a transportation improvement surcharge, this legislation would have allowed local governments to levy a sales tax dedicated to transportation needs that would be outside of the current 2.75 percent local option sales tax cap and the county requirement to earmark half of the revenues toward funding K-12 education. Ultimately, the proposed amendment containing this language was discussed, but never brought to a vote in committee.

Examples (Non-Road Pricing Revenue: Project Profiles)

In 2008, more than two-thirds of Los Angeles County voters approved Measure R, a referendum that established a special half-cent sales tax dedicated to rapid transit and some road infrastructure (METRO, 2011). The TransNet half-cent sales tax levied in San Diego County funds local transportation projects, including public transit improvements. The Capital Metro 1 percent sales tax levied on nine jurisdictions in Williamson and Travis counties in Texas helps fund Capital Metro budget. The Metropolitan Atlanta Rapid Transit Authority (MARTA) in Georgia collects 1 percent sales tax levied in Fulton and DeKalb counties to help fund transit services. The Dallas Area Rapid Transit (DART) in Texas collects a one-cent sales tax levied on 13 cities in the metropolitan area to fund its budget.

In 2004, voters in the Denver region approved a 0.4 percent sales tax to fund the Regional Transportation District's FasTracks regional transit plan by a vote of 57 percent-43 percent (CRL Associates, 2015).

Tourist Services Taxes

Many jurisdictions apply special taxes on tourist-related goods, such as lodging and vehicle rentals, often to help finance local tourist services and programs. State law allows Nashville/Davidson County to levy a hotel occupancy privilege tax up to 6 percent plus a \$2.50-per-night surtax to finance tourist-related activities and promotion, the Convention Center, and the Nashville Convention & Visitors Corporation (Darden, 2012). Surrounding counties are authorized by state law to levy a similar tax up to 4 or 5 percent, and some individual cities in surrounding counties are authorized to levy additional hotel taxes. See table below.

Potential Revenue

The Nashville/Davidson County \$2.50 surtax and 6 percent hotel occupancy privilege tax generated \$75.5 million during the 2015-2016 budget year, of which \$66 million is dedicated to tourism promotion and \$9.5 million is used for other county purposes (MGND, 2016). Increasing the tax rate to 8 percent could provide \$25 million in additional annual revenue, and more if regional tourism activity grows.

Predictability and Stability

Such taxes fluctuate with tourist activity, but tend to be moderately predictable and stable.

Horizontal Equity

Such taxes can be considered horizontally equitable if they help finance services or programs that benefit tourists.

Vertical Equity

Since tourism spending tends to increase with income, such taxes can be assumed to be progressive.

Contributions from Non-residents

Such taxes target non-residents.

Travel Impacts

May discourage Nashville visitors and reduce vehicle rentals, although research suggests that travels are generally insensitive to increases in hotel lodging taxes (TACIR Report 2016, *Structuring Lodging Taxes to Preserve the Economy and Encourage Tourism*. Pages 1 and 13 - www.tn.gov/assets/entities/tacir/attachments/2016_Tab_5_Lodging_Taxes.pdf).

Economic Development Objectives

High visitor taxes may discourage tourism business activity (see TACIR Report above).

Public Acceptance

Local residents, excepting those heavily invested in tourist industries, tend to support such taxes.

Implementation Requirements

If such taxes are authorized by the state and have not been fully utilized by the city or county, these can often be locally ratified at the local level by the method outlined in the state legislation, generally by two-thirds vote of the local legislative body or by referendum. If the taxes are authorized by the state, but are currently being used to the fullest extent by the city or county, then the city, county or metropolitan government must return to the state to seek authorization to apply additional taxes.

Legal Status

Nashville/Davidson County may levy up to 6 percent total plus a \$2.50-per-night fee. Increasing beyond this rate will require state legislative action. See chart below for a list of surrounding counties and cities – with the taxes they are authorized by the state to use and the extent to which they are using them today.

Examples

Many states and cities impose hotel and vehicle rental taxes (*Consumer Reports*, 2014). In 2015, the state of Georgia imposed a \$5-per-night hotel tax earmarked for state transportation projects, and allows local governments to levy up to a 3 percent excise tax or up to an 8 percent sales tax on hotel rooms. Las Vegas imposes a 12-13 percent hotel room tax, which generated \$223 million in 2014, plus vehicle rental taxes of \$3 per day plus 29.75 percent of fees for non-locals and 27.75 percent for local residents, which finance general government expenditures.

Table 5 Tourist Services Rates in the Middle Tennessee Region

County		Actual Tax Rates					Authorized Tax Rates				
		Sales Tax Rates		Lodging Tax Rates			Total Tax Rate	Sales Tax (Local)	Lodging Tax Rates		Total Tax Rate
		(State)	(County)	(City)	(County)	(City)			(County)	(City)	
Davidson	(except Goodlettsville)	7%	2.25%		6%		15.25%	2.75%	6%		15.75%
Davidson	Goodlettsville	7%	2.25%		6%	3%	18.25%	2.75%	6%	3%	18.75%
Montgomery	(except Clarksville)	7%	2.50%		5%		14.50%	2.75%	5%		14.75%
Montgomery	Clarksville	7%	2.50%		5%		14.50%	2.75%	5%		14.75%
Rutherford	(except LaVergne, Murfreesboro, Smyrna)	7%	2.75%		5%		12.25%	2.75%	5%		14.75%
Rutherford	LaVergne	7%	2.75%		2.50%	2.50%	14.75%	2.75%	5%	2.50%	17.25%
Rutherford	Murfreesboro	7%	2.75%		2.50%	2.50%	14.75%	2.75%	5%	2.50%	17.25%
Rutherford	Smyrna	7%	2.75%		2.50%	2.50%	14.75%	2.75%	5%	2.50%	17.25%
Sumner	(except Goodlettsville and White House)	7%	2.25%		5%		14.25%	2.75%	5%		14.75%
Sumner	Goodlettsville	7%	2.25%		5%	3%	17.25%	2.75%	5%	3%	17.75%
Sumner	White House	7%	2.25%	0.50%	5%		14.75%	2.75%	5%		14.75%
Williamson	(except Brentwood, Fairview, Franklin)	7%	2.25%		4%		13.25%	2.75%	4%		13.75%
Williamson	Brentwood	7%	2.25%		4%	4%	17.25%	2.75%	4%	4%	17.75%
Williamson	Fairview	7%	2.25%	0.50%	4%	2%	15.75%	2.75%	4%	2%	15.75%
Williamson	Franklin	7%	2.25%		4%	4%	17.25%	2.75%	4%	4%	17.75%
Wilson	(except Lebanon, Mt. Juliet)	7%	2.25%		5%		14.25%	2.75%	5%		14.75%
Wilson	Lebanon	7%	2.25%		5%	2%	16.25%	2.75%	5%	2%	16.75%
Wilson	Mt. Juliet	7%	2.25%		5%	4%	18.25%	2.75%	5%	5%	19.75%

TACIR Report 2016, Structuring Lodging Taxes to Preserve the Economy and Encourage Tourism. Appendix C, with Rutherford County's lodging tax rate updated to 5 percent, per adoption of increased rate by county commission in 2016. (www.tn.gov/assets/entities/tacir/attachments/2016_Tab_5_Lodging_Taxes.pdf).

“Sin” Taxes

Special taxes can be imposed on the sales of goods such as alcohol, cigarettes and gambling.

Tennessee has a number of taxes on alcohol that provide revenues to local governments. There is a 15 percent gross receipts tax on the sale of mixed drinks, with 50 percent of the proceeds going to the state general fund for education and the other 50 percent going to local jurisdictions, with some of the funds being earmarked for K-12 education [TCA 57-4-3] (MTAS, CTAS).

A wholesale beer tax of 17 percent is levied by counties and cities, with revenues distributed based on the retail location. A small portion is remitted to the Tennessee Department of Revenue (0.5 percent) for administration and to beer wholesalers (3 percent) to defray the cost of collection (TCA 57-6-103).

Tennessee has a three-cent tax per cigarette that is paid by consumers, most of which is dedicated to the state to fund K-12 education. There is an additional .01 cent per cigarette tax dedicated to the state’s trauma system fund (TCA 67-4-1004; TCA 67-4-1025). There is also a state 6.6 percent wholesale tax on the sale of other tobacco products.

Gambling is extremely limited under Tennessee law. As outlined in the Tennessee Constitution, proceeds from the Tennessee state lottery are restricted to postsecondary education scholarships, with any excess funds being available for only K-12 capital projects, early learning programs and afterschool programs. Nonprofit organizations are permitted to conduct bingo or raffles as a fundraising activity, but the use of gambling devices in the state is prohibited.

Potential Revenue

The 10-county region within the nMotion plan generated \$53 million in liquor-by-the drink tax collections in 2015-2016, with Davidson County generating nearly \$42 million of that amount, with half of the proceeds going to local jurisdictions with some restrictions on use (TN Department of Revenue).

Predictability and Stability

Moderately stable; significant increases may discourage consumption, resulting in declining revenues.

Horizontal Equity

Sin taxes are considered horizontally equitable to the degree that these goods impose external costs on society.

Vertical Equity

Sin taxes tend to be regressive (poor households tend to spend a larger portion of income on liquor, cigarettes, and gambling than higher-income households), but these goods tend to be undesirable and optional, so adding a tax may benefit disadvantaged households, for example, by reducing the harms created by alcohol and cigarette consumption.

Contributions from Non-residents

Some of these goods are consumed by non-residents, but they are likely to provide a minority of total revenue.

Travel Impacts

Sin taxes do not directly affect travel activity.

Strategic Development Objectives

High sin taxes may discourage some industries, such as entertainment and tourism, but since these taxes are widely applied, their rate must be very high to have significant impacts.

Public Acceptance

Because liquor, cigarettes and gambling are generally considered optional and may impose social costs, taxing them tends to be more publicly acceptable than taxes on necessities.

Implementation Requirements

In jurisdictions that already tax liquor, cigarettes and gambling, there is minimal cost to increasing such taxes. If new goods are taxed by the state, there should be minimal additional cost to adding local taxes.

Legal Status

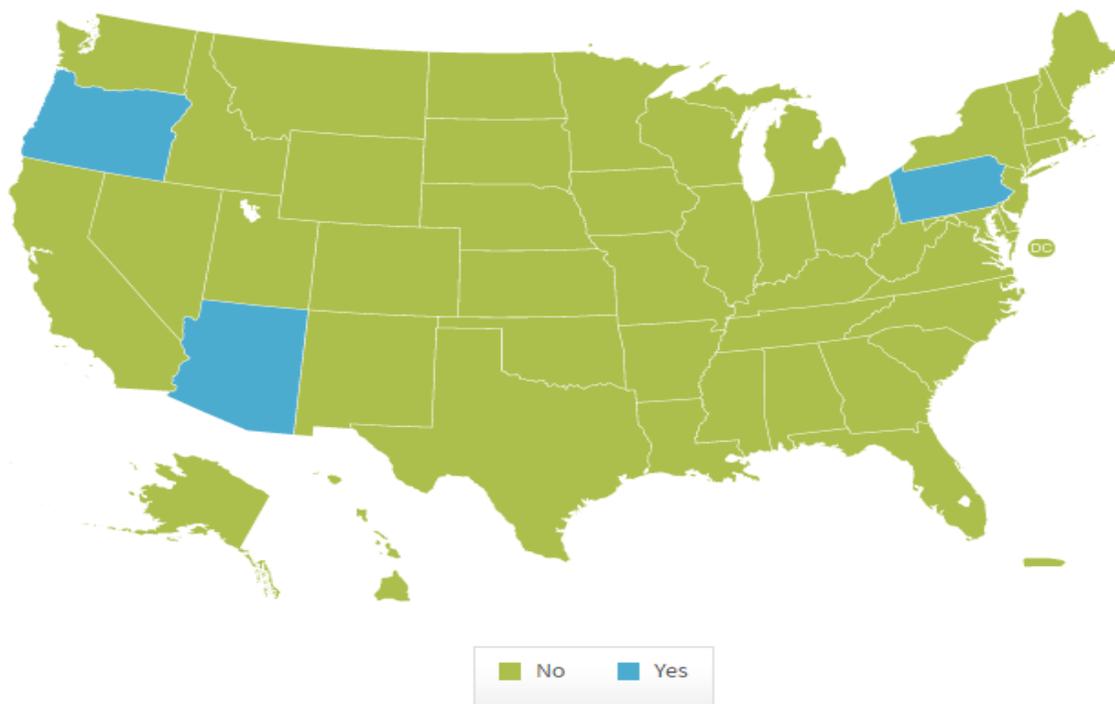
Tennessee state law does not currently allow local jurisdictions to tax alcohol or tobacco as a dedicated source of transportation funding, so enabling legislation would be required.

Proceeds from the state lottery are restricted under the Tennessee state constitution and would require a constitutional amendment to be used for transportation.

Examples

The Allegheny (PA) Port Authority Alcohol Tax, established at 10 percent in 2007 and reduced to 7 percent in 2009, is collected at the point of sale by restaurants and bars, with revenues dedicated to support the Port Authority of Allegheny County (www.alleghenycounty.us/treasurers-office/alcoholic-beverage-tax.aspx). In 2014, the tax (along with a rental car tax) was projected to bring in \$41 million (*Pittsburgh Post-Gazette*, 11/2/13).

Figure 3 States That Allowed Lottery Taxes to Fund Transit in 2011 ([BATIC, 2015](#))



This resource was produced in partnership with the [National Conference of State Legislatures](#).

This figure is from the [Financing Transportation website](#), which provides information on the transportation funding sources used in various states.

Gasoline/Fuel Taxes

Tennessee currently imposes taxes of 21.4 cents per gallon on gasoline and 18.4 cents per gallon on diesel fuel. The state allows counties to assess up to one cent per gallon local gasoline taxes to fund public transit, although none currently do.

Potential Revenue

Tennessee residents currently consume approximately 11.5 barrels or 500 gallons of gasoline annually per capita (www.statemaster.com/graph/ene_gas_con_percap-energy-gasoline-consumption-per-capita), so each additional cent per gallon tax generates approximately \$5 per capita, or \$10 million total additional revenue in the 10-county, 2 million-resident region.

Predictability and Stability

Gasoline/fuel tax revenue is moderately stable. It tends to fluctuate more than property taxes. However, increases in vehicle fuel efficiency, the use of electric vehicles and changes in driving behavior are likely result in revenue declines over time in a cent-per-gallon tax structure.

Horizontal Equity

To the degree that motorists benefit from public transit improvements, due to reduced traffic and parking congestion, and reduced need to chauffeur non-drivers, and to the degree that automobile travel imposes external costs on non-drivers, gasoline/fuel taxes can be considered to increase horizontal equity.

Vertical Equity

Gasoline/fuel taxes are regressive, to the extent that lower-income travelers depend on their own automobile for transportation.

Contributions from Non-residents

A portion of fuel is purchased by non-residents.

Travel Impacts

Gasoline/fuel tax increases tend to reduce automobile travel and encourage use of alternative modes (Litman, 2013; Wardman and Shires, 2011). Travel impacts depend on whether the transit tax is in addition to, or a portion of, existing gasoline/fuel taxes.

Economic Development Objectives

Gasoline/fuel tax increases encourage more compact development.

Public Acceptance

Gasoline/fuel tax increases tend to be unpopular, but some surveys indicate moderate support for gasoline/fuel tax increases dedicated to transportation improvements. A 2015 Vanderbilt University poll that asked Tennesseans, "Would you be willing or not willing to pay (2, 8 or 15) cents more per gallon on gas if it meant that more could be spent on projects to improve roads and bridges to help ensure economic growth?" found that 66 percent of respondents support a 2-cent increase, 54 percent support an 8-cent increase, and 46 percent support a 15-cent increase (CSDI, 2015).

Implementation Requirements

Implementation is relatively easy in jurisdictions where gasoline/fuel taxes are already collected. Yet many local governments do not have a process in place to collect the one-cent-per-gallon gas tax option to fund transit, should such a referendum pass. This makes implementation more challenging.

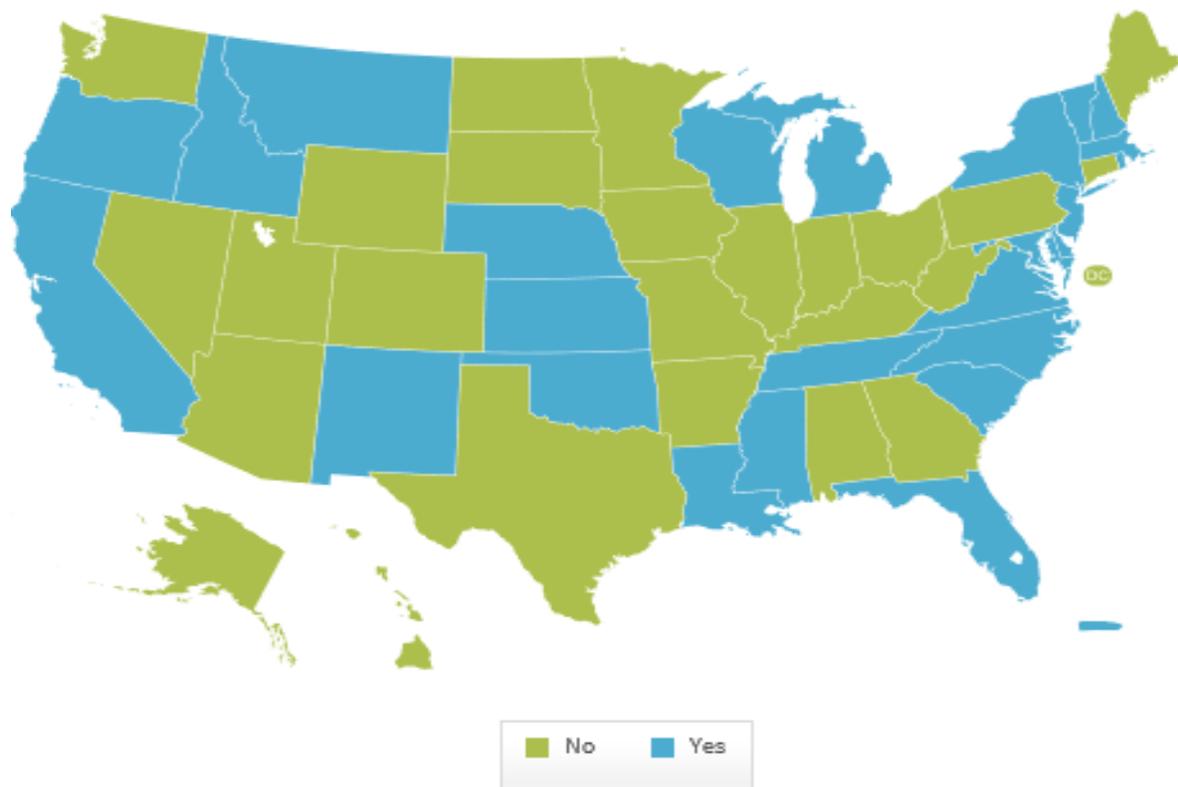
Legal Status

Tennessee State Code Annotated 67-3-1001 through 1012 authorizes counties, subject to a local referendum, to assess up to a one-cent-per-gallon local gasoline tax to fund public transportation (Mattson and Potts, 2015). In order to increase the revenue potential of this funding option for local governments, state law would need to be amended to increase the maximum per-gallon rate. During the 2016 legislative session, there was discussion of amending HB905/SB1387 to increase the one-cent-per-gallon local gasoline tax option to a higher limit, but the legislation was taken off notice in the House and was deferred to summer study in the Senate.

Examples

At least 12 U.S. states have local option transit gasoline taxes, as illustrated in Figure 4.

Figure 4 States That Allowed Local Option Gasoline/Fuel Taxes to Fund Transit in 2011
([BATIC, 2015](#))



This resource was produced in partnership with the [National Conference of State Legislatures](#).

This figure is from the [Financing Transportation website](#), which provides information on the transportation funding sources used in various states.

Vehicle Levy (Wheel Tax)

Many jurisdictions require an additional fee for registering vehicles in the region. In Tennessee, this is called a privilege tax on motor vehicles or, more commonly, a wheel tax (Section 5-8-102 of the Tennessee Code). The revenues generated by the wheel tax can be used for any purpose specified in the private act or resolution that created the tax.

The following table indicates the number of vehicles registered in each regional county, their tax rate, and estimated revenue.

Table 6 Regional County Vehicle Privilege Tax, 2012

County	Private	Commercial	Annual Tax	Revenues
Cheatham	39,572	1,750	\$51	\$2,107,422
Davidson	404,453	25,759	\$55 private/\$66 commercial	\$23,945,009
Dickson	40,353	2,387	\$60	\$2,564,400
Mauzy	72,537	3,280	\$25	\$1,895,425
Montgomery	148,671	5,741	\$30.50	\$4,709,566
Robertson	55,725	2,876	\$85.25	\$4,995,735
Rutherford	183,614	8,472	\$52.50	\$10,084,515
Sumner	123,236	5,470	\$51	\$6,564,006
Williamson	155,412	6,791	\$25.75	\$4,176,727
Wilson	94,936	4,469	\$25	\$2,485,125
Total	1,318,509	66,995	Average: \$45.85	\$63,527,931

This table excludes revenues from motorcycles, and state vehicle registration fees of \$24 per automobile, \$17 per motorcycle, and variable fees for commercial vehicles. These fees have not changed, but vehicle ownership and revenues have increased since 2012.

Potential Revenue

The Middle Tennessee region currently has 1.3 million registered vehicles. This is projected to increase by 60-80 percent by 2040 (Nashville Area MPO, 2016). Based on 2012 figures, each dollar of additional vehicle levy generates approximately \$1.3 million, eventually rising to approximately \$2 million across the region in 2040.

Predictability and Stability

The wheel tax is considered to be stable.

Horizontal Equity

To the degree that motorists benefit from public transit improvements, due to diverting traffic, reduced parking congestion, and reduced need to chauffeur non-drivers, and to the degree that automobile travel imposes external costs on non-drivers, a vehicle levy can be considered to increase horizontal equity. However, since vehicle fees do not reflect use (fees are the same for vehicles driven high and low annual mileage), this fee poorly reflects the external costs imposed by a particular vehicle.

Vertical Equity

This fee tends to be regressive, particularly because lower-income motorists tend to drive their vehicles less and have a lower annual mileage, and so pay more per mile than higher income motorists on average.

Contributions from Non-residents

This fee is not collected directly from non-residents.

Travel Impacts

Higher vehicle fees may marginally reduce vehicle ownership and use, but impacts are likely to be small.

Economic Development Objectives

No significant impacts.

Public Acceptance

A recent public opinion survey commissioned by the Nashville Area MPO ranks a vehicle registration fee or wheel tax second of all options considered, receiving 56 percent support (ETC Institute, 2014).

Implementation Requirements

Since vehicle registration fees are already collected in Tennessee, an additional levy is easy to apply.

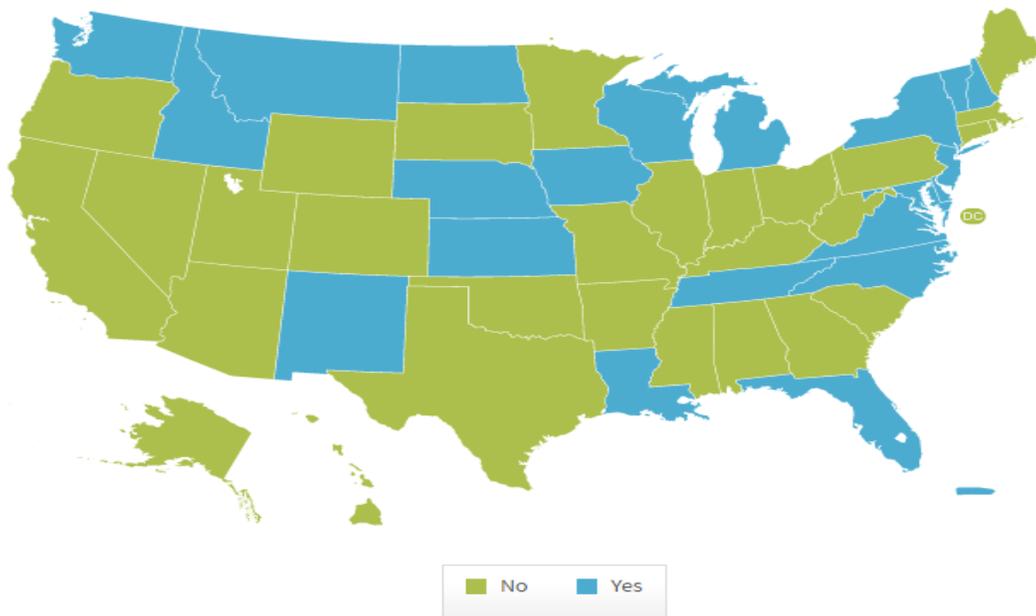
Legal Status

Counties are authorized (Section 5-8-102 of the Tennessee Code) to impose a local motor vehicle tax to provide revenue for county purposes. Imposition of the tax requires a two-thirds vote from the county commission at two consecutive meetings or by a majority vote in a public referendum or by a private act at the state legislature.

Examples

In the United States, 33 states and 27 local jurisdictions have vehicle registration fees that help finance transportation improvements, which often includes public transport (IPIRG 2007).

Figure 5 States That Allowed Vehicle Registration Fees to Fund Transit in 2011 ([BATIC, 2015](#))



This resource was produced in partnership with the National Conference of State Legislatures.

This figure is from the [Financing Transportation website](#), which provides information on the transportation funding sources used in various states.

Utility Levy

Apply a special transit levy on utility accounts, or dedicate some or all of the fees that the Tennessee Valley Authority (TVA) currently pays in lieu of taxes to public transit.

Potential Revenue

Small. Although such a levy could be any size, they are usually \$10-40 annual per meter, or \$5-20 per capita.

Predictability and Stability

The utility levy is relatively stable, since it would be a fixed amount on every utility bill.

Horizontal Equity

Similar to a property tax; charges residents.

Vertical Equity

Is likely to be relatively regressive, since it is a flat fee per household.

Contributions from Non-residents

This fee is not collected directly from non-residents.

Travel Impacts

No significant impacts.

Strategic Development Objectives

No significant impacts.

Public Acceptance

According to survey responses, utility levies have low public acceptance due to being regressive toward lower-income households.

Implementation Requirements

Relatively easy to implement; is an additional charge on a household's monthly utility bill.

Legal Status

Would generally require state enabling legislation.

Examples

Few jurisdictions have local utility taxes. Pullman, Wash., imposes a 0.10 percent to 5 percent tax on household and business utility bills, which goes into the general fund (TCRP, 2009).

In 2013, the city of Tacoma, Wash., proposed a 2 percent earnings tax on utilities, with the proceeds to be used for Tacoma's transportation. It was estimated that the tax would provide approximately \$10 million per year for transportation and would cost the average house \$5 per month.

The utility levy has also been used to fund BC Transit in the past and is currently used to finance TransLink under authority of the South Coast Transportation Authority Act.

Employee Levy

A levy paid by employers (often only larger employers) located in a transit service area.

Potential Revenue

According to the Nashville Area Chamber of Commerce's research center, there are currently 786,478 private-sector employees in the region and 218,648 private-sector employees in the central business district bounded by the 440/65 interstate loop, and this is projected to increase an estimated 80 percent by 2040. The region currently has 972,000 occupied jobs, and this is projected to increase by 81 percent by 2040. A \$25 tax per employee across the region would generate \$19.6 million, and the same tax applied to the central business district would generate approximately \$5.5 million.

Predictability and Stability

Stable.

Horizontal Equity

Can be considered fair to the degree that commuters create traffic problems and public transit demand.

Vertical Equity

The ultimate incidence of this fee is difficult to predict. It may substitute for wages, reduce total employment, or shift employment location if a large levy is applied just in the urban core.

Contributions from Non-residents

Local employers would pay this fee for employees who commute from outside the region.

Travel Impacts

Travel impacts are likely to be small.

Strategic Development Objectives

If applied only in an urban core, it may discourage downtown employment and encourage sprawl.

Public Acceptance

Uncertain.

Comparison with Peers

More research is needed.

Implementation Requirements

Would involve moderate implementation costs, similar to other new business taxes and fees.

Legal Status

A local employee levy would require a change to state legislation. The Tennessee constitution was amended in 2014 to prohibit a state income tax or payroll tax.

Examples (TBoT 2010; TCRP 2009)

In 2006, Seattle imposed an Employee Hours Tax (EHT), which collected \$25 annually per full-time employee (excepting businesses with less than \$50,000 gross income) who drove alone to work, to help finance regional transportation (Powell, 2007; Wilson, 2015). This tax was repealed during the 2009 recession due to concerns that the tax hurt the city's business-friendly reputation. Recently, several city councilors expressed support for reestablishing the fee (one councilor repeatedly stated that it's not a question of *if* the city will use the EHT, only when and what for), particularly if it is higher in more congested locations.

A special 0.6 percent payroll tax is collected from most employers in the Portland and Eugene, Ore., regions to help finance public transport services. In France, the *Versement Transport* (Transport Levy) taxes employers with more than nine staff to help finance local public transport services.

Road Tolls/High-Occupancy Tolls

Tolls are fees for driving on a particular road, bridge, or in a particular area. A variation is High-Occupancy Toll (HOT) lanes, which are free for use by high-occupant vehicles (buses and carpools), but tolled for low-occupant vehicles. *Congestion pricing* refers to tolls that are higher during peak periods to reduce traffic congestion.

Potential Revenue

Potential revenues depend on where and when tolls are applied, their magnitude, and how they are collected. Even with new technologies, toll collection often costs 10-40 percent of gross revenue. Because Tennessee cannot toll existing roads (see “Legal Status”), and because the cost of tolling is high, the revenue potential is limited.

Predictability and Stability

Once established, revenues would probably be moderately stable, but may decline over the long run as travelers take tolls into account when making longer-term decisions (such as where to live).

Horizontal Equity

Tolls are generally considered horizontally equitable because they charge users directly for the road and congestion costs they impose, but they are often criticized as unfair if only applied on a few roadways.

Vertical Equity

Tolls are often criticized as regressive, since a given toll represents a higher portion of income for poorer than wealthier motorists, but overall regressivity depends on the incomes of actual road users, the quality of travel options on that corridor, and how revenues are used. Tolls are often progressive compared with other funding options, such as using general taxes to finance roads and public transit services.

Contributions from Non-residents

Non-residents would pay this fee if they drive on tolled roads.

Travel Impacts

Road tolls tend to reduce affected automobile travel, particularly if implemented with public transit improvements. Congestion pricing can be effective at reducing traffic congestion.

Economic Development Objectives

Mixed. If applied only in central areas, tolls may encourage more dispersed development, but if applied broadly and implemented with improvements to other modes, they may encourage compact development.

Public Acceptance

There is often public opposition to tolls, particularly on existing roadways, although surveys indicate some acceptance if revenues are used to support popular road and public transport improvements.

Implementation Requirements

Although there are many possible ways to implement road tolls, including new technologies that reduce costs, implementation is likely to be expensive, particularly if implemented by a single region.

Legal Status

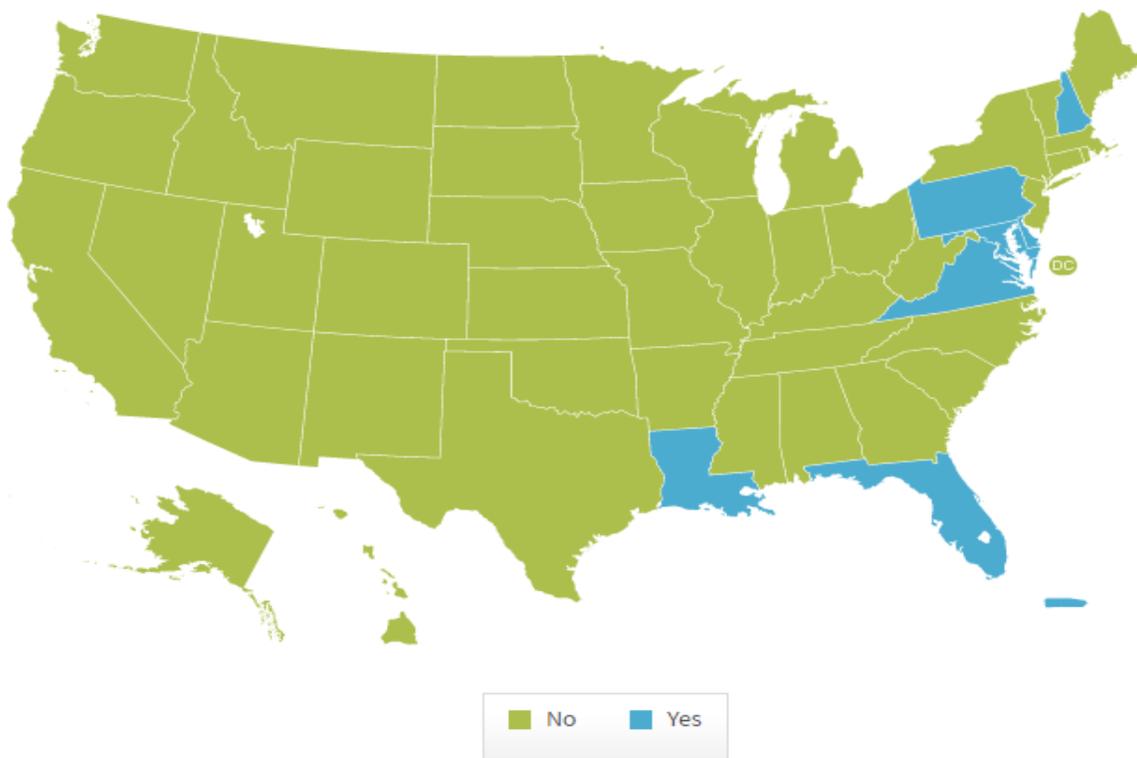
Currently, Tennessee prohibits the tolling of existing roadways (TCA 54-3-104). Tennessee law permits TDOT to initiate a very limited number of tolling road and bridge projects as part of a pilot, but no such tolling pilot has been initiated (TCA 54-3-113).

Examples (TBoT 2010; TCRP 2009)

London, Singapore and Stockholm apply congestion tolls for driving on urban roads during peak periods. New York City uses bridge toll revenue to finance both highways and public transit services.

In Dallas-Fort Worth, expansion and reconstruction of 8.4 miles of the DFW Connector was completed in 2014, which dramatically improved mobility of a corridor that includes the north entrance to the Dallas-Fort Worth International Airport. This project rebuilt portions of four highways, two interchanges and five bridges. In addition to increasing roadway capacity and rebuilding continuous frontage roads, the DFW Connector project built four toll-managed lanes (two in each direction). Drivers have the opportunity to travel on the main lanes with no cost or travel on the toll-managed lanes, which are ensured to move at 50 mph or better. The four managed-toll lanes have dynamic pricing, and money collected from these tolls is being used for operation and maintenance of the highway.

Figure 6 States That Allowed Road Tolls to Fund Transit in 2011 ([BATIC, 2015](#))



This resource was produced in partnership with the [National Conference of State Legislatures](#).

This figure is from the [Financing Transportation website](#), which provides information on the transportation funding sources used in various states.

Vehicle-Mile Tax

A form of road pricing that charges motorists per mile traveled. Such a tax could vary by vehicle type, such as higher fees for higher-polluting vehicles or large trucks carrying freight.

Potential Revenue

Revenues are potentially large, but vehicle-mile taxes are generally proposed to replace gasoline/fuel taxes, and they require significant costs to collect revenues, which may reduce net revenues.

Below is a chart of the estimated potential revenue collections of a 1.5-cent vehicle-mile tax, per county, based on the assumption of an average of 15,000 miles driven per car per year.

Table 7 Potential Vehicle-Mile Tax Revenues per County

County	Number of Vehicles Registered (2015)	Estimated New Revenue per County (2015 dollars)
Cheatham	44,455	\$10,002,375
Davidson	510,582	\$114,880,950
Dickson	48,889	\$11,000,025
Maury	85,110	\$19,149,750
Montgomery	174,173	\$39,188,925
Robertson	67,397	\$15,164,325
Rutherford	228,349	\$51,378,525
Sumner	148,780	\$33,475,500
Williamson	187,009	\$42,077,025
Wilson	115,232	\$25,927,200
Total Middle Tennessee region	1,609,976	\$362,244,600

Predictability and Stability

Moderate. Somewhat more stable than gasoline/fuel taxes, as fuel efficiency increases in vehicles.

Horizontal Equity

Similar to gasoline/fuel taxes. To the degree that motorists benefit from public transit improvements, and to the degree that automobile travel imposes external costs on non-drivers, vehicle-mile fees can be considered to increase horizontal equity.

Vertical Equity

Is likely to be regressive. However, to the degree that public transit improvements reduce the need to drive, this regressivity is reduced.

Contributions from Non-residents

Non-residents would probably not pay a special regional VMT fee.

Travel Impacts

Vehicle-mile fees tend to reduce automobile travel and encourage use of alternative modes, including public transit.

Strategic Development Objectives

Vehicle-mile fees tend to encourage more compact, multi-modal land development.

Public Acceptance

There are public concerns related to privacy with the vehicle-mile tax. After completion of a pilot vehicle-miles traveled usage fee program in Iowa, surveys showed that 60 percent of volunteer participants believed that the state government would use information that was collected to track their movements. Other studies have shown that there is concern that personal information collected could be vulnerable to security breaches. In a survey of state departments of transportation, 45 of 51 transportation officials believed that this issue of privacy would be a hurdle for developing a vehicle-mile tax or mileage fee usage program in their state. Several of these department of transportation heads have stated that use of the private sector to manage the vehicle-mile tax, such as the program in Oregon, would help alleviate this public perception of privacy invasion (www.gao.gov/assets/660/650863.pdf).

Implementation Requirements

Vehicle-mile taxes have high implementation costs, since they would require a special system to measure annual vehicle travel in a region. Since the vehicle-mile tax often replaces the gasoline/fuel tax, it would be difficult for a region to implement on its own, versus statewide implementation.

There are three approaches toward the vehicle-mile tax. One approach is an on-board GPS receiver which determines vehicle location and either submits a summary of fees incurred within a jurisdiction or specific vehicle coordinates. A central office then prepares and sends a bill to the driver. A second approach does not require a GPS receiver. Vehicles and fuel pumps are equipped with wireless transponders to communicate odometer mileage to a central office, which then charges the driver a mileage fee in the cost of fuel purchased. A third approach is where a driver purchases a prepaid number of miles from a registered location and displays a paper license with the permitted mileage on the vehicle's windshield (www.gao.gov/assets/660/650863.pdf).

Legal Status

Would require state legislation and support.

In Oregon, the vehicle-mile tax is a statewide user fee. This tax was enacted through the passage of state legislation, Senate Bill 810. This bill not only establishes how much the vehicle-mile tax is and the groundwork of collecting the vehicle-mile tax but also lays out the distribution of the potential revenue: 50 percent of collected funds go to the Oregon Department of Transportation, 30 percent to counties for distribution and 20 percent to cities for distribution (<https://olis.leg.state.or.us/liz/2013R1/Downloads/MeasureDocument/SB810>).

Examples

Vehicle-mile fees have been proposed in many jurisdictions. In the United States, the Oregon Department of Transportation implemented a new voluntary road-usage charge program called OReGO – the vehicle-mile tax. The Oregon Legislature created the Road User Fee Task Force in 2001, an independent body of state legislators, transportation commissioners, local government officials and citizens. The purpose of this task force was to investigate options for generating sustainable funding for Oregon's transportation system. Before the launch of OReGO in 2015, this Road User Fee Task Force spearheaded two pilot projects in 2006 and 2012 that tested per-mile charging (www.Oregon.gov).

By enrolling in this first phase of OReGO, up to 5,000 cars and light-duty commercial vehicles pay a road-usage charge which is set at 1.5 cents per mile. Involvement in this program allows Oregon drivers to pay by the mile instead of by the gallon. These volunteer drivers receive credits on their bill for the gasoline/fuel tax they pay at the pump. Volunteer drivers also have their choice of secure mileage reporting options offered by three OReGO's private sector partners. These options allow for individuals to choose how they pay the vehicle-mile tax, whether GPS is used to keep track of miles traveled and whether-out-of-state miles are credited to their accounts (www.myorego.org).

Since the launch of the OReGO program on July 1, 2015, there are a total of 1,103 individuals enrolled, with a total of 1,238 vehicles enrolled. As of June 30, 2016, there are 879 individuals active, with a retention rate of 79.69 percent, and a total of 1,025 active vehicles, with a retention rate of 82.68 percent.

With the dedication of this revenue source toward Oregon's transportation needs, Oregon has received a total of \$3.6 million in grants from FY2016 FAST Act (www.oregon.gov/ODOT/HWY/RUFPP/Pages/rufpf.aspx).

Vehicle-mile fees have been proposed in other countries as well, such as for freight trucks in Germany. Since 2005, all trucks have been charged a VKT of €0.09 to €0.14 per kilometer based on the truck's emissions levels and number of axles (Huang, et al., 2010; TBoT, 2010).

Commercial Parking Taxes

A special sales tax on parking transactions (when motorists pay directly for parking).

Potential Revenue

Small to moderate. Only a minor portion (probably 2-4 percent) of regional parking activity is priced.

Predictability and Stability

Moderate to low stability.

Horizontal Equity

As with other vehicle use fees, it can be considered horizontally equitable to the degree that transit improvements benefit motorists and to the degree that motor vehicle travel imposes external costs.

Vertical Equity

Since this fee only applies when parking is priced, it is probably less regressive than other vehicle fees.

Contributions from Non-residents

Non-residents who use priced parking would pay this tax.

Travel Impacts

Marginally increasing parking fees may slightly reduce vehicle trips, but by increasing the value to users of parking subsidies and reducing commercial parking profitability, it may reduce the total portion of parking that is priced (Litman, 2013; Wardman and Shire, 2011).

Strategic Development Objectives

Because this fee primarily applies in downtowns and other major commercial centers, it may discourage compact development, and it may encourage more businesses to subsidize employee and customer parking.

Public Acceptance

There is often public opposition to new or increased parking fees, although opposition is often smaller if a significant portion of fees is collected by non-residents.

Implementation Requirements

Implementation costs are likely to be small to moderate. It may require new accounting requirements for commercial parking operators.

Legal Status

Requires state legislation to authorize cities and counties to levy such a tax.

Examples (Litman, 2012; TBoT, 2010)

Many U.S. jurisdictions levy parking surcharges. Chicago, Ill., assesses a flat surcharge ranging from \$0.75 to \$2 for daily parking, \$3.75 to \$10 for weekly parking, and \$15 to \$40 for monthly parking. TransLink in Vancouver has permission to collect a 7 percent parking surcharge to off-street parking transactions, but decided it is too administratively burdensome to collect.

Parking Levy

A special property tax on non-residential parking spaces throughout the region.

Potential Revenue

According to the Nashville Area MPO, there are currently 31,539 privately owned parking spaces in downtown Nashville. If each space was taxed \$50 annually, that would generate approximately \$1.57 million in additional revenue.

Predictability and Stability

Relatively stable, although revenues could decline slightly over time if property owners are allowed to reduce their parking supply.

Horizontal Equity

Like a gasoline/fuel tax, this can be considered fair to the degree that public transit improvements benefit motorists, or to the degree that parking facilities or automobile travel impose currently uncompensated external costs.

Vertical Equity

The ultimate incidence of this tax is difficult to predict and varies depending on conditions. It is imposed on commercial properties (residential parking is exempt). It may cause retail prices to increase slightly if fully passed on, but reduce retail prices if property owners are allowed to reduce their parking supply. Any regressivity can be reduced if public transit improvements reduce low-income travelers' need to drive.

Contributions from Non-residents

Non-residents would not pay this levy directly, but would contribute when they purchase local goods and services.

Travel Impacts

This tax may reduce parking supply and encourage property owners to price parking, which can reduce vehicle travel (Litman, 2013; Wardman and Shire, 2011). Travel impacts, therefore, depend on its magnitude, how it is applied, and the flexibility of local parking requirements.

Economic Development Objectives

This tax encourages reduced parking supply, and therefore, more compact development.

Public Acceptance

Since this is a new concept, it is difficult to know how acceptable it would be compared with other revenue options.

Implementation Requirements

The initial costs of collecting parking space data may be relatively high, but ongoing costs should be modest.

Legal Status

The Tennessee Constitution provides that all properties must be taxed uniformly. To create a tax mechanism to apply a special property tax on non-residential parking spaces would require state legislation.

Examples (IPIRG, 2007; Litman, 2012)

Melbourne, Perth and Sydney, Australia impose levies on city center non-residential parking spaces to encourage use of alternative modes and fund transport facilities and services. Small businesses are exempted. TransLink in Vancouver implemented a parking levy in 2006, but this was subsequently rejected by the provincial government.

Expanded Parking Pricing

Expand where and when public parking is priced, such as metering currently unpriced on-street parking spaces in urban neighborhoods and charging for off-street parking at public offices, schools and parks.

Potential Revenue

Small to moderate. In most urban areas, there are many unpriced publicly owned parking facilities that could be priced, although motorists will avoid using priced parking if possible. Currently, only 1-2 percent of non-residential parking activity is priced, which probably averages \$20-\$40 annual income per capita. If this can be doubled to 2-4 percent, it could generate an additional \$40-\$80 annual income per capita.

Predictability and Stability

Relatively stable.

Horizontal Equity

Like a gasoline/fuel tax, this can be considered fair, since it charges motorists for costs they impose and because motorists can benefit from public transit improvements.

Vertical Equity

Mixed. Lower-income households tend to own fewer vehicles and drive less than higher-income households, so overall impacts will vary depending on specific conditions, including lower-income vehicle ownership rates and the quality and price of transport and parking options.

Contributions from Non-residents

Non-residents who park in the additional priced spaces would contribute.

Travel Impacts

Parking pricing encourages people to reduce their vehicle ownership and use.

Strategic Development Objectives

If implemented as part of an integrated parking management program, efficient parking pricing can reduce the total number of parking spaces needed in an area and total vehicle travel, supporting more compact development. However, if parking is only priced in downtowns, it may favor suburban development.

Public Acceptance

Mixed. Motorists and businesses often oppose parking pricing.

Implementation Requirements

Parking pricing tends to have relatively high implementation costs to install and operate pricing systems, plus additional transaction costs to motorists.

Legal Status

Many jurisdictions already price public parking.

Examples (Litman, 2012; TCRP, 2009)

Many communities price a portion of on-street and publicly owned off-street parking spaces, and an increasing portion of transit agencies charge for park-and-ride lot use, although the revenues seldom recover all facility costs.

Development Impact Fees

These can take the form of impact fees applied to new development, adequate facilities taxes on new development to pay for specific infrastructure improvements, and special assessments on specific land parcels to offset the cost of new infrastructure benefiting property owners within the special assessment district.

Potential Revenue

Small to moderate. Since it only applies to new development, it depends on the amount of development occurring in the region.

Predictability and Stability

Is highly variable depending on how it is applied and the amount of qualifying development that occurs. These taxes are not a viable alternative for communities experiencing little or no growth.

Horizontal Equity

To the degree that new development increases demand for public transit or that developers benefit from high-quality transit service, it can be considered equitable.

Vertical Equity

Uncertain. Although wealthier people tend to purchase more new housing, this fee will increase the costs of all new development and so will tend to increase rents and reduce housing affordability.

Contributions from Non-residents

Development fees may capture revenue from out-of-town developers and their investors, but in competitive real estate markets, most of these costs will be passed on to home buyers and renters, and so are ultimately borne by residents.

Travel Impacts

If the charges discourage more compact, infill development, they may increase sprawled development and therefore automobile travel.

Economic Development Objectives

If the charges discourage more compact, infill development, they may increase sprawled development. High fees have the potential to discourage investment.

Public Acceptance

Surveys and focus groups indicate high support for development fees, since property owners benefiting from infrastructure investments help contribute to the cost of the infrastructure.

Implementation Requirements

Implementation costs tend to be minimal.

Legal Status

The County Powers Relief Act of 2006 in Tennessee (TCA 67-4-2901) prohibits counties from levying impact fees or local real estate transfer taxes, although impact fees implemented by private act prior to that date were allowed to continue. Instead, high-growth counties may levy an adequate facilities tax on new development up to \$1 per square foot, with the revenues to be used exclusively for K-12 education capital expenditures. Counties are allowed to levy special assessments on parcels of property to help pay for improvements that benefit those properties (CTAS, 2016), presumably including transit improvements.

Land Value Capture

A strategy that allows for tax revenues in a specific geographic area around transit infrastructure to be dedicated for further expansion of transit infrastructure. This strategy is intended to recover some of the increase in land value generated by quality transit and help finance future improvements (AECOM, 2015; Suzuki, et al., 2015; Vadali, 2014). Land value capture policies are sometimes referred to as a Local Improvement District or Transportation Improvement Fund. A 2008 report by the Center for Transit-Oriented Development catalogued the “premium effect” of land appreciating in value around 24 transit projects in cities across the country between 1979 and 2004 (Center for Transit-Oriented Development, 2008). Two common approaches to land value capture are special assessment districts and tax increment financing (“Value Capture for Public Transportation Projects,” American Public Transportation Association [APTA], 2015).

A special assessment district is an additional tax, often a property tax, levied within a specific geographic area around transit infrastructure. Revenues from the special assessment are dedicated to the expansion of transit infrastructure or operations. Local jurisdictions may require an affirmative vote of the affected property owners before the creation of the special district and may implement the special assessment only when the value of properties within the district has appreciated to a certain level (APTA, 2015).

Tax increment financing (TIF) is used by some jurisdictions to direct future property tax revenues over an initial amount toward paying for transit infrastructure. A TIF strategy to fund transit would designate a TIF district and cap the current property taxes generated from properties within that district. Any growth in new property tax revenue generated over that cap would be directed into a special fund to pay for transit infrastructure (APTA, 2015).

Potential Revenue

Moderate to large over the long term, since the value of land would need time to appreciate after the initial transit investment.

Predictability and Stability

Difficult to predict, but stable once development occurs.

Horizontal Equity

Is considered horizontally equitable to the degree that high-quality public transit provides an extra increase in land values and development revenues.

Vertical Equity

Vertical equity impacts depend on how the tax is structured and development conditions. It tends to capture value from developers and property owners, but some of the tax may be passed on to residents, and it can reduce housing affordability in transit-oriented developments, which is regressive.

Contributions from Non-residents

Non-residents do not pay directly, but contribute when purchasing goods and services in affected districts.

Travel Impacts

Depends on details. If such a tax discourages development around transit stations, it could reduce transit ridership and transit-oriented development.

Economic Development Objectives

Mixed. May discourage some transit-oriented development, but it could encourage more concentrated development near transit stations.

Public Acceptance

Surveys and focus groups indicate high support for land value capture.

Implementation Requirements

Implementation of a special assessment district or TIF district is likely to require considerable planning and engagement with affected property owners. Since local governments already have a system for assessing and collecting property taxes, as well as establishing TIFs, the cost of collecting tax revenues would be minimal.

Legal Status

In Tennessee, counties are allowed to levy special assessments on parcels of property to help pay for improvements that benefit those properties (CTAS, 2016), presumably including transit improvements.

In Tennessee, TIF districts are created primarily through local housing authorities (to redevelop blighted areas) and industrial development boards (for economic development). State legislation may be required to allow these local entities to create TIF districts for the purpose of funding transit infrastructure (Mamantov, et al., "Leveraging Property Tax Growth: Tax Increment Financing in Tennessee," 2014).

Examples (TBoT, 2010)

Land value capture in the form of transit benefit districts is used in some U.S. cities, including Miami, Los Angeles and Denver. It is used in many major cities around the world (Suzuki, et al., 2015).

The Silver Line extension of the Washington, D.C. Metro is being funded partly by land value capture. Phase I of the extension imposed a special assessment of \$0.22 per \$100 of value on commercial/industrial property around the Tysons Corner commercial district. Phase II, which is an extension to Dulles International Airport, imposed a special assessment around the future station locations in 2009, which began at \$0.05 per \$100 of value and increased by \$0.05 each year up to \$0.20 per \$100 of value (APTA 2015).

The Seattle South Lake Union Streetcar was funded partly through the creation of a Local Improvement District in 2004, in which 98 percent of the property owners voted to impose a special assessment, which provided \$25.7 million toward the cost of the project (APTA, 2015).

Denver's Union Station terminal renovation was assisted through the creation of a TIF district composed of about 20 acres surrounding the facility. The revenues from the TIF were used to repay federal TIFIA and RIFF loans (APTA, 2015).

Station Rents

Collect revenues from public-private developments on publicly owned land in or near transit stations.

Potential Revenue

Likely to be small. It depends on transit agencies' ability to obtain and develop land around transit stations and the demand for such building space.

Predictability and Stability

Revenues are difficult to predict, but once established, may be relatively stable.

Horizontal Equity

Is considered horizontally equitable to the degree that it captures the value of proximity to high quality public transit.

Vertical Equity

Vertical equity impacts depend on development conditions. It can be an opportunity for a community to raise additional revenue from businesses and higher-income residents, but if rents are structured to maximize revenue, it may reduce housing affordability in accessible locations (i.e., lower-priced housing in transit-oriented developments), which is regressive.

Contributions from Non-residents

Non-residents do not pay directly, but contribute when purchasing goods and services in transit stations.

Travel Impacts

Uncertain. If this increases transit-oriented development, it may help reduce total vehicle travel.

Strategic Development Objectives

Uncertain. It may increase or discourage transit-oriented development, depending on how development and rents are structured.

Public Acceptance

Surveys and focus group responses indicate relatively high support for station rents.

Implementation Requirements

Some station development may be relatively easy, but maximizing this revenue option may involve additional staff capacity and risks.

Legal Status

Most transit agencies have the legal ability to develop stations, but may require state approval to condemn land for station development.

Examples

Larger transit agencies with large terminal and station facilities may enter into concession agreements (an income-generating strategy similar to leasing) with a variety of commercial and retail enterprises (TCRP, 2009). Some transit agencies have real estate divisions responsible for acquiring, managing and disposing of properties in a manner that optimizes revenue, reduces capital costs and supports strategic development goals (TransLink, 2011).

Station Air Rights

Sell the rights to build over transit stations (Lieberman, 2014; Tompkins, 2010).

Potential Revenue

Depends on demand for such development. There are generally few sites where such development is feasible, so total potential revenues are probably modest.

Predictability and Stability

Uncertain. Depends on demand for such development.

Horizontal Equity

Is considered horizontally equitable to the degree that it captures the value of proximity to high-quality public transit.

Vertical Equity

Vertical equity impacts depend on specific conditions. It can raise revenue from businesses and higher-income residents, but if structured to maximize revenue, it may reduce housing affordability in accessible locations (i.e., lower-priced housing in transit-oriented developments), which is regressive.

Contributions from Non-residents

Non-residents do not pay directly, but contribute when purchasing goods and services in such developments.

Travel Impacts

Uncertain. If this increases transit-oriented development, it may help reduce total vehicle travel.

Economic Development Objectives

It is likely to increase transit-oriented development.

Public Acceptance

There is likely to be strong public support for revenue-generating station area development.

Implementation Requirements

Some station air rights development may be relatively easy, but maximizing this revenue option may involve additional staff capacity and risks.

Legal Status

Most transit agencies have the legal right to sell or rent station-area air rights.

Examples (Tompkins, 2010)

The Toronto Transit Commission has investigated options for selling air rights at the York Mills subway station, the Eglinton/Yonge bus terminal, the Sheppard/Yonge station bus terminal and land adjoining the Spadina station (Hall, 2002). The TTC has already received millions of dollars for developing its air rights above one part of Eglinton station (Canada Square); the area above the current bus terminal is larger and can yield up more money while producing even more potential passenger trips for the subway.

Advertising

Revenues collected from advertising on transit vehicles, stops and stations.

Potential Revenue

Generally small. The Nashville MTA generated \$1,140,723 in advertising revenue for FY 2016 and has budgeted \$700,000 for FY 2017. However, the Nashville MTA has already generated \$220,780 for the first two months of FY 2017, indicating that advertising revenues should total \$1.1 to \$1.2 million in FY 2017.

The RTA generated approximately \$4,500 in advertising for FY 2016 and has budgeted \$2,000 for FY 2017. Transit service and increasing transit ridership could double or triple this amount.

Predictability and Stability

Relatively unstable.

Horizontal Equity

No clear impact.

Vertical Equity

No clear impact.

Contributions from Non-residents

Most advertising revenues are likely to originate from local businesses that want to attract local customers.

Travel Impacts

No clear impact.

Economic Development Objectives

No clear impact.

Public Acceptance

Surveys and focus groups indicate relatively high support for advertising. However, there may be public opposition to particular advertising methods or materials.

Implementation Requirements

Since most transit agencies already sell advertising, expansion is relatively easy.

Legal Status

Already widely used.

Examples (TCRP, 2009)

Most public transit agencies generate revenue from advertising.

Summary

Table 8 summarizes the 20 funding sources evaluated in this study.

Table 8 Potential Public Transport Funding Sources

Name	Description	Advantages	Disadvantages
1. Fare increases	Increase fares or change fare structure to increase revenues.	Widely applied. Is a user fee (considered equitable).	Discourages transit use. Is regressive.
2. Discounted bulk passes	Discounted passes sold to groups based on their ridership.	Increases revenue and transit ridership.	Increases transit service costs and so may provide little net revenue.
3. Property taxes	Increase local property taxes.	Widely applied. Distributes burden widely. Produces significant revenue.	Supports no other objectives. Is considered regressive.
4. Sales taxes	A special local sales tax	Distributes burden widely, including to non-residents. Significant revenue.	Supports no other objectives. Is regressive.
5. Tourist services taxes	Taxes on tourist services such as hotel rooms and vehicle rentals.	Primarily borne by non-residents. Is already collected.	If excessive, may reduce tourism.
6. Sin taxes	Taxes on goods such as liquor, cigarettes and gambling.	Incentivizes healthy behaviors.	These taxes are already high, and increases may harm local businesses.
7. Gas/fuel taxes	Obtain a dedicated portion of state fuel taxes, or use and potentially increase the local option fuel taxes.	Widely applied. Reduces vehicle traffic and fuel use.	Is considered regressive. Becomes less stable as fuel efficiency increases.
8. Vehicle fees, wheel levy	An additional fee for vehicles registered in the region.	Applied in some jurisdictions. Charges motorists for costs.	Is considered regressive.
9. Utility levy	A levy to all utility accounts in the region.	Easy to apply. Distributes burden widely.	Is small, regressive and support no other objectives.
10. Employee levy	A levy on each employee within a designated area or jurisdiction.	Charges for commuters.	Requires administration. May encourage sprawl and discourage job creation.
11. Road tolls	Tolls on some roads or bridges.	Reduces traffic congestion.	Costly to implement. Can encourage sprawl if only applied in city centers. Currently illegal on current roads.
12. Vehicle-mile tax	A distance-based fee on vehicles registered in the region.	Reduces vehicle traffic.	Costly to implement.
13. Parking taxes	Special tax on commercial parking transactions.	Is applied in other cities.	Discourages parking pricing and downtown development.
14. Parking levy	A special property tax on parking spaces throughout the region.	Large potential. Distributes burden widely. Encourages compact development.	Costly to implement. Opposed by suburban property owners.
15. Expanded parking pricing	Increase when and where public parking facilities (e.g. on-street parking) are priced.	Moderate to large potential. Distributes burden widely. Reduces parking & traffic problems.	Requires parking meters and enforcement, and imposes transaction costs.
16. Development impact fees	A fee on new development to help finance infrastructure, including transit.	Charges beneficiaries.	Limited potential.
17. Land value capture	Special taxes on property that benefit from the transit service.	Large potential. Charges beneficiaries.	May be costly to implement. May discourage TOD.
18. Station rents	Collect revenues from public-private development at stations.	Charges beneficiaries.	Limited potential.
19. Station air rights	Sell rights to build over stations.	Charges beneficiaries.	Limited potential.
20. Advertising	Additional vehicle & station advertising	Already used.	Limited potential. May be unattractive.

This table summarizes potential funding options identified in this study.

Examples

Denver Transit Investments ([Johnson, 2014](#))

The Denver region, which is similar in size to what the Nashville region expects to be in 2040, is investing more than \$7 billion (approximately \$150 annually per capita) to develop the FasTracks rail transit system. Regional Transportation District (RTD) funding sources include a dedicated 1 percent regional sales tax approved by voters, federal grants, and mortgages on property assets. RTD is the first transit agency in the country to successfully attract private-sector investment for a light-rail system. One small suburb offered \$30-40 million to accelerate construction of a rail connection, which then allowed RTD to seek matching investors.

The RTD built trust with major infrastructure firms by soliciting their design ideas early in the process. RTD's CEO Phil Washington met with business leaders to seek their input. RTD subsequently developed a P3 transit project procurement system based on those ideas. RTD contracted with a multinational business group to build the rail line to the airport within certain parameters, including a set schedule. Denver committed to pay a flat fee. This financing plan allows FasTracks to be almost completed by 2018.

Oklahoma City Metropolitan Area Projects (MAPS) ([Calgary Chamber, 2015](#); [Hailey, 2013](#))

In the mid-1980s, Oklahoma City was devastated by an economic recession and oil bust that caused the loss of more than 100,000 regional jobs. Opportunities to attract new business, including a United Airlines maintenance facility, were thwarted by the perception that Oklahoma City was a poor place to live and invest.

To support major regional capital investments, the city established the Metropolitan Area Projects (MAPS) process, through which voters can approve special time-limited taxes to finance specific projects that support private investment, improve quality of life, and help attract and retain labor. Its pay-as-you-go, no-debt structure is attractive to citizens and to policy-makers. Projects have included convention centers, stadiums, libraries, public parks and trails, and transit investment.

MAPS projects are approved at the concept stage with no design work or land purchasing prior to the referendum. As a result, project costs and construction schedules are educated guesses. To address these uncertainties, the MAPS model includes a citizen engagement and approval process. Once voters approve a project, a citizen oversight committee is appointed that makes recommendations to city council.

In the inaugural MAPS program, a one-cent sales tax was approved for five years and subsequently extended for an additional six months. MAPS for Kids (the second installment of the program, geared towards public school upgrades) was, because of its inherent differences from the inaugural MAPS, structured as a trust of the city made up of nine citizens – a chairperson, four city appointees, and four school board appointees that had project approval authority. MAPS 3, which is currently underway, evolved the original citizen oversight committee into a broader structure that includes a separate committee for each of seven projects. Most committee members are stakeholders. For example, the expo building committee includes citizens from the state fair board and a fairgrounds operator. Each committee reports to a larger oversight committee that, in turn, makes recommendations to the city council. In addition to establishing citizen oversight and advisory committees, Oklahoma City holds frequent public hearings and meetings on different elements of the projects, such as preliminary design, creating opportunities for engagement for all citizens, not only those on the committees.

After 20 years of MAPS, Oklahoma City has gone from having some of the nation's highest unemployment rates and limited economic prospects to a "big-league" city with a robust economy and employment rates that are among the best in the country.

maps 3
OKLAHOMA CITY

MONTHLY UPDATE
August 2016

Program Highlights

Modern Streetcar Brand Revealed

EMBARC unveiled Bermuda Green, Clear Sky Blue and Redbud as the colors for the brand identity of MAPS 3's Oklahoma City Streetcar. Three color palettes were revealed to show each of the six streetcars painted with a saturated, tonal color palette.

The brand strategy was created by Spoke, a branding firm in Portland, OR, with input from stakeholders. EMBARC and Spoke solicited input through multiple meetings, focus groups and surveys. That process uncovered common themes and opinions.

The 4.8-mile route will connect downtown, Bricktown, Midtown, the Arts District and Automobile Alley and circulate every 10-12 minutes. The streetcar is expected to be in operation by the end of 2018.

The MAPS 3 Modern Streetcar will be named the Oklahoma City Streetcar or OKC Streetcar. It will be for everyone who works, visits, or lives downtown, will be ADA compliant and will be a part of EMBARC's family of transit services.

MAPS 3 Construction Timeline

*Under Construction

2012
Oklahoma River Lighting (complete)
Fairgrounds Site Improvements (complete)

2013
Sidewalks (Phase 1) (complete)
Fairgrounds Parking & Utility Improvements (complete)
OK River Starting Systems, Docks, LED Lighting, Cameras, Irrigation (complete)
West River Trail (complete)

2014
Fairgrounds Expo Building*
OK River Whitewater Facility (complete)
Sidewalks (Phase 2) (complete)

2015
Senior Health & Wellness Center #1*

2016
Streetcar
Downtown Park Upper Section (Phase 1)
I-44 West Trail
Sidewalks (Phases 3 & 4)
Senior Health & Wellness Center #2*

2017
Convention Center
Downtown Park Upper Section (Phase 2)
Lake Draper Trail

2018
Senior Health & Wellness Center #3

2020
Downtown Park Lower Section
Senior Health & Wellness Center #4

Previous MAPS projects included:

- The Bricktown Ballpark, which attracted an AAA baseball team
- The Cox Convention Center
- Improvements at the state fairgrounds
- The Bricktown Canal
- A new library and learning center
- New trolleys
- The partial rebuilding of the Civic Center Music Hall
- Improvements to the North Canadian River
- The construction of the Ford Center

The current \$777 million 10-year MAPS 3 program includes:

- A new downtown convention center
- A new downtown public park
- Modern streetcar/transit program
- River and fairgrounds improvements
- Senior health and wellness centers
- New rails and sidewalks

Wake County Adopts Transit Plan; Requires Voter Approval of Half-Cent Sales Tax (Specht, 2016)

Wake County, N.C. (population 1 million), which includes Raleigh, will vote in November 2016 on a sales tax increase to fund a transit plan that would increase bus service and develop commuter train service connecting major regional destinations including N.C. State University, Research Triangle Park, Duke University and UNC-Chapel Hill. Wake residents now pay a 6.75 percent sales tax, of which the state collects 4.75 cents and the county 2 cents. If approved, the tax increase will generate about \$1 billion during its first decade. A new vehicle registration fee and federal funds are expected to provide the remaining \$1.3 billion required. Durham and Orange County voters already approved a half-cent sales tax increase to fund more transit. Durham and Orange plan for light rail, and Wake is seeking commuter rail. The plan also includes new bus routes and more frequent service. The plan also includes 20 miles of bus rapid transit (BRT) service, operating every 15 minutes on 20 miles of Capital and Western boulevards, New Bern Avenue and South Wilmington Street. Planners predict that these improvements could quadruple transit ridership in Wake County during the next decade.

Miami (<http://miamidademppo.org/smartplan.asp>)

In 2002, Miami-Dade voters approved a half-cent county sales tax increase to fund nearly 90 miles of new rail. Fourteen years later, less than three miles of extra track has been built. On February 16, 2016, the MPO governing board unanimously approved a policy to advance rapid transit corridors and transit supportive projects. MPO staff and governing board members embarked on a peer exchange whereby they visited similar urban areas that have successfully implemented their respective comprehensive transit plans. At the same time, the MPO TSC met locally to obtain and consider input from transportation partner agencies, elected officials, and the public at large for a plan that they then developed and recommended for approval by the full MPO board. The MPO established a Fiscal Priorities Committee to identify the policy and financial framework necessary to advance the plan.

The current plan includes new property taxes. It will create special districts along expanded transit routes to capture some of the tax revenue paid from nearby real estate. A portion of new tax dollars — those generated by higher property values — would be dedicated to transit expenses within the district. County legislation is being drafted to create the districts, on the heels of a Miami-Dade study earlier this year, to see how much revenue they could produce. Some form of property-tax funding is emerging as a potential element in the brewing financial strategy behind the recent SMART plan for bringing rail or high-tech buses to the county's major travel corridors.

Tax Proposed for Detroit-To-Ann Arbor Rail and Other Transit Plans ([Thibodeau, 2016](#))

After more than three years of planning, the group charged with creating a viable regional transit system in Southeast Michigan unveiled its proposal Tuesday, including a tax request likely to be decided in the November election. The plan includes a Detroit-to-Ann Arbor passenger rail, buses with dedicated lanes along three major corridors, express bus services to major regional destinations, a universal fare card, and several other improvements to Metro Detroit's transit system.

The \$4.6 billion plan will be funded with increased property taxes. The Regional Transit Authority (RTA) of Southeast Michigan plans to propose a 1.2 mill dedicated property tax on the November 2016 ballot in Macomb, Oakland, Washtenaw and Wayne counties. This would add \$1.20 in taxes for every \$1,000 of taxable property value. The RTA millage proposal is written as follows:

"A property tax millage is the assumed local funding mechanism for the RTA to implement the Master Plan. The financial model estimated the revenue a millage could raise in the future, and therefore the millage rate required to implement the plan. While the millage would be RTA's primary source of funding, it would be supplemented by state and federal funding as well as fare revenues. The financial model assumes the millage will begin generating revenue in 2017 and be applied at a uniform tax rate going forward. This new regional transit millage would be collected in addition to the existing SMART and AAATA transit millages. The Master Plan would result in a regional transit millage of 1.2 mills. When approved by voters, the millage would begin in 2017. The regional transit millage would be collected in addition to the existing transit millages in the SMART and AAATA service areas. If the millage is approved by voters, all municipalities within the four-county RTA jurisdiction would pay the millage. Communities would not have the option to 'opt out' of the millage."

RTA officials said they held 124 meetings and spoke with around 5,000 Metro Detroiters as it developed the master plan. Planners said the system would connect 310 schools, 23 colleges, 22 hospitals, 47 libraries and more than 100 grocery stores in the region. The RTA estimates 67,844 jobs would be supported across the four counties, and would generate about \$1 billion in growth of real personal income in Macomb County, \$1.8 billion in Oakland County, \$244 million in Washtenaw County, \$1.25 billion in Detroit, and \$122 million in the rest of Wayne County.

Metrolinx Investment Strategies

www.metrolinx.com/en/regionalplanning/funding/investment_strategy.aspx

Metrolinx, Toronto, Canada's transportation authority, commissioned extensive research to evaluate and recommend funding options for its \$34 billion *Big Move* investment program. Based upon the principles of fairness, equity and accountability, and informed by broad consultation, it recommended the following tools:

One-Percentage-Point Sales Tax Increase

A one-percentage-point increase applied uniformly to all goods and services in the Greater Toronto and Hamilton Area (GTHA) currently subject to the Harmonized Sales Tax (HST) would generate \$1.3 billion annually. Due to the nature of the HST, the province may find it administratively necessary to introduce a one-percentage-point HST increase across Ontario, in which case, revenue collected outside of the GTHA would be exclusively directed to priorities outside of the region. A mobility tax credit is also recommended to help ensure the proposed HST increase does not disproportionately burden those with lower incomes.

Regional Fuel and Gasoline Tax – five cents per liter

A regional fuel and gasoline tax of five cents per liter would generate about \$330 million annually and ensure that road users, including cars and trucks, residents and businesses, contribute fairly.

Business Parking Levy

A business parking levy on all off-street non-residential parking spaces would generate about \$350 million annually and provide a direct means for businesses across the region to contribute to the transit and transportation system. To ensure fairness across the region, the levy would vary based on current value assessments. It would average about 25 cents per day per space, or \$50-100 annually.

Development Charges Amendments

Land development is a key beneficiary of improvements to our transit and transportation system. That's why about \$100 million should be contributed annually from development charges, resulting from some recommended amendments to the legislation on how these fees are applied to new growth and development.

Policy Recommendations

Three additional tools are being recommended because of their positive policy benefits – such as improving the efficiency of the transportation network, building more walkable and livable communities, encouraging transit ridership, and making the most of the infrastructure we have.

High-Occupancy Toll Lanes

Getting more efficiency out of the highway network is a key goal of the investment strategy, as well as providing the resources to expand the network of HOV lanes.

Pay for Parking at Transit Stations

As we provide more and more parking at transit stations, and the cost of this dramatically increases due to the land, construction and maintenance costs of elevated parking garages, we need to think about pay-for-parking to help pay for the services that are being offered.

Los Angeles Transit Funding (www.latimes.com/opinion/editorials/la-ed-metro-sales-tax-20160620-snap-story.html)

In 2008, Los Angeles voters approved Measure R, a 30-year, half-cent-per-dollar-spent sales tax hike to finance a major public transit development plan. In the November 2016 election, voters were asked to add a permanent half-cent tax increase. If approved, Los Angeles County shoppers would pay a total of 2 cents on every dollar for transportation, which generates about \$3.4 billion annually.

According to the *Los Angeles Times* editorial board, this funding plan is generally considered logical and fair. The measure would commit 35 percent of the new funds to build more than a dozen major transit projects, including new rail lines through the middle of the San Fernando Valley, between Artesia and downtown L.A. and over the Sepulveda Pass. About 20 percent would pay for bus operations, which still serve the majority of Metro's riders, and 2 percent would fund "active transportation" to improve walking and cycling. Metro has also set aside 17 percent for a dozen highway projects and 17 percent for cities to spend on their local transportation needs, such as pothole repairs and sidewalk improvements.

Charlotte Transit Funding (www.charlottemagazine.com/Charlotte-Magazine/April-2016/Riding-the-Rails-A-2016-Transit-Overview)

Nearly a decade ago, Charlotte and Mecklenburg County, N.C. adopted an aspirational plan for 25 miles of commuter rail from uptown to Lake Norman, 21 miles of light rail, 16 miles of streetcar, 14 miles of rapid bus transit, and an expansion of the bus system stretching to all sides of the city by 2030. The program is behind schedule. The biggest obstacle is money.

The primary source of local transit funding is a sales tax approved by voters in 1998 that devotes half a cent of the 7.25 percent sales tax to fund transit services. That revenue declined significantly during the recession, creating a \$2.3 billion funding gap in the Charlotte Area Transit System (CATS) budget. A transit funding task force has recommended several new revenue options for city officials to consider, including low, fixed-rate federal loans, public-private partnerships, and an increase in the portion of the local sales tax designated for transit spending. Nothing has been decided yet.

The \$150 million cost of the streetcar Phase 2 will be financed by a \$75 million federal grant and \$75 million from the city. The city's share will come from unallocated and contingent capital accounts, not property taxes. To finance the \$200 million Gateway Station, complex transit administrators will seek a public-private partnership. The Lynx Blue Rail Line extension, estimated to cost \$1.1 billion, will receive about half of its funding from federal grants – 26 percent from the state, and 24 percent from the city – which will be paid by the existing half-cent sales tax designated for transit.

Appendix - Literature Review

This section summarizes various publications on transportation and public transit funding sources.

General Transportation Funding (not specific to transit)

The American Association of State Highway and Transportation Officials (AASHTO) and the National Conference of State Legislatures sponsor the Build America Transportation Investment Center (BATIC), which maintains the [Financing Transportation website](#), providing comprehensive information on which states allow and use various transportation funding sources. This is the most comprehensive resource of its kind, based on the [Transportation Governance and Finance: A 50-State Review of State Legislatures and Departments of Transportation](#). This information is available in two formats: [mapped data](#), which shows interactive maps for a 2011 snapshot on transportation funding & finance, organization & leadership, and legislative interaction; or [tabular data](#), which shows tables for all of the mapped data plus state-by-state information on demographics, state roadway system, toll facilities, revenue sources, state DOT disbursements, and motor gasoline/fuel taxes between 1992 and 2013.

Tennessee 2011 Snapshot ([Financing Transportation website](#))

Tennessee																																																													
<p>2011 Snapshot: Transportation Funding Finance</p> <p>State Budgeting and Appropriations</p> <p>State Budget Type / Frequency: September 1</p> <p>Fiscal Year Start: July 1</p> <p>Funding Approach for Transportation: Pay-as-you-go</p>																																																													
<p>State Transportation Funding Sources</p> <table border="1"> <thead> <tr> <th></th> <th>Highway</th> <th>Transit</th> <th>Passenger / Freight Rail</th> </tr> </thead> <tbody> <tr> <td>Fuel Tax</td> <td>Yes</td> <td>No</td> <td>Yes</td> </tr> <tr> <td>Gas Tax</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Vehicle Sales Tax</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Registration</td> <td>Yes</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>Vehicle or Truck Weight Fees</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Tolls</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>General Funds</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Interest Income</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Sales Tax</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Bonding</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Other Sources</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>General Obligation Bonds</td> <td>No</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Revenue Bonds</td> <td>No</td> <td>n/a</td> <td>n/a</td> </tr> <tr> <td>Lottery</td> <td>n/a</td> <td>No</td> <td>n/a</td> </tr> </tbody> </table>			Highway	Transit	Passenger / Freight Rail	Fuel Tax	Yes	No	Yes	Gas Tax	No	No	No	Vehicle Sales Tax	No	No	No	Registration	Yes	Yes	No	Vehicle or Truck Weight Fees	No	No	No	Tolls	No	No	No	General Funds	No	No	No	Interest Income	No	No	No	Sales Tax	No	No	No	Bonding	No	No	No	Other Sources	No	No	No	General Obligation Bonds	No	n/a	n/a	Revenue Bonds	No	n/a	n/a	Lottery	n/a	No	n/a
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The Nashville Area MPO's 2002 report, [Regional Transportation Funding: Strategic Review](#), surveyed 18 stakeholders at 15 organizations concerning their perceived local transportation funding needs, and described current regional transportation funding sources, as well as potential funding options for consideration. It estimated the potential revenue that could be generated by new or increased wheel taxes, sales taxes, vehicle emissions fees, gas taxes and development impact fees, but did not recommend any specific new revenue source.

[Innovative Program Delivery](#) is a U.S. Federal Highway Administration website that provides tools, expertise and financing to help the transportation community explore and implement innovative strategies to deliver costly and complex infrastructure projects. The [Non-Road Pricing Revenue Overview](#) provides information on various fees and taxes levied on defined groups of beneficiaries from a particular transportation facility or resource. These include local option sales taxes, vehicle registration fees, income/payroll/employer taxes, property taxes, fares, advertising and naming rights, shared resources (e.g., utility rights-of-way) and transportation utility fees.

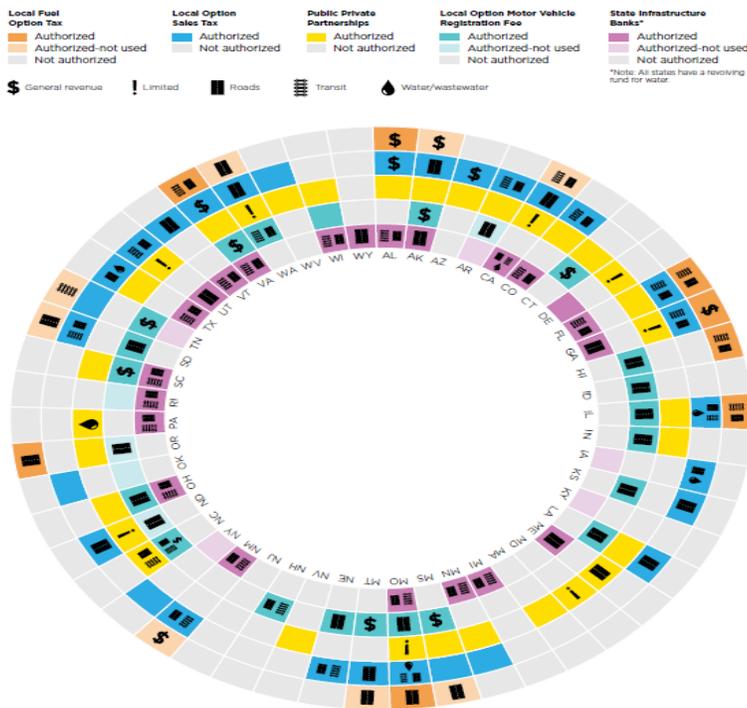
[Transportation Revenue Options: Infrastructure, Emissions, and Congestion](#) (Huang et al., 2010), summarizes results of an expert workshop on transportation funding. It considers three main funding categories: gasoline/fuel taxes, congestion fees and VMT fees. It explores the financial and environmental advantages and disadvantages of each option and discusses various policy issues. It highlights the additional benefits of road tolls and vehicle-travel fees which can reduce traffic congestion and pollution emissions, in addition to raising revenues.

[Financing Sustainable Urban Transport](#) (Sakamoto, 2010) describes potential sources for financing urban transport improvements and evaluates them based on administrative levels, potential revenues, efficiency, equity, environmental objectives, stability, political acceptability and administrative ease.

The [Florida MPOAC Transportation Revenue Study](#) (Reich, Davis and Sneath, 2012) analyzed key state transportation funding issues, and identified and evaluated potential funding sources. It recommends dedicated sales taxes, and gradual increases in diesel and gasoline taxes, redirecting motor vehicle license and title fees to the state transportation funds, and conducting a study of VMT fees for possible future implementation.

The National League of Cities report, [Paying for Local Infrastructure in a New Era of Federalism](#) (NLC, 2016), includes sales taxes, gasoline/fuel taxes, motor vehicle fees, infrastructure banks (I-banks) and public-private partnerships (P3s). The figure below provides a state-by-state comparison of these funding tools.

Figure A-1 Infrastructure Funding Sources by State (NLC, 2016)



This study, "Paying for Local Infrastructure in a New Era of Federalism," compares the funding sources available to local governments in each state. It indicates that Tennessee allows local option gasoline/fuel taxes, sales taxes, and motor vehicle registration fees, plus provisions for a State Infrastructure Bank.

Transit Funding Studies

[Local and Regional Funding Mechanisms for Public Transportation](#) and its online [Regional Funding Database](#) (TCRP, 2009) provides an extensive list of local and regional funding sources that are or could be used to support public transportation, plus guidance on factors to consider when evaluating and implementing these options. Table A-1 summarizes the options identified. It evaluates sources based on revenue yield (adequacy and stability), cost efficiency, equity across demographic and income groups, degree to which beneficiaries pay, political and popular acceptability, and technical feasibility.

Table A-1 U.S. Local and Regional Public Transport Funding Sources (TCRP, 2009)

Traditional Tax- and Fee-Based Transit Funding Sources	Common Business, Activity, and Related Funding Sources	Revenue Streams from Projects (Transportation and Others)	New “User” or “Market-Based” Funding Sources
General revenues	Employer/payroll taxes		
Sales taxes (variable base of goods and services, motor fuels)	Vehicle rental and lease fees	Transit-oriented development/joint development	
Property taxes (real property, includes vehicles)	Parking fees	Value capture/beneficiary charges	
Contract or purchase-of-service revenues (by human service agencies, school/universities, private organizations, etc.)	Realty transfer tax and mortgage recording fees	Special assessment districts	
Lease revenues	Corporate franchise taxes	Community improvement districts/community facilities districts	Tolling (fixed, variable, and dynamic; bridge and roadway)
Vehicle fees (title, registration, tags, inspection)	Room/occupancy taxes	Impact fees	Congestion pricing
Advertising revenues	Business license fees	Tax-increment financing districts	Emissions fees
Concessions revenues	Utility fees/taxes	Right-of-way leasing	VMT fees
	Income taxes		
	Donations		
	Other business taxes		

Various potential funding sources are described in a Transit Cooperative Research Program (TCRP) report.

The report, [Detailed Case Studies of Selected Revenue Tools](#) (AECOM, 2012) commissioned by Metrolinx, Toronto’s regional transportation agency, provides detailed, critical analysis of the following transportation funding programs, both successful and not:

1. Central London Congestion Charging Scheme (London, UK)
2. Central Stockholm Congestion Charge (Sweden)
3. Commercial Concentration Tax (Toronto)
4. Congestion Levy (Melbourne City Council, Australia)
5. Employer Payroll Tax Dedicated to Public Transit (France)
6. Greater Manchester Congestion Charge
7. Heavy Goods Vehicle Tolling (Germany)
8. High Occupancy Toll Lanes (Houston, Texas)
9. Local Sales Taxes Dedicated to Infrastructure Funding
10. Other Sales and Excise Taxes Dedicated to Transportation Funding (Canada, U.S.)
11. Tax Increment Financing
12. Road Space Rationing (Sao Paulo, Brazil)
13. Transit Fare Restructuring and Distance-Based Fares (Singapore)
14. TransLink Motor Fuel Tax (Metro Vancouver, B.C.)
15. TransLink Parking Sales Tax (Metro Vancouver, B.C.)

Table A-2 summarizes current local public transit funding sources for various size U.S. cities.

Table A-2 U.S. Local Public Transportation Funding by System Size (TCRP, 2009)

Funding Source	Percent Capital Investment			Percent Operating Expenses			
	City population	> 1m	200k to 1 m.	50k to 200k	> 1m	200k to 1 m.	50k to 200k
Fares and Earned Income	–	–	–	–	58.2%	30.2%	37.8%
Sales taxes	35.5%	38.9%	51.1%	18.8%	25.8%	28.3%	
Other directly generated local funds	33.7%	–	–	–	–	–	
Local general funds	–	42.5%	32.7%	11.1%	26.9%	21.3%	
Other Local Dedicated Funds	18.4%	–	–	–	–	–	
Local Property Taxes	–	–	9.7%	–	–	–	
Other local sources	–	8.2%	–	–	–	–	

Note: dashes indicate minor contribution.

The Texas Transportation Institute’s [Guide to Transportation Funding Options](#) (UTCM, 2010) describes the following funding options:

General fund expenditures	Tollway revenues	
Vehicle registration fees	Cigarette tax	Realty/mortgage transfer fees
Employer/payroll taxes	Parking fees and fines	Corporate franchise taxes
Concessions	Property taxes	Hotel/motel taxes
General sales taxes	Fares and fair related income	Utility fees
Lottery and/or casino revenues	Contracts or purchase of service	Public-private partnerships
Vehicle leasing and rental fees	Lease revenues	Tax-increment financing districts
Advertising	Concessions/rental income	Transportation development districts

The report, [Sustainable Urban Transport Financing from the Sidewalk to the Subway: Capital, Operations, and Maintenance Financing](#) (Ardila-Gomez and Ortegon-Sanchez, 2016), published by the World Bank, evaluates 24 potential urban transportation funding sources in terms of their advantages, disadvantages and fairness (beneficiaries pay). Table A-3 below summarizes these options.

Table A-3 Potential Funding Sources (Ardila-Gomez and Ortegon-Sanchez, 2016)

General benefit instruments	Direct benefit instruments	Indirect benefit instruments
<i>General public beneficiaries</i>	<i>Direct beneficiaries (users, drivers, passengers)</i>	<i>Indirect beneficiaries (firms, land and property owners, developers)</i>
<ul style="list-style-type: none"> Public transport subsidies Property taxes National and international grants and loans Climate-related financial instruments Global environment facility Clean technology fund Clean development mechanism Public-private partnerships (P3s) for public transport 	<ul style="list-style-type: none"> Parking charges Road pricing Congestion charges Gasoline/fuel taxes and surcharges Vehicle taxation Farebox revenue P3s for urban roads 	<ul style="list-style-type: none"> Advertising Employer contributions Land-value capture/betterment levies Tax increment financing Special assessment Transportation utility fees Land asset management Developer exactions Development impact fees Negotiated exactions Joint developments Air rights

The [Primer on Transit Funding](#) (APTA, 2012) describes U.S. transit funding sources including federal and state grant programs, general funds, gasoline/fuel taxes, rental car sales taxes, vehicle registration fees (levies), bond proceeds, sales tax, and interest income. [Financing Capital Investment: A Primer for the Transit Practitioner](#) (Transtech Management, 2003) identifies and evaluates transit capital project financing options, primarily U.S. federal and state grants, and borrowing strategies, but also new revenue options. [Finding Solutions to Fund Transit: Combining Accountability & New Resources for World-Class Public Transportation](#) (IPIRG, 2007) identifies various public transit funding options and evaluates them according to seven principles: market efficiency, collection costs, reliability, diversity, ridership impacts, budget accountability and community participation. It evaluates general sales taxes, dedicated gasoline taxes, car rental taxes, registration fees, tire taxes, weight-based vehicle registration fees, vehicle battery taxes, weigh-mile truck fees, road tolls, development impact fees, stormwater fees, real estate transfer taxes and parking taxes.

[Thinking Outside the Farebox: Creative Approaches to Financing Transit Projects](#) (DeGood, 2012) discusses various benefits from high-quality public transport, and provides guidance on ways to finance transit improvements in the United States. Funding options include various federal and state grants, bonds and loan programs, and local funding options, particularly dedicated funds from general sales and property taxes. It evaluates local funding options based on their potential revenue, reliability, equity and political feasibility. These include:

- Tax increment
- Special assessment district
- Development contributions
- Sales tax
- Road tolls
- Vehicle registration tax
- Parking fees
- Gasoline/fuel taxes
- Land sales

The report, [What Do Americans Think about Federal Tax Options to Support Public Transit, Highways, and Local Streets and Roads? Results from Year Seven of a National Survey](#) (Weinstein and Nixon, 2016), found that nearly two-thirds of survey respondents support spending gasoline/fuel tax revenues on transit, but relatively few support raising gasoline/fuel taxes or transit fares. Most appear to be poorly informed about how transit is funded, with only half knowing that fares do not cover the full cost of transit.

The report, [Making the Move: Choices and Consequences](#) (TISAP 2013), assesses the potential benefits from increased public transit investments, evaluates potential funding options, and recommends various funding packages (including increased fuel and corporate taxes, and dedication of sales taxes), plus various implementation strategies, to ensure that investments maximize benefits and gain public support in the Greater Toronto and Hamilton Area (GTHA).

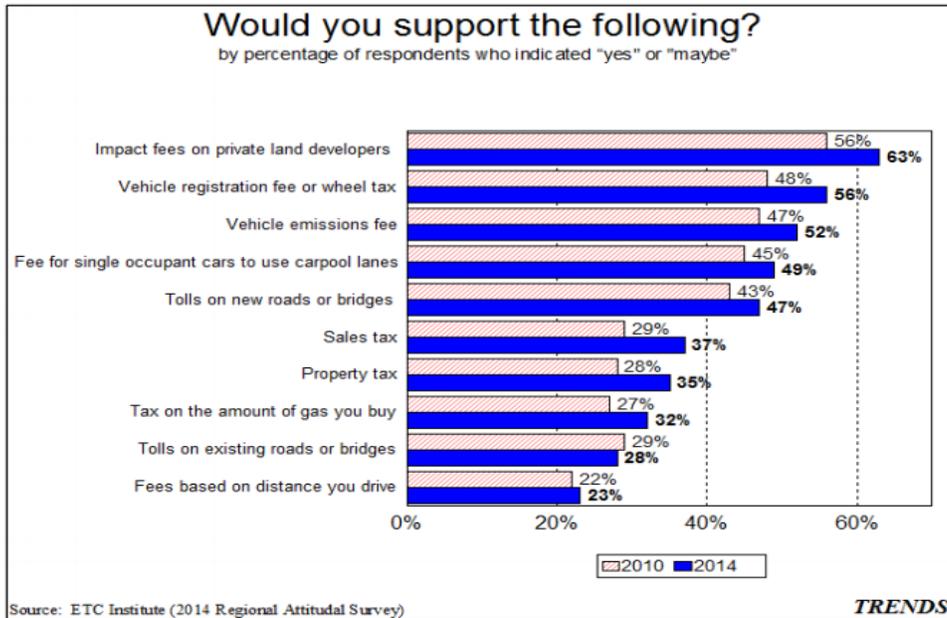
Regional Public Transit Funding Studies

The current regional transportation plan, [Middle Tennessee Connected](#), includes detailed analysis of potential transportation funding options, including regional, state and federal funding sources suitable for various transportation programs including roads, public transit and active transport modes. The plan identifies the following local funding sources:

- *State street-aid funds*: Tennessee distributes a portion of the state’s gasoline/fuel tax revenues to counties and incorporated cities to help improve local streets.
- *Property tax*: This is the chief source of local revenue. A separate tax for transit operations and capital can be administered by voter approval.
- *Sales tax*: This is one of the most common local revenue sources in Tennessee.
- *Wheel tax*: State law allows counties to impose a tax on vehicle registrations. This requires majority voter approval plus two-thirds vote from county legislators at two consecutive meetings.
- *Development impact fees*: State law allows local governments to impose fees on private developers according to a locally adopted schedule devised to recoup a reasonable share of the transportation improvement costs in the general area of a proposed development.

Regional public opinion surveys sponsored by the Nashville Area MPO asked respondents to indicate their support for various transportation funding options. Figure A-2 shows the results. It indicates that support for nearly all funding options (with the exception of tolls on existing roads and bridges) increased between 2010 and 2014, and that development fees, a wheel tax, emission fees and fees for single-occupant vehicles using high-occupancy vehicle lanes ranked highest, while tolls on new roads and bridges, sales taxes, property taxes and gasoline/fuel tax increases ranked in the middle.

Figure A-2 Resident Support for Regional Transportation Funding Options ([ETC Institute, 2014](#))



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