

METROPOLITAN-LEVEL TRANSPORTATION FUNDING SOURCES

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Executive Summary

This report considers the potential for developing metropolitan-level funding sources for planning and implementing regional transportation projects. Transportation revenue generation at the metropolitan level is a new approach to transportation finance that reflects the continued devolution of both transportation finance and decisionmaking. Historically, federal and state user fees have been the main source of transportation funding in the U.S. Yet, as the revenue generating capacity of many state and federal level motor fuel taxes and road user fees has waned, many urban counties and cities have begun to explore ways to generate revenue for transportation in their own regions. The prospect of enhancing metropolitan-level authority via metropolitan planning organizations (MPOs), not only to raise funds for transportation but also to direct the disposition of such funds, is attractive in the current environment.

Section I: Regional Transportation Revenue in Review

Federal transportation law requires that urbanized¹ areas having populations of 50,000 or more have MPOs to coordinate short- and long-term transportation planning and programming for their regions. Section I of this report reviews the development of MPOs. Perhaps the biggest moment in MPOs history was the passage of the transportation legislation ISTEA in 1991, which visibly increased the authority of MPOs. ISTEA transformed MPO-produced plans and TIPs from wish lists to more firm commitments to specific projects and also limited the ability of any MPO member to override regional priorities by advancing projects not in the plan. TEA-21 in 1998 and SAFETEA-LU in 2005 have maintained ISTEA's innovations and further enhanced MPOs' position.

This report reviews funding sources directed to and by MPOs in two broad categories: moneys that finance MPO planning activities and daily operations; and moneys for actual transportation projects. Federal, state, local, and in some cases regional funds are all available in varying degrees. In large urbanized areas ISTEA gave MPOs direct programming authority over certain federal funds, generally Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) funds. Other federal funds are available, although in smaller amounts. State funds in common use include gas taxes, sales taxes, vehicle fees, and tolls. The report uses examples from three states—Ohio, Colorado, and California—to show the variety of ways that state funds are distributed to MPOs. Finally, this section also contains three case studies—from Las Vegas, the San Francisco Bay Area, and Texas—of regions experimenting with metropolitan-level funding sources.

Section II. Evaluating Regional Transportation Funds

The report then turns to what factors might affect the feasibility or political acceptability of new regional transportation revenues that could be collected and programmed by MPOs. These factors include:

¹ The U.S. Bureau of the Census defines an "urbanized" area as having 50,000 or more residents. In this report, the terms "urbanized" and "urbanized area" are used in contexts where this official U.S. Census designation is important for funding policies or planning requirements. The term "urban" is used more generally to denote places that are city-like or metropolitan in character.

- State Resistance or Support? – MPOs remain largely subordinate to state departments of transportation (DOT) in the regional context, and some DOTs have not supported the MPO role as much as ISTEA and subsequent laws intended. Some DOTs will likely perceive financially empowered MPOs as threats to their own authority; others may actively support new regionally based transportation funds.
- County Resistance or Support? – As single counties and multi-county coalitions establish track records in developing local revenue sources for transportation improvements and in choosing what projects to finance with those revenues, county-level governments and agencies may challenge the expansion of MPO engagement in this arena.
- Political Legitimacy / Representativeness of the MPO? – If an MPO is not viewed as representing the region's subunits and population, its legitimacy may come into question.
- Organizational Credibility? – It will be important for the MPO to demonstrate through its planning and project work that it has the staff resources, technical and administrative expertise, and public confidence required to plan, program, and administer regional revenues. Organizational credibility may extend not only to an MPO's technical capacity, but also to its political aptitude.
- Legal Authority? – One of the thorniest issues may be the limited nature of many MPOs' legal authority. Many state constitutions do not establish MPOs as legal entities or vest them with the authorities typically exercised by other government entities.

This section also considers five criteria for determining how to assess a potential revenue stream:

- Financial Effectiveness – A desirable revenue source can yield the funds required for the needs it is designed to address, is stable over time, and has potential for growth.
- Transportation Efficiency – Because fees can influence behavior, revenue sources for transportation ought where possible to be structured in ways that encourage efficient use of the transportation system.
- Fiscal Efficiency – When taxes, fees, and charges are easy to collect, simple to understand, inexpensive to administer, and resistant to fraud, they are said to be fiscally efficient.
- Equity – How transportation's costs and benefits are distributed, as well as how transportation-related taxes, fees- and charges impact low- versus high-income people.
- Political Acceptability – The political acceptability of any finance mechanism plays a critical role; and politicians are unlikely to support fees or charges that are strongly opposed by the public.
- Demonstration of Need – MPOs that are large, growing, complex, and/or nonconforming to air quality standards are more likely candidates to develop regional revenue sources.
- To Earmark or Not to Earmark – While earmarking is a popular way to maintain accountability, especially with voter-approved lists of specific projects, earmarking may

actually weaken the MPO institutionally if it results in board members who are not as committed to achieving regional cooperation.

- Consistency / Compatibility with Regional Goals – The funding source may appear to have more legitimacy if linked to goals that are widely seen as truly regional.

Section III. Revenue Mechanisms for MPOs: Presentation and Analysis

This section describes those taxes, fees, and charges not discussed earlier, as a basis for evaluating them in the context of specific types of MPOs. These include:

<u>User Fees</u>	<u>Non-User Fees</u>
Fuels tax per gallon	Sales tax
Sales tax on purchase price of fuel	Property tax
Aviation fuels tax	Development tax, including commercial and residential
Tolls, including flat and variable tolls	Per capita tax collected from MPO member governments
Vehicle Sales Tax	
Vehicle License/Registration Fees	
Emissions Fees	
Annual VMT Fees	

Because MPOs encompass such a wide variety of institutional arrangements, it was not feasible to recommend particular revenues sources for categories of MPOs. Instead, the report then analyzes these fees in terms of three MPO characteristics that were deemed the most important for determining the impact of different revenue sources.

Size—MPOs in large regions may enjoy a higher public profile due to their size and to their ability to directly program urban STP funds, and, in some cases, CMAQ, but there are also many small MPOs that are highly prominent and well known for their planning and technical excellence. In large urbanized areas with air quality problems, the MPO must also ensure that regional transportation initiatives comply with federal air quality standards, perhaps supplying the MPO with an extra opportunity to expand its legitimacy as a regional actor. Local governments and agencies may look to an MPO with a large staff and greater planning resources for assistance with their own planning efforts. And, where a large MPO also has demonstrated leadership in regional planning and significant technical expertise, with modelling or forecasting, for example, the state DOT may perceive the MPO as more competent. Together, these factors may enable a large MPO to pursue more controversial or unconventional revenue sources than those a small MPO could entertain.

Medium-sized MPOs—those serving regional populations between 200,000 and 1 million—may have more choices than do small MPOs when it comes to regional revenue sources. They may be in a better position to implement the various fuel taxes and fuel sales taxes, as well as different vehicle and license fees. As the land area covered by the MPO increases, the less likely such fees will put the region at a competitive disadvantage to neighboring areas when attracting residents and businesses. Additionally, an MPO that has established a track record of

respected decisions regarding the metropolitan STP sub-allocation may have more institutional clout and greater ability to pursue a variety of regional revenue sources.

Growth Rate—Planning and financing transportation projects and programs in fast-growing regions can present MPOs with several challenges. First, pressures to identify new sources of transportation funds may be far greater than in areas with stable populations; the MPOs' long-range plan and near-term investment decisions will need to address the demands placed by such growth on existing transportation facilities and services. Second, MPOs will face pressure to identify such resources quickly, before fast growth overwhelms the transportation system. There may be less time to develop political consensus in support of an MPO administered revenue program and greater pressure to make politically expedient choices. Finally, MPOs will need to think creatively about transportation finance choices. The most rational revenue mechanisms may be those that not only raise the funds needed but also stem problems that can attend fast growth, including congestion, air pollution, and land development decisions disconnected from regional transportation plans. On the one hand, these growth-related dynamics may appear to constrain the MPO's scope of action. On the other hand, they may provide the MPO with greater opportunity and political flexibility to experiment with new revenue schemes.

Multi-County and Multi-State Jurisdictions—Cross-jurisdictional MPOs may face greater legal hurdles than a single jurisdiction MPO. For multi-county MPOs, the constituent counties must agree to request power from the state to raise MPO-based revenues and will also need to agree on the revenue mechanisms that the MPO will use. Disagreement among the MPO members on either of these points would make the MPO's case look weak when seeking needed approvals or legislation from state lawmakers. Similarly, multi-state MPOs seeking to collect regional revenues across state lines require legislative authority from not one but from two or more states.

In addition, if governmental subunits within an MPO were to jealously guard their right to levy taxes and other transportation revenues and were to resist giving such authority to the MPO, then the MPO's pursuit of a region-wide revenue mechanism could fail. On the one hand, the complexities of such cross-jurisdictional situations could easily present such additional hurdles. On the other hand, however, strong cross-jurisdictional consensus among MPO members, where it exists, could strengthen the case for additional MPO revenue powers.

Second, cross-jurisdictional MPOs may be more exposed to claims that a revenue mechanism is geographically inequitable, because one subunit within the region either produces a greater proportion of regional revenues or receives a greater proportion of benefits than do other subunits. Geopolitical equity issues surrounding costs and benefits may be even more prominent in bi- or multi-state MPOs, and any state may be reluctant to support a newly empowered MPO if a neighboring state also has considerable sway within the MPO. In general, the spatial distribution of costs and benefits of a regional revenue measure is likely to heavily influence the political acceptability of that revenue measure.

Section IV: Institutional Issues for Metropolitan-level Funding

Despite their legal and institutional constraints, some MPOs may be ready to examine possibilities for independently raising and allocating transportation funds. There are several ways MPOs could acquire revenue generating authority, and any such strategy is likely to cause

a shift in the MPO's appearance from a planning and advisory body to a government entity. To empower an MPO with direct revenue generating authority will generally require some action by the state or federal government. Government entities with regional jurisdictions have been created by federal and state actions at different moments in U.S. history. These experiences suggest various institutional arrangements for vesting MPOs with revenue generating authority:

Consolidated local governments / Territorial annexations / City-county mergers—While such mergers were more common in the early 20th century, there have been few such consolidations since the 1950s.

Regional government / regional service providers—Only a handful of examples of regional entities provide services at that level; however, state support could contribute to developing more such models.

Area-wide special districts or authorities—State legislation could incorporate an MPO as a special district for transportation planning, which would provide taking authority.

Interstate compacts and compact agencies—There are a fair number of such compact agencies in existence; they could be particularly valuable for multi-state MPOs since the form can be used for a variety of purposes.

Federally designated regional commissions / Semi-independent federal corporation—While the federal government can create regional authorities, the trend of devolving transportation planning to more local levels would seem to make this a fairly remote possibility.

Given the trend in federal and state governments to push responsibility for transportation finance and decisionmaking to lower levels of government, MPOs are well-situated to play a valuable role. If MPOs are well suited to make long range transportation choices and near-term investment decisions, they ought also to be empowered with the ability to raise revenues. Yet, modifying MPOs to raise revenues is not a straightforward project. First, given the diversity of MPOs and the regions they serve, it is impractical to advocate one model for empowering MPOs to generate revenues. Regional circumstances as well as state-MPO, MPO-county, and MPO-city relationships will shape an MPO's choices for acquiring this authority. Second, it is impossible to prescribe the revenue source that an MPO should pursue. In all likelihood, an MPO will select several different revenue sources to support its transportation plans and programs; the particular mechanisms included in an MPO's revenue program will reflect such regional factors as size, rate of growth, and jurisdictional complexity.

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Section I: Regional Transportation Revenue in Review

I.A. Study Focus and Rationale

This report considers the potential for developing metropolitan-level funding sources for planning and implementing regional transportation projects. Transportation revenue generation at the metropolitan level is a new approach to transportation finance that reflects the continued devolution of both transportation finance and decisionmaking. Metropolitan regions have until recently played a modest role in generating funds for transportation plans and infrastructure. Traditionally, federal and state user fees, primarily in the form of motor fuel taxes and other fees charged to road users, have been the main source of transportation funding in the United States. Following the state of Oregon's lead in 1919, most states instituted motor fuel taxes in the 1920s and 1930s. Also, since 1956, when it enacted a number of federal road user fees to fund construction of the National System of Defense and Interstate Highways, the federal government has played a significant role in generating transportation revenues. Yet, as the revenue generating capacity of many state and federal level motor fuel taxes and road user fees has waned, many urban counties and cities have begun to explore ways to generate revenue for transportation in their own regions. The prospect of enhancing metropolitan-level authority, via metropolitan planning organizations (MPOs), not only to raise funds for transportation but also to direct the disposition of such funds, is attractive in the current transportation finance environment.

Interest in Metropolitan Transportation Funding: The Current Context

Four factors compel this inquiry into transportation funds that could be generated at the metropolitan or regional level and the expenditure of which could be directed by MPOs. First, interest in new sources of transportation funding has increased as conventional revenue sources have continued for several reasons to prove insufficient to meet planning, construction, and maintenance needs for transportation infrastructure and services. Interest in new revenue sources is fed by the atrophied buying power of federal and state motor fuel tax revenues. Federal and state executives and legislators have been reluctant to pursue fuel tax increases either to expand transportation funding or even to keep pace with inflation, and gas tax dollars have consequently lagged behind rising consumer prices. Additionally, the costs of transportation construction inputs like steel and concrete have increased at rates markedly higher than general inflation in recent years, magnifying the shrinkage of conventional fuel tax revenues. Transportation policy analysts also suggest that alternatives to the motor fuel tax, the prevailing mechanism of state and federal transportation finance, are increasingly necessary as vehicle fleets become more fuel efficient, reducing tax revenues collected per mile driven, and as consumers purchase more alternative-fuel and hybrid vehicles.

Second, debate over the changing federal role in transportation finance also compels interest in metropolitan-level funding sources. In the 20th century, the federal government went from playing virtually no role in transportation funding to playing a central role, particularly with regard to construction of the U.S. Interstate Highway System. Yet, in the early 21st century the rationale for a strong federal role has been questioned. Early in the 1900s, road finance in the U.S. was primarily a local responsibility; property owners often paid for improvements to the roads adjacent to their land and reaped the benefits of improved property access and value. Private firms also constructed roads and bridges, providing facilities but charging tolls for their

use. The federal government's first programs to support road construction in the states were modest and supported by general funds. However, with the 1956 Highway Act, the federal government assumed a far more prominent role in generating and redistributing transportation revenues than it ever had before, spurred by plans to construct the U.S. Interstate System, a project of unprecedented scale and demanding unprecedented resources.

By the mid- and late-1980s, with the interstate system largely complete, state support for the redistributive aspect of federal transportation finance dwindled. So-called "donor states" began to assert that the amount of federal gas tax dollars allocated to their states should be equivalent to the amount raised in their states. Consequently, "donor-donee" issues have played a prominent role in legislative debates surrounding the reauthorization of transportation spending bills. In the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the Transportation Equity Act of the 21st Century (TEA-21) in 1998, and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, Congress largely yielded to state pressure for equity based on return-to-source. With the federal government sending back to each state an amount only modestly different from what it collected from the state to begin with, some have questioned whether the rationale for a federal role in transportation finance remains. Others have advocated abolition of the federal Highway Trust Fund, the account into which federal fuel taxes and other user fees are deposited and from which they are redirected to states.

A third factor fueling interest in metropolitan-level transportation finance and enhanced allocation authority is the nascent metropolitan devolution in transportation policy and the growing recognition of the importance of metropolitan infrastructure investment to regional and national economies. Federal transportation laws ISTEA and TEA-21 broke significantly with previous transportation finance patterns by allowing large metropolitan areas to exercise direct control over specific categories of federal funds. Supporters of increased metropolitan spending and revenue generating capacity emphasize that an overwhelming majority of Americans reside in federally defined metropolitan areas and that these regions are responsible for over 85 percent of the nation's economic output and 84 percent of its jobs. Yet, while urban regions face such significant transportation challenges as growing congestion, aging infrastructure, new demands for facility security, and revenue shortfalls, the MPOs responsible for short- and long-term regional transportation plans and near-term investment strategies are generally not authorized to raise revenues and possess only limited discretion over federal and state funds. Additionally, as has been observed since Wilfred Owen first delineated The Metropolitan Transportation Problem (1956), urban regions have long produced far more in gas tax receipts than they have received for metropolitan transportation investments. Thus, many have begun to consider how metropolitan-level transportation revenue generation and spending discretion may be enhanced.

A fourth and final factor motivating this inquiry concerns the role of MPOs as the only organizations structured to represent regional interests in transportation planning and decisionmaking. MPOs represent perhaps the most logical regional level institutions in which to locate increased urbanized² area transportation finance and decisionmaking capacities. Urban

² The U.S. Bureau of the Census defines an "urbanized" area as having 50,000 or more residents. In this report, the terms "urbanized" and "urbanized area" are used in contexts where this official U.S. Census designation is important for funding policies or planning requirements. The term "urban" is used much more generally to denote places that are city-like or metropolitan in character.

counties and cities have over the last 15 years been experimenting with a variety of new funding mechanisms for transportation, but it is not always clear that these efforts address regional transportation needs or deliver regional benefits. For instance, local option sales tax measures supporting transportation have been included on scores of single- or multi-jurisdiction ballots over the last decade. Yet, such locally financed initiatives – though often located in metropolitan regions – do not fall within the established regional planning process. Also, the project commitments attached to such measures may be selected more for their ability to generate voter approval in specific districts than for their value to regional transportation.

Regional mobility authorities (RMAs) are another new sub-state funding mechanism receiving increased attention. They generally allow counties to form voluntary associations in order to construct self-supporting, often toll financed transportation facilities. Yet, despite their name, it is not clear that such bodies and their activities are indeed regional. In Arkansas, for example, state legislation enabling RMAs contains no provision to ensure that RMA projects are consistent with established regional plans. Thus, MPOs – as the clearest agent of regional transportation interests in urbanized areas – are logical candidates to administer new metropolitan-level transportation finance mechanisms. And, vested with funding discretion, MPOs may also offer the greatest assurance that new transportation revenues raised will be spent in accordance with regional priorities.

I.B. A Brief History of Metropolitan Planning Organizations (MPOs) and their Funding

Today, federal transportation law requires that urbanized areas having populations of 50,000 or more have state-designated MPOs to coordinate short- and long-term transportation planning and programming for their regions. These regional bodies are usually governed by appointed boards, many of whose members serve as elected office holders in the counties and cities that constitute the MPO. In order to receive federal transportation dollars, the MPO must submit a fiscally constrained short-range Transportation Improvement Plan (TIP) that identifies all regional projects to be supported by federal transportation dollars. It indicates whether a state transportation department, metropolitan transit operator or other agency will sponsor the project and the sources of federal and state or local matching moneys that will pay for it. Federal law requires that the TIP, as well as the regional plans from which its projects are drawn, be cooperatively developed among the MPO, local governments and other public stakeholders, state departments of transportation, and local transportation agencies.

This section describes the evolution of MPOs and their role in regional transportation planning. The text also discusses how MPOs have been funded at different points during their history. This institutional background on MPOs can inform our understanding of what role MPOs might play in collecting and administering the disposition of transportation revenues in the future. The history of MPOs provides insights into the opportunities and challenges that could arise when pursuing an expansion of MPO authority into revenue generation and a widening of MPO discretion in transportation spending.

Early Roots: Organizational Antecedents in the 1950s and 1960s

From 1916, when the first Federal Aid Road Act was passed, through the 1950s, state transportation departments acted as the predominant agents of federally sponsored transportation planning and construction. In the 1950s and 1960s, however, urban interests

grew extremely dissatisfied with the disruptive impacts of state-directed freeway construction in central cities, and they increasingly asserted the need for transportation expertise and planning capacity focused on urban areas (NCUT 1958). Responding to such pressures, the U.S. government moved in the early 1960s to enhance capacity for metropolitan transportation planning. First, Section 701 of the 1961 Housing Act provided federal assistance explicitly for surveys of urban transportation patterns and needs. Second, the Federal Aid Highway Act of 1962 conditioned states' expenditure of federal transportation funds in urbanized areas on a transportation planning process that involved state and local communities in a comprehensive, cooperative, and continuing manner (Weiner 1997). The Act defined the "3-C process" still invoked today.

Together, the two laws supplied theretofore lacking resources for metropolitan transportation planning, and they subtly shifted the balance of power between state highway departments and urbanized areas. Most significantly, the 1962 law drew attention to absent metropolitan transportation planning institutions and prompted their creation:

- Because qualified planning agencies to mount such a [comprehensive, cooperative, and continuing] transportation planning effort were lacking in many urban areas, the BPR [Bureau of Public Roads] required the creation of planning agencies or organizational arrangements that would be capable of carrying out the required planning process. (Weiner 1997, 38)

Motivated by the federal dollars at stake, states and urbanized areas moved quickly to establish planning organizations to meet the 3-C requirements. All 224 existing urbanized areas that fell under the 1962 Act had by the July 1965 deadline established an urban transportation planning process (Weiner 1997, 42). From place to place, the process was located in different organizations; either state departments of transportation (DOTs), ad hoc transportation studies, existing councils of government, established regional planning commissions, or other quasi-official regional bodies were tasked with executing this new transportation planning process (Soloff 1996). These organizations and arrangements would later become MPOs. The variety in MPOs' organizational origins has led to legacy of diverse institutional arrangements in MPOs, whereby different sponsoring agencies may host or house the MPO and its functions while other agencies may also provide MPO staff. (See Table 1.)

Table 1. Institutional Arrangements of MPOs

provided by:	MPO staff						MPO host
	1972 ¹	1976 ¹	1980 ¹	1983 ¹	1993 ¹	2004 ²	2004 ²
City, County / Joint	17.4%		17.1%	25.3%	28%	26%	32%
City					14%	15%	19%
County					14%	11%	13%
Regional Council	37.2%	82.3%	58.9%	54.6%	48%	30%	30%
State DOT	42.2%	5.6%	3.1%	4.3%	2%	1%	3%
MPO (independent)	3.2%	12.1%	20.9%	15.8%	22%	28%	23%
Other						14%	13%
Total MPOs	218	249	258	328	339	380	380

¹ ACIR, MPO Capacity, 1995.

² AMPO, Institutional Survey, 2004. (n=80)

Formalization: MPOs in the 1970s

Although the 1960s were important in the birth of regional transportation planning, metropolitan planning agencies played a mostly minor advisory role through the 1960s and early 1970s, much to the chagrin of anti-highway urban interests (Soloff, 1996). The 1973 Highway Act changed this, by providing funds for and requiring states officially to designate “Metropolitan Planning Organizations” (MPOs) for urbanized areas exceeding 50,000 residents. Pressured by urban and environmental coalitions, federal officials used the law to create the “legal mandate and financing to transform the hodgepodge of regional bodies across the country into effective, multimodal planning agencies” (Soloff, 1997, 6).

Previously, state DOTs had been required only to consult and cooperate with metropolitan areas when considering state-directed projects in urbanized areas. But the 1973 law and the regulations operationalizing it specified that MPOs must include “principal elected officials” representing local governments in the region and that MPOs themselves must compile and approve a short-range transportation funding plan, the TIP. With this step, the federal government shifted authority over transportation spending more dramatically from the state to regional level.

Reflecting state-metropolitan tensions in the struggle over transportation funding decisions, many state and county officials rejected MPOs’ new status, calling them “a federally-imposed level of regional government that impinges on the lawful authority of local and state governments” (Soloff 1997, 7). The uncertain legal authority of MPOs and rivalry from state and county governments continue to characterize metropolitan transportation planning today.

Entrepreneurialism: MPOs in the 1980s

The 1980s were noteworthy in MPO history, as many MPOs assumed entrepreneurial roles and arrangements to support their operations in the face of federal funding cuts. Some MPO activities from this period persist today. As new public management theories gained traction in the 1980s and challenged government’s role (Behn 2001), federal funding and requirements that had formerly strengthened metropolitan planning were scaled back. The federal housing program, Section 701, which had supported the work of regional-council style MPOs since 1954, was terminated. Additionally, extant funding for MPO planning activities was diluted when the 1980 census brought 70 new MPO designations, but no equivalent increase in federal support. Bill-paying strategies adopted by MPOs during this era include fee-for-service work (e.g., data services or plan preparation) undertaken for local governments, membership fees, staff sharing, and joint purchasing with other government units (McDowell 1984). MPO dependence on external support remains a salient theme today.

Additionally, federal funding and requirements that had formerly strengthened regional planning were scaled back during the 1980s. For example, federal transit planning funds that had been directed through the MPO process now went straight to transit operators, bypassing MPOs. Also, MPOs were no longer required to be areawide or to have formalized agreements defining participants’ roles in the metropolitan planning process; these changes contributed to pressures for MPOs to decentralize or subregionalize, a force that remains potent today and could affect how MPO-directed transportation revenues sources are crafted.

Empowerment: Increased MPO Authority in the 1990s

Federal legislation in the 1990s visibly increased the authority of MPOs. Transportation legislation ISTEA (1991) required that MPOs' regional short-range spending plans be fiscally constrained. This transformed MPO-produced plans and TIPs from wish lists to more firm commitments to specific projects and also limited the ability of any MPO member to override regional priorities by advancing projects not in the plan. Thus, MPO plans carried more weight. Additionally, in large urbanized areas – those with populations above 200,000 – ISTEA gave MPOs direct programming authority over metropolitan Surface Transportation Program (STP) funds. Previously, spending decisions regarding STP were to be reached by the state in cooperation with the MPO, meaning the MPO had to approve them. However, ISTEA put MPOs in the driver's seat by requiring state DOTs to suballocate the metropolitan portion of these funds directly to MPOs. ISTEA also created a new category of federal funding, the Congestion Mitigation and Air Quality (CMAQ) program, explicitly for use in metropolitan areas with current or recent problems meeting national air quality standards.

Legislation following ISTEA has further enhanced MPOs' position. In 1998, TEA-21 prohibited state DOTs, as the designated accounting recipient of federal transportation funds, from withholding from MPOs the portions of STP and CMAQ that MPOs are eligible to spend. This provision challenged the practice of some DOTs' to hoard in state accounts moneys to which MPOs were entitled, and thereby to disrupt MPOs' cash flow and ability to finance projects. Additionally, by maintaining these ISTEA and TEA-21 provisions, the 2005 SAFETEA-LU reinforced MPOs' standing.

I.C. How Metropolitan Planning Organizations Are Funded

The origins of MPOs in the 1960s politics of urban freeway building and in federal legislation provide a context for understanding MPOs in general, including their organizational roots, their diversity of size and institutional form, their potential role as a competitor vis-à-vis state transportation departments, and their somewhat unique position as regional-level institutions in an American government system that grants authoritative primarily to federal, state and local but seldom regional entities. This context informs any assessment of potential MPO-generated or -directed funding sources. Additionally, any particular MPO's institutional context is informed by how it funds its day-to-day operations and what moneys it directly controls.

This section provides an overview of funding sources directed to and by MPOs. It describes two broad categories of MPO funds: first, moneys that finance MPO planning activities and daily operations; and second, moneys for actual transportation projects. In each case, funds from federal state and local governments are inventoried.

In general, moneys for actual transportation improvements and projects always dwarf moneys for planning, both in dollar amounts and in the degree to which stakeholders take interest in either type of funds. Nonetheless, this work pays equal attention to both types of MPO funding, as support for an MPO's planning and daily operational capacities is a necessary complement to its ability to make project spending decisions that are accountable and serve regional mobility.

Funding for MPOs' Planning and Operations

i. Federal

a) *Federal Highway Administration (FHWA) Metropolitan Planning Funds (PL Funds)*

State transportation departments receive federal PL funds to support metropolitan planning in their state. The funds may be used for transit or highway planning activities. State DOTs are required to dedicate a portion of PL funds received to MPOs covering areas of 50,000 or more, to support planning efforts. Each state develops its own formula for suballocating PL funds, and some research suggests that states commonly rely on population and also air quality non-attainment status and severity as factors in their formulae (Arnold et al 1999). Some states suballocate an equal base amount of PL to all MPOs and then distribute the rest by formula (AMPO, Institutional Survey, 2004). Most DOTs administer PL funds to MPOs through their central office and require MPOs to submit an annual "unified planning work program" (UPWP) as well as regular invoices and progress reports. Federal law requires that MPOs use PL funds for transportation planning and not for any other project or program.

The amount of PL funds available to a state is calculated as a one percent takedown from the total funding received under the five "core programs" in transportation spending.³ In 2005 federal reauthorization debates, the national Association of MPOs (AMPO) has advocated increasing the PL takedown to 1.5 percent. With 46 new MPOs added in the 2000 census, AMPO considers the funding necessary to support their operations. Another point of debate in the 2005 reauthorization cycle is whether the "minimum guarantee" program will be explicitly used in calculation of PL distributed to MPOs. This would increase the total amount of "core programs" from which the percentage is drawn for PL.

Individually, MPOs receive on average \$924,693 in PL funds. However, this number is likely skewed significantly upward by large MPOs that receive substantially more PL funds than is typical. The median amount of PL funds received, for instance, is only \$302,000, suggesting that many MPOs are in fact small operations trying to execute many responsibilities on a modest budget (AMPO, Institutional Survey, 4).

b) *Federal Transit Administration (FTA) Metropolitan Planning Program / Section 5303*

The Federal Transit Administration maintains its own program to support metropolitan planning. These funds, called 5303 funds for the section of federal code that establishes them, are apportioned by FTA to the states based on a set of formulas. First, FTA allocates 80 percent of the funds according to an urbanized area population based formula. Second, the remaining 20 percent is provided to states based on an FTA formula that considers planning needs in larger, more complex urbanized areas over one million in population. The state DOT then suballocates the funds to urbanized areas in the state according to state-defined formulas that FTA must approve.

³ The federal transportation funding categories known as the "core programs" are Interstate Maintenance (IM), National Highway System (NHS), Bridge Repair and Rehabilitation, Congestion Mitigation and Air Quality Improvement (CMAQ), and the Surface Transportation Program (STP).

In fiscal year 2002, FTA obligated almost \$39 million in 5303 funds in total. Individually, MPOs receive on average \$264,156 in 5303 funds. However, as with PL funds, this average again likely overstates the amount of such funds received by small MPOs; the median amount of 5303 funds received by MPOs is only \$62,110 (AMPO, Institutional Survey, 4). Roughly 40 percent of MPOs fund their operations and services almost or entirely from FTA 5303 and FHWA PL funds (AMPO, Institutional Survey, 11). The Chicago Area Transportation Study (CATS) and Binghamton Metropolitan Transportation Study (BMTS) are two such MPOs that rely almost exclusively on these two federal metropolitan planning programs.

c) *FTA State Planning and Research Program / Section 5313*

The FTA's 5313 funds are intended to assist states in meeting federal planning regulations. As with 5303 and PL funds, the state receives the funds, but in this case the state is not required to suballocate them to urbanized areas. However, although most state DOTs may be inclined to keep them, a state that so chooses may use its 5313 money for metropolitan transportation planning or for research and training in urban transportation problems.

d) *Consolidated Planning Grant Pilot Program*

Since 1997, FTA and FHWA have enabled eligible states to receive federal planning funds from both the FHWA PL and FTA 5303 and 5313 programs together in a single consolidated grant. This program does not increase the federal planning moneys available to a state, but seems intended rather to simplify the reporting requirements of two separate grant programs and to streamline administration. States that receive federal planning funds through this consolidated program allocate the funds to their MPOs according to the same separate formulae used for PL and 5303 funds. The only differences are that funds flow entirely through a single federal agency to the state, and that the states submit bills for reimbursement only to that single agency.

ii. **State**

Perhaps the most common way that state governments support MPO planning activities in the urbanized areas is the state match to federal planning grants. The federal grants for metropolitan transportation planning described above are subject to matching requirements. This means that, in order for states to receive FHWA PL or FTA 5303 funds, they must provide a 20 percent match for those funds. Thus, of the total PL money available in a state, 80 percent comes from the federal government and 20 percent from the state or local match. The federal government does not specify which government entity or funding source must supply the match; it only requires that matching funds be identified. Local governments such as cities or counties may supply the match. In fact, over half of all MPOs report that they derive their planning grant match from local rather than state governments, and most states probably prefer that local governments provide the matching funds. In contrast, only 12 percent of MPOs report that state governments supply the required matching dollars to support their operation (AMPO, *Institutional Survey*, 5).

States that do supply the required match for the federal planning grants face a choice. They may provide the match in hard dollars or cash (a "hard" match) or they may provide the match with a variety of in-kind services (a "soft" match). Some representative in-kind services are listed in Table 2.

Table 2: The Soft Match: In-kind Services Given by States to MPOs

insurance	site hosting
purchasing	staff payroll / salaries
engineering services	staff benefits
office space / rent	utilities

It is difficult to say with certainty which form of state match prevails. However, organizational and administrative logic – as well as the common wisdom, “Cash is King” – suggest that states should prefer to give a soft match while MPOs should prefer the opposite. On the one hand, a soft match may be more attractive to a state because it enables the state to avoid cash payments to its MPOs and to retain the cash for its own uses. Additionally, by denying an MPO cash payment, the state reduces the MPO’s available cash budget, limiting its capacity to plan and hence its discretion. On the other hand, an MPO should view a hard match as more desirable, as the cash increases its budget for planning and its discretion. Texas may provide support for this theory; the state DOT provides the required 20 percent match for all Texas MPOs via in-kind assistance from its district offices rather than via cash payments.

At least one state, Florida, uses federal toll revenue credits to provide the planning match to MPOs. Under federal innovative finance initiatives, a state can earn “toll credits” when it, a toll authority, or a private entity uses toll revenues from an existing facility to fund a capital highway investment in the state. “The amount of toll revenues spent on non-Federal highway capital improvement projects earns the state an equivalent dollar amount of credits....By using toll credits to substitute for the required non-Federal share on a Federal-aid project, Federal funding can effectively be increased to 100 percent” (U.S. DOT 2004, 24). Toll credits do not increase the amount of transportation funding available; they simply allow states to use the credits rather than a cash or in-kind payment for its required match. Thus, for an MPO, toll credits are probably the least desirable form of state planning match, as they not only reduce total PL and 5303 funds by 20 percent but also do not even provide in-kind services. Widespread use of toll credits to replace a state’s cash or in-kind match to its MPOs could limit transportation planning capacity in the state’s metropolitan regions. Neither a hard nor soft match, toll credits might be described more aptly as an invisible match from an MPO’s point of view.

iii. Local

County and city governments and local agencies may support MPO planning and operations in many of the same ways that states do. In over half of all MPOs, the required 20-percent match for PL and 5303 funds is supplied by local sources. Local entities provide some of the same in-kind-services for a soft match as do the states. For a hard match, some counties and cities support the MPO from their general fund. Additionally, the local match may come in the form of membership dues collected by the MPO from jurisdictions within its planning boundaries. Transit operators, city and county transportation departments, and road and port authorities may also pay an annual membership fee, for example.

Among MPOs that collect membership fees from local governments and agencies, the dues are most commonly assessed on a per-capita basis. However, MPOs also base dues on a variety of other factors, ranging from a jurisdiction’s share of regional vehicle miles travelled (VMT) or auto registrations, its share of MPO board votes, or its share of sales and property taxes. Dues

may also be based on a jurisdiction's land area, and in some cases, MPOs may assess a flat membership rate (AMPO, *Local Match Survey*, 2005).

While membership dues on average represent only 30 percent of the matching funds needed for federal planning grants, or roughly 6 percent of total planning funds, they may offer clues about the region's political culture and about the types of revenue sources that may be most politically acceptable. The different factors used to calculate dues apply different principles to determine an equitable means of cost sharing in the region. Equity principles implied by different dues calculation methods include the "user-pays" and "need-based" principles; the horizontal equity principle, where every subunit pays the same based on such measures as population or votes; and the vertical equity principle, whereby wealthier subunits pay more. Thus, the different principles invoked suggest the basis on which an MPO's members might judge a revenue sources as fair or equitable.

In addition to dues, some MPOs raise local revenues for their operations by providing services on a contractual basis to local entities. In arrangements that are perhaps a legacy of the 1980s, when funding cuts forced MPOs to be entrepreneurial, the MPO may contract with local government units lacking staff or technical capacity and perform fee-based data services and planning. The fees earned from local entities count as the required match, and some MPOs may even earn above the 20 percent needed match in this manner. The Capital District Transportation Commission (CDTC) in Albany, New York falls into this category.

According to AMPO, 60 percent of MPOs report that they receive other funds in addition to PL and 5303 and the required match (AMPO, *Institutional Survey*, 9). Where states and local governments do provide support for MPOs above the 20 percent match that is required, they probably rely on the in-kind services and cash sources that have been outlined above. Nonetheless, these additional funds are likely modest in amount.

Funding for MPO-Selected Regional Transportation Projects

The previous discussion highlighted funds that support MPO planning efforts and daily operations. This section, in contrast, addresses funds that pay for actual transportation improvements and projects in metropolitan regions.

i. Federal

For the most part, MPOs have no direct authority over the expenditure of federal transportation program funds. The laws that require and specify the role of MPOs state only that their regional transportation spending program, or TIP, must be cooperatively developed between the state and the MPO. If the MPO does not approve the TIP, the program will not proceed. In 1991, ISTEA enhanced MPOs' roles in spending decisions by stipulating that the TIP be fiscally constrained, but the essence of an MPO's authority lies in its ability not to approve the TIP. However, the interorganizational dynamics and potential fallout from any veto to challenge a state transportation department's TIP priorities may strongly deter any exercise of the veto. As McDowell observes,

- ISTEA relies on a series of mutual vetoes, which can be avoided only through cooperation among the various parties. ISTEA, however, does not provide clear mechanisms to facilitate

the needed cooperation. It is just assumed that the parties will find a way to make it happen. (1995, 12)

Two categories of federal funding are exceptions to this general rule. In large urbanized areas, ISTEA gave MPOs direct authority to program the region's "urban share" of STP funds. Also, ISTEA required state DOTs to spend CMAQ funds in regions designated as air quality nonattainment or maintenance areas. The state DOT is, in contrast to urban STP fund requirements, not required to suballocate CMAQ funds directly to MPOs; however, the MPO "typically has lead responsibility for prioritization, evaluation, and selection of CMAQ projects for funding" in the air quality nonattainment or maintenance areas the program was designed to assist (National Research Council 2002, 95).

a) *The Surface Transportation Program (STP) Urban Share*

Of all STP funds allocated to a state, 10 percent is earmarked or dedicated for Transportation Enhancement projects and another 10 percent for Safety projects; in most states, the DOT has the authority to program, or spend, these funds. The 80 percent remaining in a state's STP allocation is divided into a "statewide share" (37.5 percent), over which the DOT has discretion, and an "urban share" or "metropolitan suballocation" (62.5 percent), which goes to urbanized areas and small non-urban areas.

In areas over 200,000 in population, the MPO, in cooperation with the state, decides how to spend the metropolitan suballocation of the STP funds. Thus, ISTEA's innovation in the case of these STP funds was to put MPOs in the driver's seat. One potential indicator of states' aversion to devolving spending authority to metropolitan-level planning organizations is the slowness with which state DOTs suballocated the funds to MPOs during the life of ISTEA (Lewis and Sprague 1997, 67). In contrast, DOTs allocated DOT-controlled funds more quickly.

Under 1998 legislation TEA-21, large MPOs retained obligation authority over the STP urban share, but TEA-21 directly addressed the problem of state DOTs' withholding the funds. The 1998 law required that states suballocate the funds to the metropolitan level "in two 3-year increments rather than one 6-year period as in ISTEA" ([U.S. DOT 1998](#)).

b) *Congestion Mitigation and Air Quality (CMAQ) Program in Non-Attainment Areas*

Although CMAQ funds can be used only for projects that reduce vehicle emissions in metropolitan areas designated as air quality nonattainment or maintenance areas, there is no federal requirement that state DOTs suballocate CMAQ moneys to MPOs for direct programming. Instead, CMAQ dollars flow from the federal government to the states, and states are encouraged to consult with MPOs and local agencies to select CMAQ projects. "In practice, however, the extent of interagency consultation varies widely," and the absence of a stronger regional role in the program has been cited as a program weakness (National Research Council 2002, 95). In 2002, AMPO surveyed CMAQ-eligible MPOs and reported that one-third had difficulties securing state authorization for CMAQ projects and one-half waited at least a year before receiving CMAQ funds from the state. Federal data on CMAQ obligation rates by state suggest that states with the largest CMAQ apportionments, and hence those with the greatest air quality needs, may have more difficulty obligating the funds than do smaller states (FHWA 2002, 2004). Puentes and Bailey (2003) document that, although they are not required to, 26 states directly suballocate CMAQ funds to MPOs or local governments.

c) *Insights from the STP and CMAQ Experience*

The amount of STP urban and CMAQ dollars programmed within a region may be modest compared to other categories of transportation spending (National Research Council 2002), but the role of these funds in MPOs yields insights regarding potential future funding sources that MPOs might direct.

Discretion – First, as suggested in Lewis and Sprague’s study of California MPOs, the degree of discretion that MPOs can exercise over the money’s expenditure is important. The researchers observe that:

- STP and CMAQ funds are a small share of overall local transportation revenues, but they represent a large component of the discretionary funding available to California’s MPOs...In an era where budgets at all government levels are strained and transportation needs are great, the flexibility of STP and CMAQ programs are crucially important in enabling MPOs and the state to set priorities, change the direction of transportation policy, and consider new capital projects. (1997, 73)

This suggests that funds not tied to narrow uses or earmarked for specific projects give the MPO valuable flexibility to identify and address regional transportation policy goals.

Control – Second, the slowness of some DOTs to suballocate the funds to MPOs hints at the difficulties that could arise when MPOs do not receive funds directly. If a new MPO-destined revenue source were collected, for instance, by a county or state on behalf of the MPO, any number of circumstances might lead the county or state to withhold that money from the MPO as a source of leverage. This suggests the potential importance MPOs’ ability to control the account into which any new MPO-directed funds might flow.

Suballocation and Subregionalism / Localism – Finally, it is appropriate to reflect on the experience of California MPOs’ with CMAQ and STP. For air quality non-attainment and maintenance areas, state legislation (Senate Bill 1435) passed in early 1990s required that MPOs further suballocate CMAQ and STP funds to county transportation agencies such as Congestion Management Agencies (CMAs) and County Transportation Commissions (CTCs).

For example, Los Angeles’ MPO, the Southern California Association of Governments (SCAG), suballocates STP and CMAQ funds to the 13 different CTCs in the region, based on population. The county commissions more or less program their own spending plan or TIP, but the MPO maintains veto power and can refuse to include a CTC project into the regional TIP. Some research has assessed SCAG as lacking precisely the independent programming role that ISTEA sought to bolster with MPO-controlled funds like STP urban and CMAQ (Lewis and Sprague 1997). By further suballocating its dollars to county-level agencies, SCAG plays more of an umbrella or coordinating role, while county authorities actually program the funds.

The San Francisco Bay Area’s MPO, the Metropolitan Transportation Commission (MTC), has compromised between pressures on one hand, to devolve spending to the county level, and on the other hand, to expand regional transportation decisionmaking. To address the SB 1435 requirements, MTC suballocates 50 percent of its STP and CMAQ dollars to county level CMAs and retains discretion itself over expenditure of the remaining half.

The California experience vividly illustrates the competing interests that may develop around any new regionally generated or regionally directed funding source. California appears exceptional because SB 1435 stipulates de jure the suballocation of funds really intended to enhance regional decisions, yet similar practices certainly exist de facto in many MPOs. Subregional units may decide informally how to divide regional funds; each may pick its own projects and refrain from interfering in another jurisdiction's selection unless major objections arise. Suballocating regional funds to subregional entities raises a question that the structure of any new funding source must take directly into account: "Is the MPO to be a central priority-setting body? Or is it to be an "umbrella" organization with some functions devolved to the counties?" (Lewis and Sprague 1997, 86). This research will suggest that answers will vary by region, and that regional complexity plays a significant role in determining the answer.

ii. State

This section presents the major sources of transportation funding raised at the state level. Equal in importance to the types of revenues collected is how those revenues are allocated within the state. If a revenue source that is collected statewide, such as the motor fuels tax, is directed disproportionately to transportation projects in metropolitan regions in particular, the revenue source may be perceived as inequitable by non-urban areas or populations in the state.

a) *State Transportation Revenue Sources*

Per Gallon Motor Fuel Tax

The most prominent source of moneys for state level transportation expenditures is the motor fuel tax. Historically, states enacted motor fuel taxes well before the federal government did. In the early decades of the 20th century, in light of rapidly increasing automobile and truck ownership rates, trips, and trip distances, states acknowledged the waning justification for relying on property taxes assessed on parcels adjacent to or served by roads. As the amount of through traffic on roads increased, a more rational approach to road finance was to assess road users through a fuel tax. Oregon enacted the first state fuel tax in 1919, and other states quickly followed suit.

Several attributes of the per gallon fuel tax have made it a popular revenue mechanism. First, the tax, collected from fuel wholesalers, is fairly simple to administer and relatively resistant to fraud. Second, its role as a "price signal" to drivers encourages motorists to temper fuel consumption and to use the transportation system more efficiently. Finally, while the fuel tax is moderately regressive, exacting a higher proportion of income from low income than from wealthier households, the tax is a more equitable way to pay for transportation than is the sales tax, as those who consume fuel and use the system pay for its improvement (Wachs 2003). Also, though many states have constitutional prohibitions disallowing it, some states do use fuel taxes to support transit services, which low income people are more likely to use.

Today, though many forces have eroded the effectiveness of fuel taxes for generating revenue and other transportation finance mechanisms such as local option taxes are rising in popularity among elected officials and the public, the gas tax remains a prominent source of state funding for transportation. Among state revenues, the motor fuel tax is the most frequently earmarked tax and is dedicated overwhelmingly to supporting state and local highways (Perez and Snell

1995). This suggests broad public acceptance of the fuel tax as a user fee, whereby road users pay the tax and expect to benefit from its expenditure on transportation improvements.

Similar to trends affecting the federal motor fuel tax, the buying power of state fuel tax revenues has been eroded by stagnant tax rates, rising transportation construction costs, and increasing vehicle fuel economy. Although the popularity of sport-utility vehicles today might suggest otherwise, the average new car's fuel efficiency is over 20 miles per gallon, compared with 12 miles per gallon in the 1950s. Transportation experts consequently expect that revenue generated from fuel taxes will grow more slowly than travel volumes, and that more fuel-efficient vehicles and increased acceptance of electronic tolling will make such new forms of user fees as road pricing or distance-based tolls increasingly relevant in the long term (Wachs 2003a, 2003b).

In the short term and medium-term, most agree that the fuel tax will remain an important revenue source. As the U.S. collects experience with electronically priced transportation facilities, such alternatives to fuel taxes may be phased in gradually. Additionally, alternative charges like distance-based tolling may be more acceptable for freight applications initially, and their political acceptability for passenger vehicles may increase with time.

Sales Tax on Motor Fuel Purchases

Some states, including California, Georgia, Michigan and New York, levy sales tax on the purchase of motor fuels. The fuel sales tax enjoys an important advantage over the per gallon fuel tax; because it is based on purchase price, the sales tax is more resistant to erosion by inflation (Adams et al. 2001). When the fuel sales tax is dedicated to transportation expenditures, it functions as a user fee and shares similar advantages to the per gallon fuel tax.

Motor Vehicle Fees

Almost all states collect one or more annual fees from motor vehicle and commercial truck owners and drivers. Most commonly, these consist of motor vehicle registration fees as well as fees for drivers' licenses. Commercial vehicle owners may be charged fees based on vehicle weight and/or distances travelled on state roads; some states, by accounting for numbers of a truck's axles and its laden weight, for example, link these fees more successfully than others to the actual wear and tear imposed by a truck on the highway network.

Sales Tax on Retail Consumer Purchases

Perez and Snell (1995) documented 13 states that use general sales tax to finance state highways, some of which may lie in metropolitan regions, and 23 states that finance local government functions, including local highways, with state-level retail sales tax. More current data regarding disposition of state sales tax in particular on transportation are limited; however, in 2003, over 30 states reported using "other state imposts" to finance highways (OHPI 2005, Table SF-1: Revenues Used by States for Highways). These imposts may represent other state taxes or duties in addition to sales taxes, but they do not include state highway user-fees, state general fund appropriations, or state bond proceeds. In general, states rely much less on state sales tax levied on general consumer goods to support transportation investments than on other state-level transportation funds named above. However, as will be discussed, retail sales taxes

have played an increasingly prominent role in financing local, multi-county and regional transportation investments.

Tolls

The revenues from state-owned tollways and toll bridges are commonly dedicated to the facility on which they are collected. These revenues are therefore generally of less interest than others for funding metropolitan-level transportation improvements. Nonetheless, where state-owned toll facilities are located in metropolitan areas, potential exists for using revenues from these facilities in innovative ways and with innovative involvement from the region's MPO. An example from the San Francisco Bay Area illustrates such a case and is discussed later in the text.

b) State Transportation Revenue Allocation and Metropolitan Regions

To decide how and where to spend the revenues they collect, states rely on their own criteria for allocating transportation dollars to sub-state entities. Some states rely on specific measures of need, others on complex formulae, and others on historical precedent. Yet, more so than the types of revenues collected, "[t]he state fund allocation process is the most important factor in determining the amount of funding that will be available to assist MPOs in meeting regional transportation needs" (Dempsey et al. 2000, Vol. III, Sec. VI, 19). Unlike some federal transportation funds discussed earlier, where state allocation formulae are federally stipulated or are subject to federal approval, the suballocation of state-generated revenues is a matter of state discretion, and practices differ from state to state.

This discussion does not attempt to catalogue the breadth of state allocation processes. Instead, it highlights existing research on selected state suballocation methods and their effect on metropolitan regions and MPOs. The cases discussed illustrate how different parties use different measures to determine what constitutes a metropolitan region's "fair share" of state transportation dollars.

Ohio: Rural Bias in State Allocations

In Ohio, the formula for distributing state gas taxes and vehicle registration fees apportions these revenues in equal shares among counties and townships, regardless of population, numbers of vehicles, VMT or which jurisdiction is responsible for the road network. A 2003 study (Hill et al.) analyzed data on state transportation spending in Ohio from 1980 to 1998 and compared state transportation revenue collection and expenditure patterns against indicators of geographical transportation need and demand. The study concluded that Ohio highway dollars flow disproportionately to rural counties and that those counties receive more funding relative to their transportation needs than do urban and suburban counties. In urbanized areas, therefore, the transportation spending programs crafted by MPOs may not include any more state money than do programs for less populated or less congested areas. This report suggests that the donor-donee equity issues that occur at the federal level also arise within a state.

The authors point to two structural reasons for an anti-urban bias in Ohio transportation finance. First, the state transportation department ignores measures of need in its allocation formula. Rather than weigh for different regions how much VMT is generated, numbers of vehicles registered, or quantity of gasoline sales as a proxy for transportation demand, the state

disburses equal shares of revenue to its counties and townships. Second, state transportation funds are spent only on state roads and highways, located mostly in unincorporated areas, townships, and rural counties. Consequently, municipalities are responsible for their own roadway maintenance, although rural counties see greater shares of state investment. The authors suggest these practices are grounded in the early history of the state legislature, when its rural members – the “cornstalk brigade” – dominated.

Colorado: Boundary Issues and Complex Allocation Rationales

The Colorado DOT distributes state transportation revenues first to specific statewide priority projects (roughly 25 percent) and second to its six engineering regions (the remaining 75 percent). As bureaucratic subdivisions of CDOT, the six engineering regions do not align geographically with the boundaries of other sub-state jurisdictions. The area served by Denver’s MPO, for example, overlaps with three different CDOT regions. A layer of additional complexity is added by the state Transportation Commission, an executive body of governor appointed officials who select the statewide priorities. These facts, along with CDOT’s complex regional allocation formula, “based loosely upon such measures as lane miles, geographical area and historical funding trends,” make it difficult for the Denver MPO to determine what resources are available for its near term spending commitments, the TIP, or its long range regional transportation plan (Dempsey et. al. 2000, Vol. III, Sec. IV, 1).

In a recent study of the metropolitan transportation planning process in Denver, Dempsey et al. reports that CDOT sought in 1998 to simplify the funding estimation in the region by establishing a set percentage of state funds for it. However, subsequent revisions to CDOT’s allocation calculations have reduced the amount received in the Denver region, and the Denver MPO “is receiving less funding than what might be expected under a more equitable scenario” (2000, Vol. III, Sec. IV, 8). The Denver metro area holds 17 percent of the state’s roadway lane miles; generates 51 percent of state transportation revenues; represents 56 percent of the state population; and produces over half of statewide VMT. Yet, CDOT allocates only 34 percent of the state transportation budget to the region.

Dempsey et al. also studied states’ resource allocation to MPOs in Dallas, Phoenix and Seattle and compared state funding with proxies of regional need. (See Table 3.) The authors caution that, in the interest of transportation system connectivity and coverage, more densely populated urban regions may have to subsidize larger rural regions with low population. Yet, they also report that metropolitan regions like Dallas and Seattle that received the highest proportion of funding relative to measures of need also reported the greatest satisfaction with meeting regional transportation needs.

Table 3: State Funding of MPO Regions Compared to Proxy Measures

MPO Region	Percent of Revenue Received	Percent of Revenue Generated	Percent of State Population	Percent of State VMT	Percent of State Lane Miles
Denver	34%	51%	56%	51%	17%
Dallas	24%	NA	22%	25%	13%
Phoenix	28%	48%	59%	51%	31%
Seattle	55%	59%	55%	52%	22%

Source: Dempsey et al. 2000

California: State Allocation to “Regional” and Interregional Programs

Since the passage of Senate Bill 45 in 1997, California has divided its state transportation fund into two programs. Seventy-five percent of state funds are directed to the Regional Transportation Improvement Program (RTIP) for projects in the state’s urban areas, and the remaining 25 percent to the Interregional Transportation Improvement Program (ITIP), to be programmed by the state DOT, Caltrans. Although the term “regional” was heavily emphasized during SB 45’s legislative development, the regional program, or RTIP, is actually administered by county-level entities designated by the state as Regional Transportation Planning Agencies (RTPAs); state funds are thus allocated on a county basis. An observation on SB 45 by then Governor Pete Wilson’s secretary of Business, Housing and Transportation suggests this paradox: “The philosophy in this administration is giving programming authority to the lowest level of responsible government” (“Transportation Reform Efforts Likely to Return” 1996, 9).

Observers acknowledge that SB 45 shifted the balance of power in transportation decisionmaking down from the state, but it is not clear that the law has enhanced the role of MPOs in large, multi-county regions. The law seems to have bolstered regional planning where the boundaries of MPOs and RTPAs generally coincide. However, in multi-county regions such as the Bay Area, Southern California, and Sacramento metropolitan areas, where county-level CMAs administer the RTIP, county-level plans of the CMAs grew in importance. “Thus,” one study concludes, “this attempt to devolve transportation planning authority repeated a traditional pattern; SB 45 strengthened county agencies more than multicounty ones” (Barbour 2002).

In a second assessment of SB 45, Chai (2002) concludes that the 75-25 split between the regional and interregional programs has underfunded interregional transportation improvements and has hindered state attempts to meet needs for interregional passenger travel and, particularly, statewide goods movement. Additionally, Chai characterizes the spending practices of county-level RTPAs as “subvention, fragmentation and diversion” of the RTIP. The state’s so-called regional program is divided “among each county or city; which then often allocates RTIP funds for local streets and county roads, bus rehabilitation, and other projects instead of SHS [state highway system] projects” (Chai 2002, 7). In particular, Chai observes this pattern in rural and small regions.

iii. Regional

Here we discuss transportation revenues that are generated at the regional level and the expenditure of which is determined to a noteworthy extent by MPOs. For the most part, MPOs are designated by states as “planning organizations” and not governing bodies. As such, they are rarely empowered to generate revenues themselves and consequently must find innovative ways within their constitutional limits to raise money for transportation. Urban regions have been experimenting with ways to do this, and the cases below describe some of the models they have employed.

Las Vegas Question 10: Borrowing County Authority Through the Back Door

The Las Vegas region’s MPO, the Regional Transportation Commission of Southern Nevada (RTC), has a different institutional status from most MPOs. First, unlike MPOs that arose from existing councils of government or in state DOT-sponsored transportation studies, the RTC began as the county street and highway commission in the 1960s, and RTC’s enabling

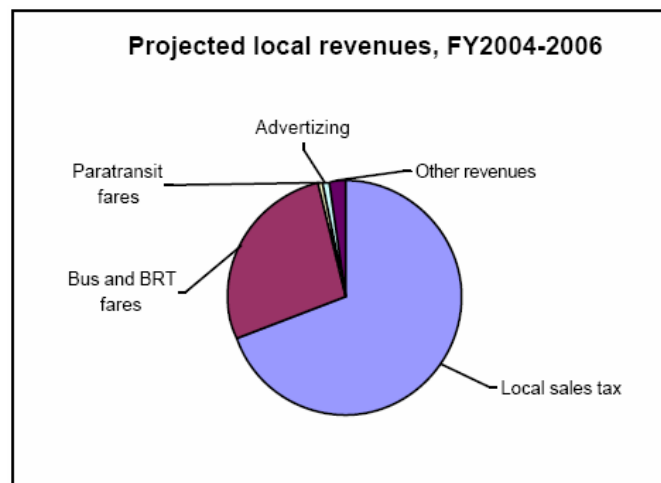
legislation actually refers to it as a regional government. Second, RTC serves not only as the MPO but also the regional transit operator. In 1991, when Clark County passed a variety of taxes in perpetuity, the RTC, as the street and highway commission and as the transit operator, had legal authority to collect the County Option Motor Fuel Tax and the sales tax. These two revenues streams were designated, respectively, to support regional street and highway construction and transit service; in contrast, other taxes increases approved at the time were collected by the County Commission.

In 2002, Clark County voters approved the “Southern Nevada 2002 Fair Share Funding Program,” also known as Question 10. The initiative bundled together a variety of tax increases explicitly to fund transportation projects to improve air quality, transit service, and congestion in urbanized Clark County. Question 10

- increased the tax levied on new residential and non-residential developments;
- increased the jet fuel tax 1 cent per gallon;
- redirected 2 cents of an extant 5-cent property tax to capital projects; and
- increased the county sales tax by ¼-percent to 7.5 percent.

An agreement between the RTC and County Commission allows the County to keep development tax proceeds while the RTC, as the transit operator and street and highway commission, receives the sales, property, and fuel tax revenues. This was considered a necessary and appropriate arrangement to provide the County Commission with an incentive to enact the taxes. The importance of these revenues to the region is suggested by RTC’s projected transit revenues for FY 2004-2006. (See Figure 1.) The regional sales tax raises roughly two-thirds of the RTC’s transit income (Regional Transportation Commission, RTP/TIP, 2003, Figure 7-1).

Figure 1: RTC Transit Revenues



Source: Regional Transportation Commission, RTP/TIP, 2003, Figure 7-1.

After voter approval of Question 10 had been secured, the state legislature enacted Nevada State Regulation (NSR) 377 (SB 237), the 2003 law that created the authority for the County Commission to levy the Question 10 taxes and for the revenues to flow to the RTC. Those closely involved with Question 10 report that shepherding the bill through the legislative process required significant work and that the involvement of the state's most powerful legislator was strategically sought in order to pass the bill.

The 2003 legislation gives the Board of County Commissioners general authority to impose a variety of transportation related taxes and tax increases as specified in Question 10. Also, in counties with populations greater than 400,000, the legislation authorizes the County Commission to allocate revenues collected from those taxes to an RTC, where one has been created by state law. Money allocated to the RTC must be spent in accordance with the Regional Transportation Plan. In other words, the County collects the Question 10 sales, property, and fuels taxes and administers the account, but the RTC – which functions at the region's MPO, transit operator and highway commission – has full authority to spend the money, provided funded projects are consistent with the regional plan.

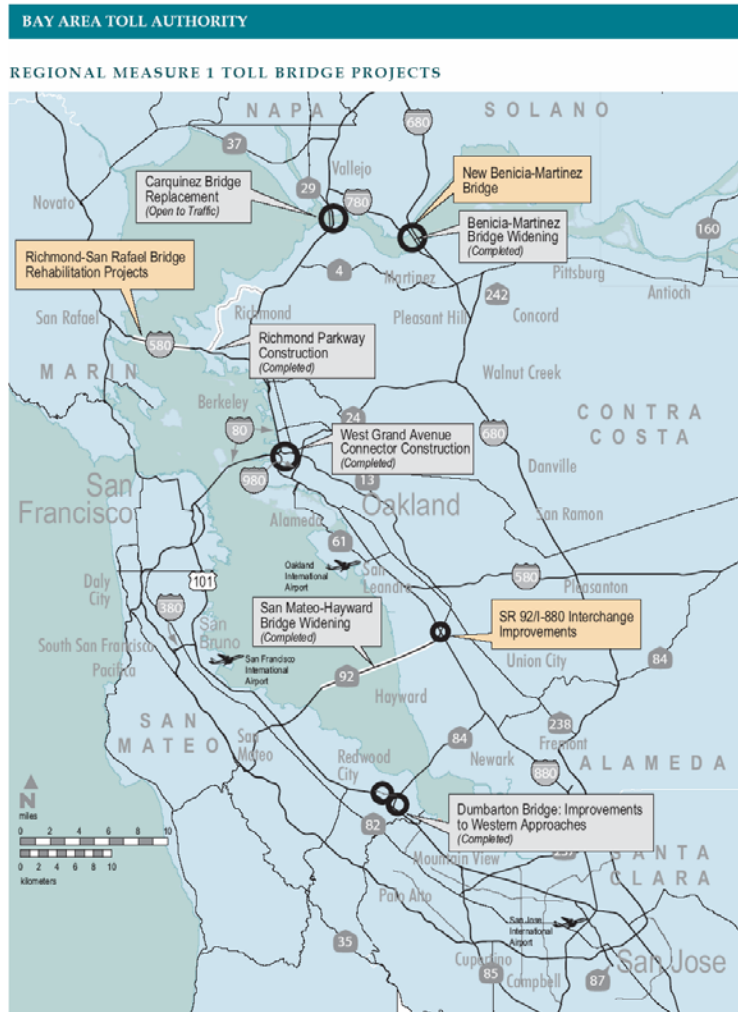
Two observations deserve mention. First, the state legislation enacting Question 10 seems to have established a back-door mechanism for regional funding, i.e. via the County Commission. The County Commission may, but is not required to, allocate its transportation-generated revenues to an RTC. This creates a regional funding mechanism that does not step on the toes of locals and therefore seems politically savvy. Actual taxing authority lies with the County Commission, but once it allocates the revenues to RTC, RTC controls their expenditure.

Second, the condition requiring projects that are consistent with the MPO's regional plan may seem superfluous when the body spending the money, the RTC, is the MPO. In reality, however, it is an important acknowledgement that regional transportation needs take priority when regional funds are expended. Other regional funding efforts have been less attentive to the regional planning context.

Bay Area Toll Authority: Assuming Responsibility for (and Revenues from) State Facilities

Prior to 1997, Caltrans maintained sole responsibility for administration, operation, and maintenance of the seven state-owned bridges in the San Francisco Bay Area: the Antioch, Benicia-Martinez, Carquinez, Dumbarton, Richmond-San Rafael, San Francisco-Oakland Bay and San Mateo-Hayward bridges. In that year, however, the state legislature created a new regional entity, the Bay Area Toll Authority (BATA), to share responsibility with the state for the bridges. Caltrans would continue to collect the bridge tolls (a base \$1 auto toll put in place by Regional Measure 1 (RM 1) in 1988) and to operate and maintain the structures. However, after BATA's creation, the bridge toll revenues would be deposited in a BATA account, and BATA would be responsible for programming, administering, and allocating the revenues. In 2004, Regional Measure 2 (RM 2) added a second dollar to the toll for disposition by BATA, as well as a third dollar to be administered by Caltrans specifically for seismic retrofit bridge projects.

Figure 2: Toll Bridge Projects Specified by Regional Measure 1 (RM 1).



RM 1 also specified non-bridge projects for area highways and public transit that would reduce congestion in the bridge corridors. Source: Bay Area Toll Authority, Project Monitoring Program: March 2005 Progress Report.

The creation of BATA presents an interesting case in the context of metropolitan transportation finance for several reasons. First, although BATA was created as a new regional entity, it shares the same governing board as the MTC, the Bay Area’s MPO. BATA and MTC are governed by the same body of appointed representatives, although they are legally distinct entities; thus, there is visible institutional overlap between the MPO and the new toll authority. Second, although when allocating toll revenues BATA must prioritize projects that protect and preserve the seven bridges themselves, BATA may also use the toll moneys to finance other regional transportation improvements and operations. These regional projects are specified by BATA in a voter-approved Regional Traffic Plan. Thus, BATA has created a vehicle for allocating at the regional level toll revenues collected on state-owned facilities. Third, empowered by its enabling legislation to issue bonds, incur other obligations and also apply for various forms of federal and state assistance, BATA can leverage the toll revenues it controls in

order to finance more ambitious packages of regional transportation projects specified in the Regional Traffic Plan.

These three facts suggest BATA as an institutional model for collecting specific facility-based tolls in a metropolitan region and spending the revenues across the broader regional transportation system. However, the voter-approved packages of projects funded by BATA's toll account – articulated in RM 1, passed in 1988, and in RM 2, passed in 2004 – have also been criticized as project grab-bags designed more to make the respective ballot measures appealing to parochially oriented politicians and voters than to serve regional transportation interests. The League of Women Voters reported the following about RM 2's projects:

- At least 25 agencies and organizations are noted as project sponsors..., each representing Bay Area residents who care about certain projects on the list. There were also disagreements about which projects deserved to be included [in the Measure], with most criticisms directed at the Caldecott Tunnel, the BART Warm Springs extension and new ferry service. These were seen as not being cost-effective, or in the case of the Caldecott, not sufficiently tied to congestion relief on the bridges where drivers will be paying the toll. (Stewart 2003/2004, 1)

The projects funded by BATA bonds backed by the RM 2 toll increase are indeed diverse. Capital projects financed by the measure include a San Francisco Municipal Railway light rail extension, county bus and transit centers, arterial widenings and improvements, park and ride facilities, a regional car-share operation, a new Benecia-Martinez bridge span, and express bus rolling stock. Additionally, the measure will also support the operation of several rail, ferry, and express bus services, providing assistance to a range of implementing agencies, from Bay Area Rapid Transit (BART, the region's main heavy rail operator) to county transit and transportation agencies.

Texas: Creating the "Regional" Mobility Authority

In 2001, Texas voters passed Proposition 15, an amendment to the state constitution that enables counties to form regional mobility authorities (RMAs), a new kind of political subdivision with authority to finance, acquire, design, construct, operate, maintain, or expand transportation projects. RMAs are new actors in the institutional ensemble involved in local and regional transportation planning and decisionmaking. The state has intended RMAs to create new institutional forms that can generate revenue for transportation projects, increase local control over transportation planning, and allow faster implementation of transportation projects that provide such benefits as congestion relief, greater mobility, and increased safety (TXDOT 2004).

The creation of and powers held by RMAs are governed by HB 3588, passed in June 2003, and rules adopted by the Texas Transportation Commission in February 2004. RMAs are empowered to develop transportation projects, issue revenue bonds, establish tolls, acquire or condemn property for transportation projects, use surplus revenue to finance other transportation projects, enter into development agreements, apply for federal highway and rail funds, enter into contracts with other government entities and Mexico, apply for loans from the State Infrastructure Bank (SIB), maintain a feasibility fund, and set speed and weight limits according to state guidelines (TXDOT 2004, 3).

While RMAs have authority to develop various project finance mechanisms, their authority to collect tolls may be their most likely application. In fact, the regulations governing RMAs expressly allow them to assume ownership of non-tolled segments or turnpike projects on the state highway system and to convert them to tolled facilities. This feature evidences direct state-level efforts to devolve operational responsibility and outright ownership of its facilities to local jurisdictions. Applications to convert a state-owned facility must be approved if they will provide a mobility benefit and if the RMA assumes facility maintenance and operation responsibilities and agrees to follow applicable federal rules. Thus, RMAs could become leading agents of a much broader application of toll-based transportation finance.

Table 4: Funding Sources Available to Texas RMAs

Bonds Backed by Facility Revenue	State Highway Toll Credits, In-kind services
Comprehensive Development Agreements	State Infrastructure Bank Loans
RMA Surplus Revenues for Feasibility Studies	Federal-Aid Funds
Texas Mobility Fund – with TTC Discretion	

If RMAs work closely with established MPOs, they could be powerful metropolitan allies in funding needed regional improvements where existing federal and state resources are insufficient. Yet, RMAs have no particular structural attributes or strong legal safeguards that would ensure this outcome. Instead, RMAs may pose an inherent institutional challenge to regional transportation planning and to MPOs for several reasons.

First, RMAs are answerable primarily to the state. The state transportation commission must endorse their creation or dissolution and also approve any proposed RMA projects that connect to state highway or rail facilities. Also, the state must endorse any RMA application for federal transportation funds.

Second, the regulations governing RMAs that might encourage RMA-MPO coordination in urbanized areas are few in number and fairly weak. For example, in evaluating one or more counties’ application to form an RMA, the Texas transportation commission merely “considers” whether the affected political jurisdictions and MPO have lent sufficient support to its creation or whether the proposed RMA project is consistent “with local and state transportation plans” (TXDOT 2004, 7). Unlike the Nevada law enacting Question 10 in Las Vegas, there are no explicit requirements for consistency between RMA projects and regional plans. Also, in the case of state-owned highway facilities transferred to RMA ownership, operation and maintenance and converted to tollways, the state transportation commission may require that surplus revenues be spent on projects in the RTP, but this too is at the state’s discretion (TXDOT 2004, 15).

Third, RMAs represent potential jurisdictional complexity, layering new agency boundaries on top of existing jurisdictions. Certainly, this could complicate metropolitan-level planning and priority setting. For instance, any single-county may form an RMA, or two or more counties may form an RMA, even if not geographically contiguous. Service boundaries of one RMA may also overlap with another’s. These provisions give counties great flexibility in how to partner or not to partner in RMAs. But they also could increase the number of transportation agency jurisdictions and, by extension, the complexity of regional planning.

Finally, RMAs accommodate single-purpose subregional entities organized around a specific project or facility. Strong, single-purpose regional and subregional governmental entities may, some observe,

- hinder regionalism in the aggregate. Since issue-specific agencies have a single objective, such as the building of a road, it is unlikely that they will reevaluate or modify their objective in light of changing circumstances. The inability of single purpose entities to reassess their goals within the broader context of regional tradeoffs—transportation development, environmental protection, and air quality—impedes regional governance.

(Lewis and Sprague 1997, 106)

While the proliferation of many discrete operational agencies, per se, does not challenge regional transportation decisionmaking, it could. Single county RMAs may align more closely with local than with regional goals. Alternatively, two or more non-contiguous counties in an RMA could pursue a project that offers no benefit to the area sandwiched between them.

Within a few years, the project and organizational experience accrued with RMAs will suggest to what extent these new institutional forms bolster or hamper regional transportation interests in metropolitan areas. In the meanwhile, other states are already modeling similar arrangements after the Texas example. The Arkansas legislature recently passed its own Regional Mobility Authority Act (SB 427), for instance, offering a clear example of what organization theorists call “institutional isomorphism”: As new organizations establish themselves or as existing organizations fashion new practices, they often engage in a process of homogenization, copying one another so that one organization resembles the other ones like it. In this way, an organization attempts to increase its institutional legitimacy and political power (DiMaggio and Powell 1983). Because many states may borrow the RMAs form through this mimetic process, it is important to ensure that these new authorities, whether enabled in Texas, Arkansas, or elsewhere, are endowed with structural attributes and legal safeguards that ensure their role in serving the regional mobility needs for which they are named.

Section II. Evaluating Regional Transportation Funds

Section I of this report reviewed the development of MPOs and their historical antecedents, as well as the avenues through which they receive funds to support their own transportation planning tasks and day-to-day operations as well as physical projects and improvements. The portrait of MPOs’ institutional environment that has emerged enables us in Section II to identify what factors might affect the feasibility or political acceptability of new regional transportation revenues, collected and programmed by MPOs. Additionally, we can also consider the criteria by which to judge whether one source of transportation revenue would make a better choice than others when searching for a new way to fund regional projects.

II.A. Factors Affecting Feasibility of MPO-Generated Funding Sources

State Resistance or Support?

The literature on MPOs frequently invokes the importance of good state DOT-MPO relationships to effective regional transportation planning (GAO 1996, Lewis and Sprague 1997, McDowell 1995), and state support is likely to be just as critical for the future of any new MPO revenue-

generating or spending powers. Yet, states may be sources of resistance in some regions. While ISTEA and TEA-21 provisions enhanced MPO authority, MPOs remain largely subordinate to transportation departments in the regional context, and some DOTs have not supported the MPO role as much as these laws intended. For example, some DOTs have delayed the suballocation of STP urban and CMAQ funds to the MPOs, hampering their ability to plan and pay for metropolitan area projects. Additionally, “some states have proven unwilling to provide reliable estimates of future revenues to MPOs, thus hindering their ability to write fiscally constrained priority plans” (Lewis and Sprague 1997, 67; see also Hoover et al. 2004).

While not all states relate to MPOs in this fashion, some DOTs will likely perceive financially empowered MPOs as threats to their own authority in state transportation spending decisions. In addition, even where states do respond to federal government pressure to devolve responsibility and authority to lower government levels, state DOTs may be more likely to distribute their authority to counties than to MPOs. Because counties have traditionally served as the administrative arms of the state, state DOTs may have more well established or comfortable relationships with county level agencies than with MPOs.

These caveats aside, some states may actively support new regionally based transportation funds, and new MPO revenue generating and spending authority, especially where such innovations can either reduce the state’s operation and maintenance responsibilities on its own facilities or replace the anticipated state contribution to a regional project in the TIP. Nonetheless, even under such favorable circumstances, any scenarios that vest MPOs with new transportation funding powers are likely to require a purposeful effort by the MPO members and urban area interests to secure state support. Also, if the addition of a new metropolitan user-fee or tax makes an existing state fee or tax seem more burdensome or no longer appropriate in the eyes of the public, particular efforts may be needed to develop state support.

County Resistance or Support?

Urbanized area counties may similarly play supportive or resistant roles when faced with the prospect of a new, MPO-administered regional funding stream. In many states, the reluctance of legislatures to raise motor fuels taxes and other user fees and the consequent erosion of transportation resources has led to a “quiet revolution” in transportation finance: a dramatic increase in the use of local option taxes to finance transportation investments (Goldman and Wachs 2003). As single counties and multi-county coalitions establish track records in developing local revenue sources – most commonly, sales taxes – for transportation improvements and in choosing what projects to finance with those revenues, county-level governments and agencies may challenge the expansion of MPO engagement in this arena.

To date, the “quiet revolution” that has bolstered local option taxes has largely excluded MPOs from decisionmaking about how to direct local option tax revenues. Where county and MPO boundaries match closely, county entities may accept enhanced MPO authority to raise and program new revenues. However, in multi-county MPOs, individual member counties may prefer to pursue ballot initiatives independently in order to retain discretion over what projects are funded. Conceivably, an MPO that crosses multiple jurisdictional boundaries or that straddles two or more states may face even more resistance from its political subunits if it pursues enhanced funding authority.

In California, for example, inherent tension exists between federally stipulated and encouraged metropolitan planning, housed in MPOs, and county-level planning, housed in CMAs and RTPAs. County-level CMAs, for instance, receive nine cents, or half, of the state gas tax to spend, and some have noted that the state explicitly “implemented ISTEA in such a way as to limit the authority of MPOs in some multi-county regions” (Lewis and Sprague 1997, xii). CTCs or CMAs have discretion over large portions of the regional CMAQ and STP allocations, reducing the potential for a “clear regional strategy.” Thus, where MPOs include multiple counties, as in Southern California or the Bay Area, county and regional agencies compete to control funds.

Political Legitimacy / Representativeness of the MPO

While the contours of political representation within an MPO may draw little public interest in most circumstances, this could change once if the MPO stood to become responsible for a regional transportation revenue stream. If an MPO is not viewed as representative of the region’s subunits and population, its legitimacy as the body that would direct that revenue may come into question.

In their study of California MPOs, Lewis and Sprague use an index of deviation from proportionality to quantify “the degree to which representation of the population is skewed on any MPO governing board” (1997, 143). The index uses proportionality, or parity between a member jurisdiction’s share of board power (measured in seats or votes) and that jurisdiction’s share of regional population, as an indicator of the MPO’s representativeness. Thus, the more that an MPO’s board structure or voting mechanisms distribute either too much or too little weight to any one or more members, the more that MPO deviates from proportionality and the higher (and more undesirable) is its score. The higher value of the index, the more skewed the representation.

There is much variation in the degree to which California’s MPO boards deviate from proportional representation of the underlying region. In general, the authors find that MPOs with many subunits (counties and cities) are less likely to have proportional board representation. The Southern California Association of Governments (SCAG) is an exception, however. It covers a vast region encompassing many jurisdictions. Whereas if each jurisdiction were granted a seat, SCAG’s board would be cumbersome and likely have skewed representation, the SCAG Council includes seats for county supervisors and 64 additional members, each of which represent districts of about 200,000 residents.

Table 5: Representativeness of Selected California MPOs

MPO	Deviation from Proportionality
Kern County	59 (high - more skewed)
San Diego County ¹	49
San Joaquin County	35
Sacramento	34
San Luis Obispo	27
Shasta County	24
San Francisco Bay Area	17
Southern California	3 (low - less skewed)
1) San Diego (also Merced) can use weighted voting if requested by any voting member. Source: Lewis and Sprague, 1997.	

McDowell (1995, 41) uses an index of “Central City Voting Power” to describe a small sample of MPOs. Those MPOs with a voting index of 1.00 gave central city populations power in direct proportion to their share of regional population. MPOs with an index score below 1.00 gave too little voting power to central city representatives (Chicago and New York MPOs), and those with a score above 1.00 gave central city board members too much voting power.

These indicators suggest only two ways to evaluate an MPO’s legitimacy as a representative body. It is likely that different regions will use different standards to measure or evaluate an MPO’s representativeness. However all MPOs that seek or win new authorities to raise revenues or new discretion to spend them would likely face increased scrutiny in this regard. Traditionally, most MPOs have been reluctant or plainly unwilling to revisit the agreements that determine their board and voting structures. Any redistribution of board seats or votes could upset the status quo. Yet, if the distribution of new or increased regional funds were at stake, an MPO judged as not representative could face pressure to redesignate itself and reallocate voting power among its members or include new members.

Organizational Credibility

Whether an MPO is perceived as credible by elected and agency officials, stakeholder groups, and the public in the surrounding region will impact the MPO’s ability to generate support for new areawide transportation funding sources and for its own role in directing their expenditure. In general, it will be important for the MPO to have demonstrated through its planning and project work that it has the staff resources, the technical and administrative expertise, and the public confidence required to plan, program, and administer regional revenues. According to one observer interviewed for this report, “If other players—local governments, transit operators, etc.—haven’t concluded that the MPO is credible, that it can take on this function, then the MPO can’t raise its hand and say, ‘Oh! We’ll do this.’” Organizational credibility may extend not only to an MPO’s technical capacity, but also to its political aptitude. For example, when pursuing Question 10, the Las Vegas MPO appointed a community steering committee composed of transit advocates, citizens, environmental groups, developers, chamber of commerce representatives, and the gaming community in order to develop a measure with broad public support. In the eyes of one observer, MPO efforts to involve the public provided political cover to local elected officials, allowing them safely to endorse the package of tax increases as something the public wanted.

Legal Authority

One of the thorniest issues influencing the potential for new regional transportation revenues to be collected and programmed by MPOs may be the limited nature of many MPOs' legal authority. MPOs are federally required in areas having over 50,000 in population, and they must be officially designated by the state. However, many state constitutions do not establish MPOs as legal entities or vest them with the authorities typically exercised by other government entities to fulfill public functions. In New York state, for instance, MPOs exist only via the memoranda of understanding signed by the MPOs' participating local jurisdictions; in order to receive federal PL dollars or to pay staff, MPOs must have a governmental host vested with those authorities. Also, in Nevada, the fact that Las Vegas' Question 10 could enact county-level taxes for the regional planning body to spend relied on specific enabling legislation, NSR 377. The law enabled, but did not require, County Commissions to allocate specific ballot measure revenues to the MPOs, essentially permitting a back-door transfer of taxing authority from the county to the MPO.

In states with councils of government (COG), questions surrounding MPOs' legal authority may present a lesser hurdle. As MPOs were first formed in the 1960s and 1970s, many were placed within COGs; metropolitan transportation planning was simply made a COG function. Because COGs are regional bodies usually vested with a variety of authorities and responsibilities under state law, MPOs that are institutionally anchored in COGs may have different options available when trying to develop or collect new revenues for transportation.

Another means to vest MPOs with the legal authority to collect and program revenues for transportation may exist in statewide sub-state districting acts of the 1960s. At the time, many states passed legislation establishing statewide systems of sub-state or regional districts for planning purposes. In some states, the regional districts could, via referendum or other mechanisms, choose to establish a service district with the same boundaries to provide regional services like solid waste removal. Where such legislation or planning districts still exist, a service district covering the same geographic area as the MPO may supply a vehicle for constituting MPOs with greater authority. One person interviewed for this study suggested that management and operation of the regional transportation system could, more than capital project development, be a niche service offered by MPOs; established as service districts, MPOs could pursue such opportunities. Whether and how these older sub-state districting acts could be used to enhance MPOs' legal authority requires further research.

II.B. Criteria for Assessing New Regional Funding Sources

This section considers the criteria by which new sources of regional transportation revenue may be evaluated. When considering how best to fund any transportation improvement, a broadly accepted set of criteria presents itself, informed by general concerns in public finance and in transportation policy. These general criteria are outlined below and discussed with particular reference to regional transportation finance. Subsequent discussion proposes special criteria for assessing transportation revenues to be levied and administered by an MPO. These criteria reflect some of the organizational complexities that characterize MPOs as a group and also the interorganizational dynamics that shape MPOs' institutional environment.

General Criteria for Revenue Source Desirability

Financial Effectiveness

The ability of a finance program to generate the needed revenue is a key measure of its attractiveness. The public finance principle of effectiveness suggests that a desirable revenue source can yield the funds required for the needs it is designed to address, is stable over time, and has potential for growth (Adams et al. 2001).

Yield – Different revenue mechanisms will produce different yields. For instance, per capita membership fees are unlikely to produce adequate funding to support capital projects, although they may be quite sufficient for bolster an MPO's staffing capability.

Stability – A stable stream of revenue, or a flow of funds that remains relatively constant over time, is important if transportation agencies are to plan for, schedule, and execute transportation improvements in an efficient manner. When revenues fluctuate sharply or unpredictably, planning and implementing agencies may have to interrupt or stop projects because of inadequate funding. Conversely, in periods of unexpected revenue peaks, pressure may develop to spend an unanticipated surplus on projects that do not belong to regional long-range plans. The public finance literature suggests that, by relying on a mix of taxes or fees rather than a narrowly based or single revenue stream, government entities may shield themselves from instability in revenue collections (NCSL 2002). Also, from a taxpayer's perspective, it is preferable over time to face a stable rather than a frequently changing set of taxes or fees; this enables people to make long-term financial choices.

Growth Potential – The value of a revenue stream's potential for growth over time is illustrated by the current challenges faced by the federal and state motor fuels taxes. The motor fuels tax is not indexed to inflation, and motor fuel revenues collected per mile driven actually decline as vehicles' fuel efficiency increases over time. Thus, in order for motor fuel tax revenues simply to keep pace with inflation, legislators must pass tax increases. A revenue source that grows with inflation, without requiring legislative intervention, is more desirable. Additionally, it may be important for transportation revenue sources to grow at faster rates than general inflation, because transportation construction costs have also tended to rise much more rapidly than general inflation, undercutting the current buying power of gas tax dollars.

Transportation Efficiency

Because financial charges have the potential to influence human behavior, revenue sources for transportation ought where possible to be structured in ways that encourage efficient use of the transportation system. This criterion may be especially important in metropolitan areas where high demand for transportation facilities and services can contribute to congestion and delays. When transportation facility user fees such as road tolls, bridge tolls, transit fares, or parking fees are higher during periods of peak demand, they can encourage those travellers with flexibility to use the facility at off-peak times, when demand is lower and crowding less pronounced. In this way, efficiently structured revenue sources can enhance the overall performance of the region's transportation system (Adams et al. 2002).

Fiscal Efficiency

When taxes, fees, and charges employed in public finance are easy to collect, simple to understand, inexpensive to administer, and resistant to fraud, they are said to be fiscally efficient (Adams et al. 2002). Although the motor fuels tax has other disadvantages discussed earlier, it has remained an attractive mechanism in transportation finance because it possesses these attributes. The fuel tax is collected from wholesalers, minimizing the effort and expense of collection and also reducing opportunities for evasion. With the advance of electronic toll collection technologies over the last decade, tolls have become a far more fiscally efficient means of transportation finance than they once were. Automatic toll collection, computerized tracking and billing, and barrier-free and high-speed toll collection capabilities have eliminated the delays and expense of traditional manual collections and toll plazas.

Equity

Equity in transportation finance addresses how transportation's costs and benefits are distributed, as well as how transportation related taxes, fees, and charges impact low-income versus high-income people. Cost-based determinations of equity suggest that users who impose the greatest cost on the transportation system should also pay the most. The cost criterion suggests, for example, that motorists ought to pay more when driving during peak hours, because even a marginal increase in rush hour traffic volumes can create sizeable delays and costs. Similarly, overloaded trucks ought to pay higher fees than light trucks, as they cause more wear and tear to the roadways. Applied to a regional setting, if one jurisdiction imposes more costs on the transportation system than others, that jurisdiction should pay more. For example, if a city lures a big-box retailer to locate within its borders, that city's action may impose more costs on the transportation system by generating truck and passenger traffic to the store location. Under a cost-based determination, that city might contribute more to a regional transportation funding measure or pay more toward the MPO's operations.

A benefit-based approach suggests that users ought to pay for transportation in proportion to the benefits they derive from it. A regional rail system that moves commuters to jobs each day enhances the area's economy. But if the system does not service a particular township, the benefit criterion suggests that the township should pay less to regional funds that support the system than those jurisdictions receive the rail service.

Ability-to-pay assessments of equity weigh how transportation charges distribute the burden of payment among low-income and wealthy groups. Regressive finance mechanisms are those that absorb a higher proportion of income from the poor than the wealthy. If visible differences in wealth distinguish the political subunits in a region, ability-to-pay criteria may be appropriate in crafting an equitable way to finance regional transportation project. However, Jackson suggests that MPOs seeking progressive funding sources must develop firm regional support:

- The "gentleman's agreement" of the United States is the shared willingness to ignore or to attribute to natural causes the misdistribution of wealth among local governmental jurisdictions. The problem will not be solved unless the local, state, and national governments, encouraged probably by the court system, develop policies that earn the contingent consent of most people. This is to say that successful solutions must earn the willing and active approval of the electorate, who must believe that other citizens are doing their share. (2000, 212)

Political Acceptability

The political acceptability of any finance mechanism plays a critical role in decisions about whether or not to use it, and politicians are unlikely to support fees or charges that are strongly opposed by the public. Political acceptability may be especially important in attempts to create new regional sources of transportation revenue. Citizens of multiple jurisdictions must agree to impose new taxes or fees upon themselves and, consequently, each MPO member jurisdiction will seek to ensure that it receives appropriate benefits. In a regional setting, for example, bridge tolls or toll increases are often contentious because they may be acceptable to those in the region who seldom use the bridge, but viewed as unfair by those who rely on the bridge everyday.

The need for public support when a region is contemplating a new revenue mechanism may create tension between this criterion and other attractive attributes, such as equity or efficiency. Consider this hypothetical example: A 10-cent motor fuel tax increase and a quarter-cent increase in retail sales tax are expected to yield the same amount of funds in a region. As a user fee, the fuel tax will be more efficient and more equitable, because it link use of the transportation system to funding, and those who use the system more will pay more. However, in the public's view, a one-quarter cent tax may seem much small than a 10-cent tax and thus more politically acceptable. Local officials may choose to support the sales tax, even though some residents would pay more than they would under the 10-cent fuel tax and even though the tax is unrelated to transportation system usage.

Measures Specific to MPOs or Regional Sources

Demonstration of Need

Several conventional indicators are used as proxies to assess transportation need in a region. These include population, vehicle miles of travel, lane miles of roadway, pavement and structural conditions, and congestion levels. As discussed earlier with respect to state allocation formulae, some states also use historical precedent, so that a region's funding level does not vary dramatically from year to year.

In addition to these considerations, this study suggests that some MPOs may face greater funding needs than others for both their own operations and for physical projects or service improvements. MPOs that may deserve special consideration for a new regional funding source could include those MPOs that:

- are large in size;⁴
- are growing or are expected to grow at a very fast rate;
- are jurisdictionally complex, crossing one or more county and/or state boundaries;
- are modally complex, supporting a diversity of competing transportation services; and

⁴ To apportion its 5303 planning funds, FTA gives special consideration, for instance, to planning needs in larger, more complex urbanized areas over one million in population.

- do not conform to national air quality standards.

To Earmark or Not to Earmark: Discretion and Accountability

As revealed by the recent history of local option transportation taxes, the practice of linking transportation-related taxes and fees to the funding of discrete projects has become increasingly widespread. Those who have observed the rise in popularity of such local ballot measures suggest that the electorate is more willing to approve increases in expenditure when the expenditure is tied a priori to a specific transportation project, meeting the demands for government accountability. This practice, known as “earmarking,” dedicates part or all of the revenue from a specific tax for a specific expenditure (Perez and Snell 1995).

When considering whether or not to bind a new metropolitan-level transportation revenue source to a specific project or program of projects, the appeal of earmarking may be great. First, if MPO member elected officials are uncertain about the MPO’s authority or ability to decide how to spend regional transportation dollars, an earmarked funding measure provides an easy indicator against which to measure MPO accountability. If the MPO delivers the promised package of projects on-time and on-budget, it has succeeded. If it does not, it has failed. Second, in complex regions where MPO member cities and counties have diverse interests, it may require less effort and time to identify a project list that distributes some benefit to each individual subunit than to develop consensus on the projects that will provide the greatest benefits to all members. Finally, when asked to vote on a regional transportation funding measure, MPO members may be more likely to approve the measure if its benefits and beneficiaries are visibly outlined in advance. Thus, metropolitan-level transportation measures may face greater chances of success at the ballot box when earmarked.

However, if new metropolitan-level transportation funding sources are to enhance an MPO’s ability to finance and direct regional transportation priorities, then earmarked funding measures may be counterproductive and may undercut the MPOs’ ability to do so in the long term. First, earmarking fundamentally constricts MPOs’ ability to weigh the merits of competing transportation investments within the planning process. The regional transportation planning process is thus undermined, as some projects will be approved at the ballot box rather than at the MPO table.

Second, by earmarking an MPO-led funding measure, a critical opportunity is lost to enhance the MPO’s stature among its members, its role in regional planning, and the interest of its member jurisdictions in developing consensus on a regional transportation future. If a new metropolitan funding source is approved, but its expenditure has yet to be decided, MPO board members will be more likely to attend MPO meetings, treat the MPO process more seriously, and develop the cooperative relationships if they have to decide how to spend the money together. If the new funds are earmarked, board members may feel that important spending decisions have already been made and that they have less incentive to participate in the MPO process. Third, the earmark undercuts MPO flexibility to reorder transportation priorities as circumstances in the region change over time. Many metropolitan regions are highly dynamic; linking new regional revenues to specific projects could undermine important MPO flexibility in planning and decisionmaking.

While it may yield more immediate benefits for generating public confidence in an MPO funding role and for answering calls for accountability, there are also costs to outlining in advance the

projects a new funding source would finance. The two approaches – to earmark or not to earmark – seem to suggest separate ideas about what role MPOs should play: technical expert and project administrator, or empowered regional body that bolsters regional cooperation. This report advocates that MPOs play the latter role, yet progress toward that goal may require small first steps with earmarked spending programs.

Consistency / Compatibility with Regional Goals

A final criterion for evaluating metropolitan-level transportation finance initiatives is whether the finance mechanisms themselves or, in the case of an earmarked initiative, the projects linked to it, enhance regional goals. In assessing voter-approved transportation funding measures, the Surface Transportation Policy Project report *Measuring Up* suggests that one criterion is whether the proposed measure will be administered by the appropriate level of government (STPP 2002, 9). In the case of an MPO-administered funding measure, the administrative identity would be fixed as the MPO. However, the uses that the funds will support ought to be of clear regional benefit. MPO-administered funds that support local projects or projects perceived to have strictly local benefits will undermine the legitimacy of the regional funding mechanism and also that of the MPO. This raises the difficult question of what qualifies as a region-benefiting project. Consistency with MPOs' regional transportation plans and its long range transportation plan may be the best indicators of projects in the regional interest.

Section III. Revenue Mechanisms for MPOs: Presentation and Analysis

Parts I and II of this report have traced the development of MPOs, described the funding sources currently supporting their day-to-day operations and projects, and considered key criteria for evaluating the potential of new revenue sources to fund regional transportation planning and programs. This section outlines a number of revenue sources that could be used by MPOs to raise regional transportation dollars. First, the revenue mechanisms are listed and described. Many of these revenue vehicles have long been used by state and local governments and are described in detail in Section II. Here, more attention is devoted to those revenue sources that have more recent histories and were not described earlier. Second, a comparative analysis of revenue yield shows the level of tax or fee required in different sizes of MPO to raise an equivalent amount of revenue. Third, this section uses the evaluation criteria presented above to contemplate how the different revenue sources might function in a range of MPO contexts. Reflecting the circumstances of a given MPO, the advantages and disadvantages of each revenue source are discussed, and, where possible, the sources that may be more feasible, lucrative, or appropriate in a given situation are identified.

III.A. Potential Funding Sources for Evaluation

III.A.i User Fees and Charges

As defined by the U.S. Office of Management and Budget, user fees are “fees, charges, and assessments levied on a class directly benefiting from, or subject to regulation by, a government program or activity, and to be used solely to support the program or activity” (The Budget System and Concepts 2000, 9). Dating from the earliest toll roads and turnpikes, user fees have a long history in the U.S. and have been a major source of transportation funding in the

country; user fees may take different forms, ranging from traditional fuel taxes and roadway tolls to newer proposals for VMT fees.

The attractiveness of user fees stems from their (a) capacity to recover costs of transportation projects from users who benefit from the project; (b) equity, in that all users bear similar costs and receive similar benefits; (c) efficiency, in that users pay for increments of service or use, encouraging judicious consumption; and (d) administrative ease, as many user fees are inexpensive to collect and easily understood (Kulash 2001).

Fuels tax (per gallon)

Per gallon fuel taxes are among the earliest transportation user fees applied in the U.S. Oregon enacted the first state motor fuel tax in 1919, and almost all states and later the federal government followed suit. This revenue source is discussed in detail in Section I.C. Its key features include:

- Payment is roughly proportional to the amount of travel consumed.
- It enjoys low collection costs, as it is collected from distributors, not retailers.
- As a flat tax on the volume of fuel purchased, the gas tax' yield fails to keep pace with inflation when legislators do not increase the tax amount

Sales tax on motor and diesel fuels (on purchase price)

Sales taxes on motor fuel purchases, also discussed in detail in Section I.C., perform similarly to the per gallon fuel tax. However, the sales tax enjoys an important advantage over the per gallon fuel tax; because it is based on purchase price, the sales tax is more resistant to erosion by inflation. When the fuel sales tax is dedicated to transportation expenditures, it functions as a direct user fee and can encourage efficient travel choices.

Aviation fuels tax

Similar to the federal motor fuels tax, revenue from the federal aviation fuels tax (also known as a jet fuels tax) supports a dedicated aviation trust fund. State level aviation fuel taxes may support similar state aviation funds, transportation funds or other uses. Collected from suppliers, the jet fuel tax minimizes the administrative burden of collection. Use of aviation fuel taxes to support surface transportation investments not directly benefiting airports and the authorities that operate them is likely to encounter political resistance. Hence, regional applications of an aviation fuel tax may most attractive where one or more large airports are present in the region; where revenues support improvements that address airport access; or where revenues are viewed as compensation to local communities for externalities such as noise or pollution from the airport. If adjusted to keep pace with inflation, an aviation fuel tax could provide a growing source of revenue over time, as air passenger travel has generally continued to rise over the last two decades. However, occasional slumps in air travel may make this tax less stable in the short term.

Airports are also authorized by the federal government to collect Passenger Facility Charges (PFCs), or fees of up to \$4.50 per passenger ticket, which can then be used by the airport to

fund various improvements (49 U.S. Code. Sec. 40117). However, the airlines have generally prevented PFCs from being used on any project outside of the airport grounds, even if that project would benefit the airport directly. Federal law does not permit using PFCs on airport access arteries, and the airlines have fought any attempt to do so.

The closest an airport has come to bending this rule was when the Port Authority of New York and New Jersey (PANYNJ), which operates all three New York area airports, constructed the AirTrain connecting Kennedy Airport with the Jamaica station on the Long Island Rail Road. The PANYNJ was allowed to use PFCs to construct the AirTrain but only because of the following circumstances (Tri-State Transportation Campaign 1999):

- The AirTrain operates as a people-mover within the airport between terminals and makes no intermediate station stops between Jamaica station and the Airport.
- The PANYNJ reached an agreement with New York City whereby the right-of-way for the AirTrain was transferred to them, thus allowing the AirTrain to be built entirely on airport grounds.
- A separate part of the AirTrain that is not entirely on airport grounds was funded only partially with PFCs.

Despite these circumstances, it took two separate rulings from the FAA to reject the protests of the airlines and allow construction of the AirTrain (AAAE, 1999).

Tolls

Since the earliest U.S. turnpikes and toll bridges, tolls have been applied as a fair means to pay for roads by raising money directly from road users. In fact, tolls establish a more direct link between payment and system usage than most other transportation finance mechanisms. When used to support the specific facility or corridor where they are collected, tolls can be a highly efficient source of transportation revenue. Critics of tolls argue that they place a disproportional burden on low-income drivers whose ability to pay is limited; however, toll revenues can be spent in ways to minimize such concerns where they are salient. Tolls collected on San Diego's I-15 express lane, for example, support bus service in the corridor.

While tolls have previously suffered from extremely high costs associated with manual collection at toll plazas and booths, the widespread adoption of electronic toll collection (ETC) systems over the last decade-and-a-half has dramatically changed the prospects of tolling for raising transportation revenue. The new and expanding capabilities of ETC technologies can support a variety of tolling schemes, enabling regions to tailor tolling applications to their transportation system and needs.

4.a. Flat tolls

A flat toll is a toll whose price remains constant and all facility users pay the same fee. Flat tolls, often in use on bridges, are easy to understand and are in the most widespread use.

4.b. Variable tolls

In contrast to flat tolls, the price of variable tolls, known also as “variable pricing,” “value pricing” or “congestion pricing,” does not remain constant. Instead, these fees are charged to users in amounts that vary according to the level of congestion, the time of day, or the location of travel. Variable tolls are similar in concept to off-peak discounts for long-distance phone calls and to early-bird specials in restaurants. They encourage users, where possible, to shift their trips from more congested times of day to less congested times of day and from more congested facilities to less congested facilities, and to avoid vehicle trips in heavily congested areas during peak periods. Variable tolling schemes include:

- Area-based tolls – Also called “area pricing” or “cordon tolling,” this approach has been used in Singapore since 1975 and was adopted in London in 2003. Drivers crossing the boundary into the designated section of the central city must pay a toll.
- Time-based tolls – Toll on the facility vary according to a pre-set schedule that reflects average congestion conditions by time of day. Tolls are highest at heavily congested times of day, such as morning or evening rush hour.
- Congestion-based tolls – Toll fees fluctuate in real time to reflect actual congestion levels. Typically, an electronic message board alerts approaching drivers of the toll they will pay before they enter the facility.

Vehicle Sales Tax

Motor vehicle sales taxes are the taxes paid when the title of ownership of a new or used vehicle is transferred. The tax is levied as a percentage of the purchase price. Because the tax is easy to collect and difficult to avoid, it is attractive from an administration perspective. However, the excise tax bears no relation to transportation system use, and it fails to communicate a direct signal about the cost of travel; therefore, vehicle sales taxes are not an efficient revenue source. Similar to general sales taxes, the vehicle excise tax may be regressive, absorbing a larger proportion of income from low-income vehicle owners. To some extent, this effect may be tempered by the fact that wealthier households are likely to own more and higher-value vehicles and thus pay more of the tax. A vehicle sales tax could also be implemented as a more progressive tax, if owners of high-value luxury vehicles are assessed at a higher percentage of their vehicles’ value.

Vehicle License/Registration Fees

Vehicle license and registration fees are generally annual flat fees paid by drivers to obtain a driver’s license or vehicle registration. As annual fees unrelated to the amount of travel consumed, motor vehicle license and registration fees also send a weak signal to motorists about the cost of their travel. However, where these fees can be structured to reflect vehicle weight and/or distances travelled on state roads, particularly for commercial vehicles and trucks, they can better account for actual wear and tear imposed by specific vehicles on the highway network.

Emissions Fees

Emissions fees could be an attractive way to raise transportation revenue while encouraging drivers to reduce harmful vehicle emissions such as carbon monoxide and nitrogen oxide.

However, the costs of administering these fees could be significant. Vehicle owners would be charged a fee based on the actual emissions readings or average statistics for their vehicle, and owners of high-emissions vehicles (“gross polluters”) would pay more. Including a mileage-based component to this fee would encourage owners of the most polluting vehicles to drive less. While the fees may be attractive in places with poor air quality, they would not encourage off-peak travel. Emissions fees would also likely burden low-income drivers disproportionately, as poorer households are more likely to own older, more polluting vehicles than are higher income households. To date, emissions fees have not been applied in the U.S.

Annual VMT Fees

Vehicle miles traveled (VMT) fees (also known as mileage fees) are per-mile fees for vehicle travel. Although a few VMT fee proposals are under study in the U.S., they have received greater attention in Europe, particularly with regard to commercial vehicles. Because the payment directly reflects the amount of travel, the fee promotes efficient use of the transportation system, encouraging people to drive less. Where a VMT fee schedule could acknowledge such factors like vehicle weight and fuel economy, the fee could yield even greater efficiency by making owners of heavier and more polluting vehicles pay their fair share of system costs. A report commissioned by the Oregon state legislature identifies the VMT fee as the principal revenue source under a future finance system that replaces the gas tax (Whitty and Imholt 2005). A VMT-based revenue system would need to be implemented gradually, outfitting all new vehicles with the necessary mileage instrument while requiring the existing fleet to pay fuel taxes.

III.A.i. Non-User Fees and Charges

A number of non-user fees and charges can be used to support the transportation system. While these fees do not directly link system usage with payment, the more equitable non-user fees – such as property and development taxes – do reflect indirect benefits received by property owners or developers from the transportation system.

Sales tax

As discussed in Section I.C., general sales taxes have grown increasingly popular as a source of transportation revenue at the state and local level. Sales taxes are one of the main sources of transportation subsidies, because they are paid by people who are neither direct users nor beneficiaries of the transportation system. Sales taxes may be attractive transportation revenue mechanisms, however, because the government already collects them for other purposes, and because a small increment of sales tax can yield the same as a much larger increment of fuel tax. Thus, the sales tax sometimes enjoys greater political acceptability. A disadvantage of the sales tax is its instability; if the regional economy enters recession, sales tax proceeds may drop off sharply, making it difficult to plan for long term transportation improvements and requiring another revenue source until the economy recovers.

Property tax

Property taxes have supported transportation and other local infrastructure investments since the 19th century. Because property owners benefit from the access provided to their parcel by the transportation system, taxes on property value are considered equitable. Property owners

benefit not only from necessary services such as garbage collection and postal delivery that rely on the road network, but when the property is well situated within a transportation network, the owner also benefits from its higher value. As property taxes do not charge people in proportion to the use they make of the road network, they are not efficient. Also, property taxes may be somewhat ineffective revenue sources for transportation, as these taxes usually support a local government general fund and face competition from other uses, such as education, libraries, and public safety.

Development tax

Development taxes are similar to property taxes in that they assess property developers for the access to their property that the transportation system provides. Developers are not charged for direct use of the road network but rather for the benefits conferred on their property by the road network. Unlike property taxes, these fees are assessed only on new developments. In some cases, the taxes may be “exactions” that are used to pay for roads and other infrastructure that support the development, if these are not already in place. Residential development taxes are unlikely to be a sufficient or effective source of revenue unless significant new homebuilding is expected. Commercial development taxes may yield greater revenues, as commercial properties typically enjoy higher values. Unfortunately, both taxes may be unstable, as residential and commercial development activity will ebb and flow with broader economic cycles. They may also produce inequity within a community; when developers pass these fees through to homebuyers, it may result in far higher prices for new than existing homes, even if they are otherwise similar.

Per capita tax collected from MPO member governments (as with membership dues)

As discussed in Section I.C., many county and city governments and local agencies support MPO planning and operations with a flat membership fee or per capita dues, often taken from their general fund. While dues are most commonly assessed on a per capita basis, they are often based on other factors, ranging from a jurisdiction’s share of regional VMT or auto registrations, its share of MPO board votes, or its share of sales and property taxes. Dues may also be based on a jurisdiction’s land area. Equity principles implied by different dues calculation methods include the “user-pays” and “need-based” principles; the horizontal equity principle, where every subunit pays the same based on such measures as population or votes; and the vertical equity principle, whereby wealthier subunits pay more. While dues may be effective means for supporting MPO staff and operations, they are unlikely to be a sufficient funding source for transportation projects or programs.

III.B. Revenue Yield by Funding Source

III.B.i. Background Assumptions

Table 6 estimates the rates of taxation needed to generate various rates of annual revenue in three differently sized metropolitan areas. The sizes were devised by examining the populations for all MPOs and selecting representative populations:

Small MPO – 200,000 population

Medium MPO – 1,000,000 population

Large MPO – 4,000,000 population

Table 6 shows approximately the level of tax or fee that would have to be assessed for most sources of funds discussed in Section III.A. in order to raise \$5, \$10, and \$20 million of annual revenue.⁵ For example, for a medium MPO to collect \$10 million in annual revenue, they would have to charge a vehicle emission fee of 21 cents per ton of emissions or a sales tax of 0.1%. Table 6 is meant to facilitate comparison of yield across various revenue sources.

The calculations are based on real-world numbers, but they are meant as very rough estimates to help assess the relative value of each source in raising revenue. They are not intended to be exact estimates, as each MPO is different, and there are presumed to be no collection costs. For each source, we established a national figure based on available data, and then took a percentage of that figure for each sized MPO. An MPO of 1 million people accounts for about 0.3% of the U.S. population, so these estimates assume it would account for 0.3% of each variable. For example, there are almost 138 million registered vehicles in the U.S., so these estimates assume that 463,000 vehicles (0.3% of 138 million) are registered in a medium MPO. To find the tax necessary to raise \$5 million, we divided \$5 million by 463,000, for a fee of \$10.79 per vehicle.

Assumptions about how taxes and fees would be assessed are explained below:

- Sales tax (including fuel sales tax) is assessed as a percentage of actual sales, and property taxes are assessed based on \$1,000 of assessed value.
- A VMT fee and a per gallon fuel tax are assessed as additional charges for every VMT driven or gallon sold in the region.
- A toll is a user fee assessed on SOV drivers in the region on each work day. For this calculation, it is assumed that each SOV driver pays one toll per day.
- An aviation fuel tax is assessed on each gallon of aviation fuel sold in the region.
- A vehicle registration fee is assessed annually on all registered vehicles in the region, and does not vary with the size or value of the vehicle.
- A development tax is assessed once on all new housing starts in the region.

Detailed calculations are shown in Appendix A.

⁵ Variable tolls are not analyzed here, because of the complexity of making assumptions regarding the level of fees during the day and the number of vehicles that would pay under each level. Development fees are estimated for residential development only. MPO member fees are not discussed because such a fee would be paid through a tax at the jurisdictional level that would fall into one of the categories discussed here.

Table 6: Tax/Fee Rare Needed to Generate Annual Revenues of:

Source	Unit	Small MPO (200,000)			Medium MPO (1 Million)			Large MPO (4 Million)		
		\$5M	\$10M	\$20M	\$5M	\$10M	\$20M	\$5M	\$10M	\$20M
Fuel Tax	Per gallon	\$0.054	\$0.108	\$0.216	\$0.011	\$0.022	\$0.043	\$0.003	\$0.005	\$0.011
Fuel Sales Tax	Percentage of sale	2.35%	4.70%	9.40%	0.47%	0.94%	1.88%	0.12%	0.23%	0.47%
Aviation Fuel Tax	Per gallon	\$0.57	\$1.15	\$2.30	\$0.11	\$0.23	\$0.46	\$0.03	\$0.06	\$0.11
Tolls	Per person, per day	\$0.31	\$0.61	\$1.23	\$0.06	\$0.12	\$0.25	\$0.02	\$0.03	\$0.06
Vehicle Sales Tax	Annual vehicle sales	1.7%	3.4%	6.8%	0.3%	0.7%	1.4%	0.1%	0.2%	0.3%
Vehicle Registration Fee	Per vehicle, annually	\$52.81	\$105.61	\$211.22	\$10.56	\$21.12	\$42.24	\$2.64	\$5.28	\$10.56
Vehicle Emission Fee	Per ton of emissions	\$2.50	\$5.00	\$10.00	\$0.50	\$1.00	\$2.00	\$0.12	\$0.25	\$0.50
VMT Fee	Per 100 miles travelled	\$0.26	\$0.51	\$1.03	\$0.05	\$0.10	\$0.21	\$0.01	\$0.03	\$0.05
Sales Tax	Percentage of sale	0.24%	0.49%	0.97%	0.05%	0.10%	0.19%	0.01%	0.02%	0.05%
Property Tax	Per \$1000 of assessed value	\$0.67	\$1.33	\$2.67	\$0.13	\$0.27	\$0.53	\$0.03	\$0.07	\$0.13
Development Tax	Per new house built	\$3,530	\$7,060	\$14,121	\$706	\$1,412	\$2,824	\$177	\$353	\$706

Sources:

Fuel Tax and Fuel Sales Tax: Total barrels of fuel per day consumed in the U.S (9.0 million) and average fuel cost (\$2.30) at 42 gallons per barrel. Energy Information Administration, 2005.

Aviation Fuel Tax: Domestic fuel consumption: 12.9 billion gallons. Bureau of Transportation Statistics, 2004.

Tolls: Total number of people driving alone to work nationally: 97 million. The approximate number of these people living in each MPO was divided by the number of work days in a year (250) to generate the average toll per day. U.S. Census, 2000.

Vehicle Sales Tax: Number of vehicles sold nationwide: 17.3 million. Average cost per new vehicle: \$25,450. Bureau of Economic Statistics, 2005.

Vehicle Registration Fee: All privately owned vehicles (including motorcycles and passenger vehicles): 140.9 million. Bureau of Transportation Statistics, 2004.

Vehicle Emission Fee: Short tons of volatile organic compounds and nitrous oxide emissions nationwide: 11.9 million. Bureau of Transportation Statistics, 2000.

VMT Fee: National VMT: 2.89 trillion. Bureau of Transportation Statistics, 2005.

Sales Tax: Nationwide retail trade: \$3.05 trillion. U.S. Economic Census, 2002.

Property Tax: Number of owner-occupied housing units: 73.7 million. Median value: \$151,000. American Community Survey, 2004.

Development Tax: Seasonally adjusted annual number of housing starts: 2.1 million. National Association of Realtors, November 2005.

III.B.ii. Analysis of Results

Table 6 indicates either a sales tax or property tax would generate high revenues even at low rates. A small MPO could generate approximately \$20 million with a 1% sales tax or a \$2.67 property tax per \$1,000 of assessed value. In a relative sense, a fuel sales tax would have to be higher to raise equal amounts of revenue. Nonetheless, a large MPO could generate approximately \$5 million with a half-percent fuel sales tax.

A VMT fee or a per gallon fuel tax would each likely be good ways to raise revenue without imposing much of a perceived burden on consumers. A one cent VMT fee for every 100 miles driven would raise \$5 million for a large MPO. Similarly, a one cent per gallon fuel tax raises \$5 million for a medium MPO.

Tolls would also be an effective means of raising revenue without a large perceived burden. A toll of 30 cents per day for each solo driver results in \$5 million in revenue for a small MPO. Large MPOs could charge only six cents per day and generate \$20 million in revenue. Of course, the proportion of drivers who would pay tolls would depend on the facilities tolled and the origin-destination patterns of the individual MPO.

Vehicle emission taxes appear to pose slightly more of a visible cost to generate anything over \$5 million in revenue for small MPOs, as they would require fees of greater than \$2.50 per ton. However, large MPOs could still charge less than 50 cents per ton to generate \$10 to \$20 million in revenue.

Annual vehicle registration fees do not have to be set very high to generate large amounts of revenue for medium and large MPOs. Small MPOs would have to charge over \$50 per vehicle just to generate \$5 million in revenue, but large MPOs can charge just over ten dollars and generate \$20 million in revenue.

Development taxes would by far have to be the highest taxes imposed, even though they are only imposed once per new housing start. There are probably not enough housing starts in any given metropolitan area to allow for a tax lower than what is indicated in Table 6. A small MPO would have to charge over \$3,500 per new housing unit to generate just \$5 million in revenue.

III.C. Revenue Mechanisms in Diverse MPO Contexts

Research on metropolitan regions consistently underscores their diversity. Transportation needs, governance structures, political landscapes and preferences, as well as population trends and physical characteristics vary from place to place. In its guide to regional planning, the American Planning Association emphasizes, “Metropolitan areas (large and small), rural regions of one or more counties in size, large multi-state regions of the nation...all have different needs for regional planning” (McDowell 1986b, 133). This diversity figures prominently in the rationale for devolving transportation policy and finance, and it is devolution that has prompted this inquiry into metropolitan-level transportation funds.

As federal-state-local transportation responsibilities were renegotiated in the late 1980s, the case for shifting authority from higher to lower levels of government was based in part on the idea that local interests can identify their needs and priorities better than can the federal government. In debates about whether devolution was an appropriate long-term goal, arguments favoring the approach suggested that “a more decentralized administrative and financing structure would be more responsive to state and local needs” and that the resulting transportation system would also be more efficient (Pagano 1988, 3).

The extent to which devolution can deliver on this promise depends on the ability of metropolitan regions, first, to raise revenues for regional needs; second, to select the revenue vehicle most appropriate to local circumstances; and, third, to program regional moneys according to regional plans.

Acknowledging the diversity that exists among U.S. metropolitan areas, this section contemplates what revenue sources may be more or less appropriate for a given MPO. A basket of revenue sources that could be applied regionwide are reviewed. Individual revenue mechanisms are considered with regard to their suitability to an MPO’s specific circumstances. In particular, MPO variation is considered along three dimensions: (1) the size of the population served; (2) the rate of growth in the region; and (3) the presence of multi-county and multi-state jurisdictions in the MPO.

While numerous variables will inform an MPO’s choice of revenue generating strategy (see Table 7), only three (population size, growth, and jurisdictional composition) are considered here. The aim is to illuminate how regional circumstances and revenue vehicles may interact, and how different revenue mechanisms may behave or be received in different regional settings. The analysis provided is propositional in nature, suggesting what types of interactions between regions and revenue sources might be expected under different conditions. We hope this analysis will suggest how an MPO might begin to distinguish among different revenue generating options in general and to identify the revenue vehicles most suited to regional circumstances in particular.

Table 7. Variables that Influence Choice of a Regional Revenue Mechanism

Attributes of the Region

- population size
- population growth
- land area
- air quality status

Attributes of the MPO

- single- or multi-county
- single-, bi- or multi-state
- board membership
- voting structure

- congestion levels
- central city region / multi-centered region
- regional economic profile and growth
- fast growth / slow growth / no growth / decline
- transportation system state-of-repair
- staff size / capacity
- MPO-state relationship(s)
- MPO-county relationship(s)
- institutional setting (hosted or free-standing)

III.B.i. MPO Revenue Initiatives: Reflecting Regional Size

Metropolitan planning organizations serve regions that range in population size from just over 50,000 to upwards of 15 million. There are many ways that regional population size can affect the selection of an appropriate mechanism for raising transportation revenue. When choosing among potential revenue sources, a small MPO, for instance, serving an urbanized area of 85,000 people may face choices quite different from those available to an MPO in a region of 3 million. Some revenue sources may be politically and financially feasible only across large regions, while others may look more attractive in smaller regions where residents see a direct link between transportation payments and benefits.

The U.S. Census Bureau and federal law provide some guidance for grouping MPOs by size. First, MPOs that serve areas from 50,000 to 200,000 in population may be considered small urbanized areas. An MPO is not required for regions less than 50,000, and it is not until an MPO reaches the 200,000 threshold that it acquires direct programming authority for the region's metropolitan STP suballocation (see earlier discussion in Section I.C.). About half of all MPOs serve small urbanized areas. While there are many small MPOs that are prominent, well known for planning excellence, and easily able to meet technical challenges, small MPOs in general may have fewer staff resources and technical capabilities than larger MPOs, and they may have a lower profile among the governments and transportation agencies in the region. A small MPO may be more easily overwhelmed by large projects. On the one hand, it may be politically and practically difficult for a small MPO to pursue newer, less conventional transportation revenues such as VMT fees. On the other hand, if the region enjoys substantial political cohesion, the MPO may be better able to pursue such fees, particularly if locals see a direct benefit.

Medium-sized MPOs—those serving regional populations between 200,000 and 1 million—may have more choices than do small MPOs when it comes to regional revenue sources. They may be in a better position to implement the various fuel taxes and fuel sales taxes, as well as different vehicle and license fees. As the land area covered by the MPO increases, the less likely such fees will put the region at a competitive disadvantage to neighboring areas when attracting residents and businesses. Additionally, an MPO that has established a track record of respected decisions regarding the metropolitan STP suballocation may have more institutional clout and greater ability to pursue a variety of regional revenue sources.

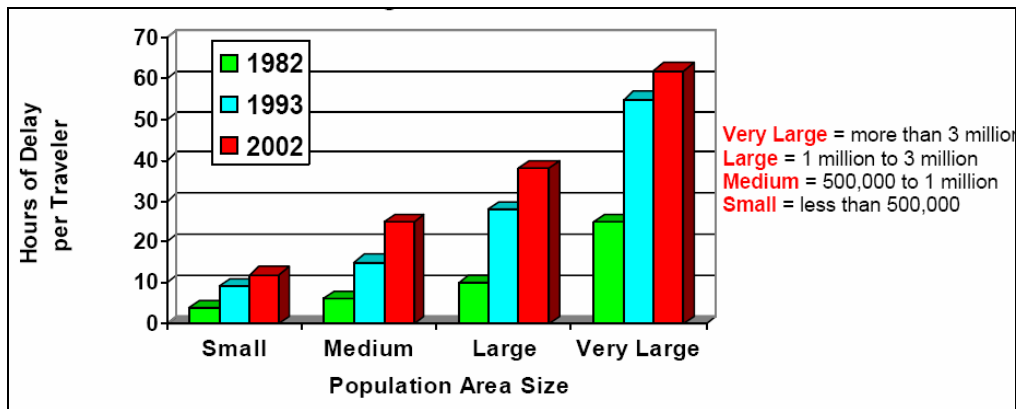
Revenue Options in Large Metropolitan Areas

In large metropolitan areas with populations over 1 million, size may correlate with specific regional conditions that affect the relative attractiveness of different revenue mechanisms. The following discussion considers in detail how size might impact the performance of different revenue mechanisms in a large MPO. The accompanying Table 9 sketches how different

revenue mechanisms might work in a large region, considering the criteria outlined in Section II.B.

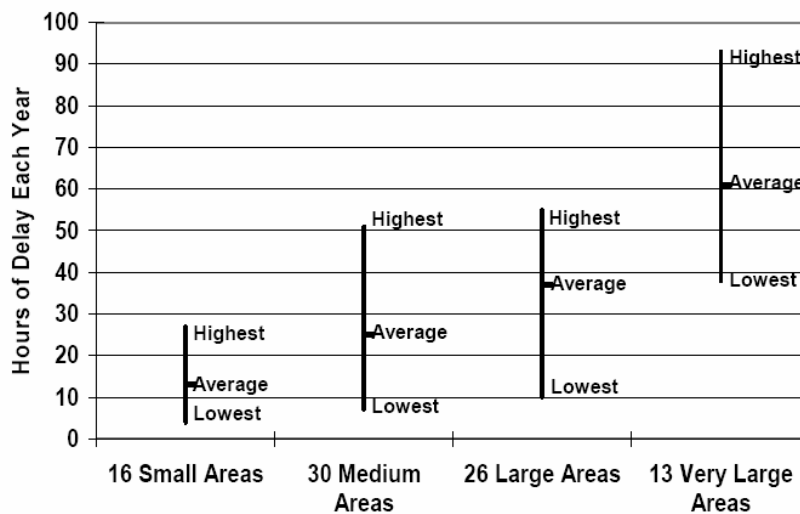
Certain subsidiary characteristics may accompany size in a large urbanized area. Research by the Texas Transportation Institute (TTI) suggests that, on average, congestion levels are more severe in areas with larger populations (see Figure 3). Of course, size is not a perfect predictor of urban congestion problems; as shown in Figure 4, urban areas of different sizes exhibit a range of congestion levels, and many other factors such as weather, geographic conditions and investment levels may influence congestion. Nonetheless, the TTI data support at least some broad association between size and congestion, suggesting that MPOs in large urbanized areas may want revenue mechanisms that address local congestion levels.

Figure 3. Congestion Growth Trends



Source: Texas Transportation Institute (2005)

Figure 4. Congestion and Urban Area Size, 2003



Source: Texas Transportation Institute (2005)

All else being equal, where a large population translates into more miles travelled and wear and tear on area roads, large urbanized areas may have less favorable pavement conditions than smaller areas. The most recent Conditions and Performance Report of the FHWA (see Table 8) indicates that a smaller proportion of interstate facilities are in good condition in “urbanized areas” (defined as having population greater than 50,000) than in rural and “small urban” areas (defined as having population less than 50,000). Of course, a small urban area which hosts a transportation shipping facility such as a busy port but which has low levels of road investment may well have worse roadway conditions than larger areas without one. Nonetheless, these aggregate statistics suggest that similar measures reflecting local metropolitan road conditions can be useful in choosing an appropriate revenue vehicle.

Table 8: Pavement Conditions Statistics

	CONDITION	1997 DATA (revised)	2000 DATA
<i>Rural Interstate Pavement</i>	Good	56.9%	68.5%
	Acceptable	97.6%	97.8%
<i>Small Urban Interstate Pavement</i>	Good	51.4%	61.6%
	Acceptable	95.8%	95.8%
<i>Urbanized Interstate Pavement</i>	Good	39.3%	48.2%
	Acceptable	90.0%	93.0%

Source: FHWA, 2002 Conditions and Performance Report

In addition to having a higher percentage of roads in poor condition and more severe congestion, larger urbanized areas may also have more severe air quality problems than smaller areas. Additionally, large regions may also be composed of more political subunits (counties, towns and municipalities), contributing to greater regional complexity and, potentially, competition.

Size alone cannot guarantee an MPO prominence, and many small MPOs may outshine larger ones in planning and technical excellence. Yet, when MPOs in large regions enjoy a high public profile; have a track record of successfully programming urban STP funds, and, in some cases, CMAQ; and are able to ensure that regional transportation initiatives comply with federal air quality standards, these larger MPOs may possess greater legitimacy as a regional actor. Local governments and agencies may look to an MPO with a large staff and greater planning resources for assistance with their own planning efforts. And, where a large MPO also has demonstrated leadership in regional planning and significant technical expertise, with modelling or forecasting, for example, the state DOT may perceive the MPO as more competent. Together, these factors may enable a large MPO to pursue more controversial or unconventional revenue sources than those a small MPO could entertain.

In a large urban area with air quality and congestion concerns, the most attractive revenue mechanisms may be those that generate stable or growing funds *and* that induce efficient use of the transportation system. For these reasons, direct user-fees like **tolls** make particularly good sense. Tolls, particularly **variable tolls** structured to reflect the congestion costs of peak-period

travel, establish perhaps the most direct link between transportation system usage and payment, encouraging more efficient travel behavior. Because the amount of driving or vehicle-miles travelled (VMT) has been consistently rising across metropolitan areas, tolls are likely to provide stable revenues and also to grow with rising VMT and vehicle trips. Newer electronic toll collection technologies make variable tolling schemes easy to administer and thus fiscally efficient.

Motor fuel taxes also perform well on fiscal and transportation efficiency grounds, and they are relatively predictable. However, because most fuel taxes are typically levied as a flat amount per gallon, they will not grow with inflation unless legislators take steps to raise fuel taxes with rising dollar value, as was done more routinely by states in the 1930s, 1940s, and the 1950s. Thus, motor fuels taxes must be considered with respect to the political climate in which they are embedded. For the same reason, they also lose revenue generating power as the vehicle fleet grows more fuel efficient. Because many states restrict the use of motor fuel tax proceeds to highway spending, the MPOs in such states may be unable to use these moneys flexibly for various modal improvements and service. **Sales taxes on motor fuel** also provide a modest price cue to drivers not to temper their travel, and because they are levied as a percentage of fuel price they automatically keep step with inflation.

Table 9. Regional Revenue Sources for a Large MPO with Congestion and Air Quality Problems

Revenue Source	Revenue Criterion					
	Financial Effectiveness		Transportation Efficiency	Fiscal Efficiency	Equity	Political Acceptability
	Stability	Growth Potential				
Direct User Fees						
Fuel tax on motor & diesel fuels	+	--	+	++	-	±
Sales tax on motor & diesel fuels	+	-	+	++	-	±
Aviation fuels tax	±	+	--	++	++	±
Flat tolls (facility-based)	++	++	+	+	+	±
Variable tolls						
Area-based tolls	+	+	++	++	±	±
Time-based tolls	+	+	++	++	±	±
Congestion-based tolls	+	+	++	++	±	±
Emissions fees	+	+	++	--	--	-
Annual VMT fees	+	-	+	--	-	--
Non-User Fees						
Vehicle sales tax	+	±	-	++	-	+
Vehicle license/registration fees	+	±	-	++	--	+
Sales tax	±	±	--	++	--	+
Property tax	+	±	--	++	+	±
Commercial development tax	±	±	+	++	+	±
Residential development tax	±	±	+	++	+	±
Per-capita tax from MPO members	+	±	--	+	±	±

Scale:	
++	very good
+	good
±	neutral / dependent upon local circumstances
-	poor
--	very poor

The **VMT fee** is an alternative to fuel taxes. The fee is linked directly to miles travelled and could induce more efficient travel choices, as it gives drivers a direct signal about the out-of-pocket cost of their travel. From a financial standpoint, the fee is unlike the gas tax in that it retains its revenue generating power even as vehicles grow more fuel efficient. Collected monthly or annually, the fee allows drivers to link the amount of driving done with the cost incurred. As a new kind of revenue vehicle in the U.S., the VMT fee could face political opposition in the short term, and the fees may present a disproportional burden to low income drivers. Still, regions that place a high value on VMT reduction for air quality and congestion improvements may consider this fee, and *all* regions may see the VMT as a logical replacement for the fuel tax *in the long run*. Appendix B reports daily VMT per capita for provides U.S. urban areas.

The Road User Fee Task Force commissioned by the Oregon legislature recently recommended the **VMT fee** as one of the fairest and most stable replacements to the gasoline tax, and the state will launch a pilot program to test the fee in Spring 2006 (Whitty and Imholt 2005). The Oregon task force advised phasing in the fee over a cautious 20-year period, a strategy that would also benefit any MPO considering this mechanism. During the gradual phase-in, some motorists would continue to pay the gas tax while others would pay the VMT fee, but no one would pay both.

Similarly, **emissions fees** may seem like an attractive way to charge drivers for pollution costs imposed on society and thus to encourage the use of cleaner and more fuel efficient vehicles in a large urban region. However, because they are typically not linked to miles travelled, the fees would encourage neither fewer trips nor off-peak travel; also, to create a system to administer such fees would be costly. Emissions fees would also likely burden low income drivers disproportionately, as poorer households are more likely to own older, more polluting vehicles than are higher income households.

The **aviation fuel tax** may be an attractive revenue source to MPOs where one or more large airports are present in the region. It is likely to provide a growing source of revenue over time, as air passenger travel has generally continued to rise over the last two decades. However, occasional slumps in air travel may make this tax less stable in the short term. It may be politically difficult to enact such a tax, however, because airports lie outside of the purview of MPO-planned (and potentially MPO-funded) transportation programs. However, the MPO may garner support for an aviation fuel tax if revenues are used for transportation improvements that address airport access, or if the revenues are viewed as a way to compensate the region for externalities such as noise or pollution from the airport.

The **vehicle sales tax** and vehicle **license / registration fees** have long been mechanisms for taxing the value of automobiles as personal property. The extent to which such fees are efficient is questionable; a vehicle sales tax or registration fee establish a far less direct link

between vehicle usage and the fee paid than do fuel taxes or VMT fees, supplying little incentive for moderating vehicle use or making trips at less congested times of day. Additionally, such fees have often been used for general government purposes, an option that an MPO would not have. Research on vehicle license fees and different socioeconomic groups suggests the fees are as regressive as sales taxes, as low income drivers pay a higher proportion of their income for the tax than do wealthier drivers (Dill, Goldman and Wachs, 1999). If air quality problems are significant in a large urban area, license fees could be used to charge more for older, more polluting vehicles and to encourage their retirement; this too, however, may produce a larger burden for low income drivers, who are more likely to own older vehicles.

Regional **sales taxes** may be politically expedient from a large MPO's perspective; low retail sales tax rates (a one-quarter or half-cent tax, for example) can generate significant revenues without appearing too onerous to constituents, and a sales tax is easy to administer. Still, sales taxes may be an unstable revenue source, as consumer activity varies with a changing economy. Sales taxes also do not induce efficient travel decisions; instead, sales taxes represent a subsidy to road users, as there is no direct link between payment of the tax and usage of the transportation system. By failing to link system usage with payments, a large MPO may miss an opportunity to address congestion problems while raising revenue.

Like sales taxes, **taxes on residential property, commercial development, and residential development** differ from user fees in that they are not necessarily paid by users of the transportation system. Instead, these charges are paid by property owners and developers who benefit from the transportation system via increased real estate values. "Since property values are based in substantial part on accessibility to other property via the transportation system, there is a long-established rationale for using property taxes to finance local streets and roads" (Adams et al 2001). For a large MPO, these property access charges may be an equitable way to raise revenue from those who benefit from the transportation system, but the charges will not influence motorists' travel choices and thus provide little leverage over congestion and air quality problems. Fees on **new development**, however, could be structured to encourage developers to make more transportation efficient location choices.

Were an MPO to assume authority for raising and allocating regional transportation revenue, a **per-capita tax** collected by the MPO from member jurisdictions could be an appealing way to support MPO operations and expand its staff. As described in Section I.C., some MPOs already collect such membership dues. However, such a tax is unlikely to generate sufficient funds for project implementation, unless broad political support exists to fund regional transportation investments from MPO members' general funds or other local revenues. Even if such support were evident, to assess per-capita fees in amounts great enough to support actual projects would simply devolve the revenue-generating task back to the MPO's member jurisdictions.

In general, a large region can use per-capita fees to equitably share MPO operational costs among member jurisdictions; there may be resistance to this, however, if one or two member jurisdictions, because of high population density or other factors, place visibly greater demands on the transportation system than do other jurisdictions. In such cases, a per-capita fee based on the member jurisdiction's share of VMT, vehicle registrations or land area may be more acceptable.

III.B.ii. MPO Revenue Initiatives: Reflecting Regional Growth

From 1990 to 2000, numerous urban regions experienced dramatic rates of population growth, particularly in Sunbelt states such as Florida, Texas, and Arizona. Below, Table 10 records the ten fastest growing metropolitan areas in that period. Several regions facing the fastest growth rates were modestly sized areas with populations ranging from 100,000 to 400,000, which nearly doubled in the short span of ten years. Moreover, population projections for many of the U.S.' most rapidly growing urban regions suggest that such growth will continue.

Table 10. The Ten Fastest-Growing Metropolitan Areas, 1990–2000

Metropolitan area	Population		Change, 1990–2000	
	April 1, 1990	April 1, 2000	Number	Percent
Las Vegas, Nev., Ariz.	852,737	1,563,282	710,545	83.3%
Naples, Fla.	152,099	251,377	99,278	65.3
Yuma, Ariz.	106,895	160,026	53,131	49.7
McAllen-Edinburg-Mission, Tex.	383,545	569,463	185,918	48.5
Austin-San Marcos, Tex.	846,227	1,249,763	403,536	47.7
Fayetteville-Springdale-Rogers, Ark.	210,908	311,121	100,213	47.5
Boise, Idaho	295,851	432,345	136,494	46.1
Phoenix-Mesa, Ariz.	2,238,480	3,251,876	1,013,396	45.3
Laredo, Tex.	133,239	193,117	59,878	44.9
Provo-Orem, Utah	263,590	368,536	104,946	39.8

Source: U.S. Census Bureau, Census 2000; 1990 Census. Web: www.census.gov

Planning and financing transportation projects and programs in such fast growing regions can present MPOs with several challenges. First, pressures to identify new sources of transportation funds may be far greater than in areas with stable or moderately growing populations; the MPOs' long-range plan and near-term investment decisions will need to address the demands placed by such growth on existing transportation facilities and services. Second, MPOs will face pressure to identify such resources quickly, before fast growth overwhelms the transportation system. There may be less time to develop political consensus in support of an MPO administered revenue program and greater pressure to make politically expedient choices. Finally, MPOs will need to think creatively about transportation finance choices. The most rational revenue mechanisms may be those that not only raise the funds needed but also stem problems that can attend fast growth, including congestion, air pollution, and land development decisions disconnected from regional transportation plans. On the one hand, these growth-related dynamics may appear to constrain the MPO's scope of action. On the other hand, they may provide the MPO with greater opportunity and political flexibility to experiment with new revenue schemes.

Revenue Options in a Fast Growing MPO

Table 11 suggests how different revenue mechanisms might perform for an MPO experiencing rapid growth. Fast growing MPOs may have finance options that are not feasible in regions with stagnant or declining economies. For example, if growth brings brisk retail sales and expanding **commercial and residential development, taxes** and fees assessed on these activities may seem more attractive than elsewhere. However, while such non-user fees could be politically acceptable if regional leaders and residents agreed that planned transportation improvements were desirable, overreliance on such charges could be problematic. If sudden economic

decline shrinks the projected revenues from such measures, citizens may resist additional taxes or increases to correct for the shortfall. Additionally, because sales taxes do not vary with the amount of travel consumed, a regional revenue program that relies heavily on sales taxes will not encourage efficient travel choices. **Real estate development taxes** could have the same shortcoming, if they are not structured in a way that encourages transportation efficient locations.

Table 11. Evaluating New Regional Revenue Sources in a Fast-Growth MPO

Revenue Source	Revenue Criterion					
	Financial Effectiveness		Transportation Efficiency	Fiscal Efficiency	Equity	Political Acceptability
	Stability	Growth Potential				
Direct User Fees						
Fuel tax on motor & diesel fuels	++	-	+	++	-	±
Sales tax on motor & diesel fuels	++	+	+	++	-	±
Aviation fuels tax	+	++	--	++	++	±
Flat tolls (facility-based)	++	++	+	+	+	±
Variable tolls						
Area-based tolls	++	++	++	++	±	±
Time-based tolls	+	++	++	++	±	±
Congestion-based tolls	+	++	++	++	±	±
Emissions fees	+	+	++	--	--	-
Annual VMT fees	+	++	+	--	-	--
Non-User Fees						
Vehicle sales tax	+	++	-	++	-	+
Vehicle license/registration fees	+	++	-	++	--	+
Sales tax	+	++	--	++	--	+
Property tax	+	++	-	++	+	±
Commercial development tax	+	++	+	++	+	±
Residential development tax	+	++	+	++	+	±
Per-capita tax from MPO members	+	+	--	+	±	+

Scale:
++ very good
+ good
± neutral / dependent upon local circumstances
- poor
-- very poor

Vehicle sales taxes and **license and registration fees** may also do little to address potential problems from rapid growth. However, if tiered to significantly increase the cost of purchasing and registering additional vehicles as the number of household vehicle rises, such fees could

discourage some households from owning multiple vehicles, which could decrease trip-making. Yet, so structured, these fees are likely to be controversial in most places and would suffer for lack of political acceptability.

Provided that local officials acknowledged the challenges faced by the MPO in fast growing conditions and that the MPO's role was respected in the region, **per-capita membership fees** may be more feasible for fast growth regions than for slow or no-growth regions. Under such conditions, these dues might be considered a worthwhile payment to the MPO in return for its planning and administration services.

The "**Transportation User Fee**" (TUF) used by the City of Austin, Texas, as well as by several cities in Oregon, suggests another model for per-capita or per-household fees collected by the MPO. Under Austin's TUF program, municipal utility bills include a TUF "which averages \$30 to \$40 annually for a typical household. This charge is based on the average number of daily motor vehicle trips made per property, reflecting its size and use...The city provides exemptions to residential properties with occupants that do not own or regularly use a private motor vehicle for transportation, or if the user is 65 years of age or older" (Victoria Transport Policy Institute, 2005).

If a fast growing region aims to stem potential congestion and air quality problems from increasing numbers of drivers, trips, and VMT, **direct user fees** such as **motor fuel taxes** and **motor fuel sales taxes** will generally encourage more transportation efficient decisions than do non-user fees. **Fuel taxes** will also do more to encourage transportation efficiency than do sales tax measures, although the latter have proven to be a more politically popular choice for raising transportation revenue in recent years.

Similar to MPOs in large regions, MPOs confronting rapid growth may find that tolls make particularly good sense. Because tolls, particularly **variable tolls** that reflect congestion costs of peak-period travel, establish a direct link between transportation system usage and payment, they encourage more efficient travel behavior. However, a modestly sized region experiencing fast growth may not have within its boundaries a transportation facility conducive to tolling.

While **VMT fees** and **emissions fees** are reasonable choices for a region facing rapid VMT growth and, potentially, air quality problems, these charges would have to overcome significant hurdles associated with political acceptability and implementation costs. It is probable that an MPO could successfully pursue these revenue sources only where there was widespread agreement about the severity of congestion and air quality problems and about the lack of other feasible alternatives. Similarly, the attractiveness of an **aviation fuel tax** would depend on whether communities in the region perceived air traffic growth as a significant problem or an indicator of growth that should be encouraged.

III.B.iii. MPO Revenue Initiatives: Reflecting Multi-County and Multi-State Jurisdictions

This section considers how different revenue sources might perform for MPOs that crosses county or state boundaries. Cross-jurisdictional MPOs are not uncommon. About 25 MPOs cover bi-state metropolitan areas, and five MPOs are designated for tri-state metropolitan areas. Additionally, many more MPOs have boundaries that do not align neatly with a single county or city, containing two or more counties or several cities. An exception to this occurs widely in

Florida, where MPOs have traditionally been designated as county-wide entities, sometimes even in areas where two adjacent and highly urban counties form a contiguous urbanized area.

Perloff, a prominent city planner and regionalist, once observed that “[j]urisdictional boundaries tend to have built-in rigidities for reasons that are both traditional and practical (particularly for administrative convenience)” (153). It is these rigidities that cross-jurisdictional MPOs are more likely to encounter when designing a new way to raise regional transportation revenues.

At least two types of rigidities are apparent. First, when pursuing any of the models outlined in Section III.B.ii. for acquiring revenue generating authority, cross jurisdictional MPOs may face greater legal hurdles than a single jurisdiction MPO. For multi-county MPOs, the constituent counties must agree to request power from the state to raise MPO-based revenues and will also need to agree on the revenue mechanisms that the MPO will use. Disagreement among the MPO members on either of these points would make the MPO’s case look weak when seeking needed approvals or legislation from state lawmakers. Similarly, multi-state MPOs seeking to collect regional revenues across state lines require legislative authority from not one but from two or more states.

Perloff felt that “jurisdictions have various means of ‘closing in’ on themselves, or closing others out, through special duties, taxes, and regulations” (153). If governmental subunits within an MPO were to jealously guard their right to levy taxes and other transportation revenues and were to resist giving such authority to the MPO, then the MPO’s pursuit of a regionwide revenue mechanism could fail. On the one hand, the complexities of such cross-jurisdictional situations could easily present such additional hurdles. On the other hand, however, strong cross-jurisdictional consensus among MPO members, where it exists, could strengthen the case for additional MPO revenue powers.

Second, cross-jurisdictional MPOs may be more exposed to claims that a revenue mechanism is geographically inequitable, because one subunit within the region either produces a greater proportion of regional revenues or receives a greater proportion of benefits than do other subunits. Geopolitical equity issues surrounding costs and benefits may be even more prominent in bi- or multi-state MPOs, and any state may be reluctant to support a newly empowered MPO if a neighboring state also has considerable sway within the MPO.

For these reasons, cross-jurisdictional MPOs may evaluate potential revenue sources differently from single jurisdiction MPOs. In general, the spatial distribution of costs and benefits of a regional revenue measure is likely to heavily influence the political acceptability of that revenue measure. For example, if a cross-jurisdictional region displays high spatial differentiation, the bulk of **fuel tax**, **fuel sales tax**, or **VMT fee revenues** could be generated in a densely populated central county rather than in counties on the periphery. In such cases, it may be more difficult for the revenue source to achieve some degree of political acceptability. **Aviation fuel taxes**, on the contrary, may be attractive in a multi-jurisdictional setting; the externalities associated with a regional airport may extend across town, county or state boundaries, making the jet fuel tax seem like an appropriate revenue source to be shared regionwide.

A **sales tax** could face geopolitical hurdles if the region’s retail sector is concentrated in one county or town in the MPO, or on one side of a bi-state region. That entity that boasts the retail center might resist an MPO-administered sales tax because it would redistribute those revenues across a broader area. Other non-user fees such as **property taxes** and **development taxes**

might also face geopolitical pressures if high real estate values and development activity are concentrated in one part of the multi-jurisdictional MPO.

Table 12 summarizes how different revenue mechanisms might perform in a multi-jurisdictional setting. In terms of stability, growth potential and transportation efficiency, most revenue sources will perform the same in multiple-jurisdiction MPOs as in other MPO settings. However, a multiple-jurisdictional setting can introduce new equity considerations and make political acceptability more difficult to achieve. **User fees** such as **fuel taxes** and **tolls** would still promote transportation efficiency in a cross-jurisdictional setting, for instance, and this is a desirable characteristic for a new MPO revenue source. However, transportation efficiency is unlikely to trump political acceptability when it comes to winning support for a regional transportation fee.

Table 12. Evaluating New Regional Revenue Sources in a Multi-Jurisdictional MPO

Revenue Source	Revenue Criterion					
	Financial Effectiveness		Transportation Efficiency	Fiscal Efficiency	Equity	Political Acceptability
	Stability	Growth Potential				
Direct User Fees						
Fuel tax on motor & diesel fuels	+	-	+	++	--	-
Sales tax on motor & diesel fuels	+	+	+	++	--	-
Aviation fuels tax	+	±	--	++	++	+
Flat tolls (facility-based)	+	+	+	+	+	±
Variable tolls						
Area-based tolls	+	+	++	++	±	±
Time-based tolls	+	+	++	++	±	±
Congestion-based tolls	+	+	++	++	±	±
Emissions fees	±	±	+	--	--	--
Annual VMT fees	+	+	+	--	-	--
Non-User Fees						
Vehicle sales tax	+	++	-	+	-	-
Vehicle license/registration fees	+	++	-	+	--	-
Sales tax	+	++	--	++	--	±
Property tax	+	++	-	+	+	-
Commercial development tax	+	++	+	+	+	-
Residential development tax	+	++	+	+	+	-
Per-capita tax from MPO members	+	+	--	+	±	-

Scale:
 ++ very good
 + good
 ± neutral / dependent upon local circumstances
 - poor
 -- very poor

Section IV. Institutional Issues for Metropolitan-level Funding

Thus far, this report has established a framework for considering the development of new metropolitan-level funding sources for the planning and implementation of regional transportation programs. This framework has examined (1) the current transportation funding environment as it affects metropolitan areas; (2) the legal and institutional history of MPOs, as the potentially most suitable entities for administering regional revenue mechanisms and allocating the transportation funds so generated; (3) federal, state, local and, in some cases, regional revenues that now support metropolitan transportation planning and programs; (4) general factors that affect the feasibility of MPO-generated funding sources; (5) criteria by which new regional revenue sources may be evaluated; and (6) how various revenue mechanisms might fare in different MPO circumstances.

Section IV of this report extends consideration of MPO-generated transportation dollars by examining the associated institutional issues. First, it advances a rationale for expanding MPO authority. Second, it addresses practical matters about governmental authority that would confront MPOs seeking the ability to independently generate and allocate money outside of traditional federal, state, and local transportation funding sources.

IV.A. The Rationale for Expanded MPO Authority

The rationale for an expanded MPO role in metropolitan transportation fundraising and decisionmaking has at least two dimensions. First, declining federal and state transportation dollars have created the need for other ways to finance metropolitan transportation systems. Second, MPOs are well equipped to identify and prioritize transportation needs in their areas, perhaps more so than state or local transportation agencies and governments.

Responding to Metropolitan Need

Section I.A. of this report discussed the growing interest in metropolitan-level funding sources in the context of the devolution of federal and state roles in transportation funding. Given ongoing federal and state retreat from transportation finance initiatives, it is appropriate to consider how metropolitan areas can address their growing unmet needs for transportation infrastructure and services.

Federal and state funding policies largely determine the resources available for investment in metropolitan transportation systems. Three generations of federal transportation legislation since 1991 – ISTEA, TEA-21, and, most recently, SAFETEA-LU, passed in July 2005 – have demonstrated a firm commitment to reducing the resources and redistributive role associated with federal transportation involvement. Federal fuel tax rates have remained stagnant in spite of a long documented waning in purchasing power (Wachs 2003). At the same time, few state executives or legislatures have pursued fuel tax increases to address funding shortfalls, increasing the pressure on local governments to pursue local taxes and fees to fund transportation needs. Additionally, while federal transportation dollars have traditionally supported national initiatives that spread costs and benefits among the states, federal legislation has increasingly responded to state claims that Highway Trust Fund (HTF) dollars be awarded according to return to source principles. Minimum guarantees provisions in SAFETEA-LU, for instance, direct that by 2009 each state receive federal transportation dollars amounting to at least 92 percent of its HTF contributions (FHWA 2005). When evaluating how to respond to this

environment, some MPOs and the elected officials who govern them may identify the MPO as the appropriate organization to raise the regional transportation revenue needed.

Regionally Funded Programs Reflect Regional Priorities

To empower MPOs with new authority to raise transportation funds at the regional level would naturally increase the discretion MPOs could exercise over regional transportation priorities. An expansion of the MPO role along these lines is congruent with federal efforts to support metropolitan transportation decisionmaking, and it could also produce better transportation programs.

As discussed in Section I.B., several provisions of ISTEA and TEA-21 have strengthened the metropolitan role in transportation decisionmaking over the last 15 years. MPOs now produce regional long-range plans intended to shape near-term investment decisions, and shorter term capital commitments are identified in the fiscally constrained transportation improvement program (TIP), also produced by the MPO. Additionally, federal law requires states to suballocate metropolitan STP funds directly to MPOs in large urbanized areas, further augmenting MPO discretion. In the 15 years since ISTEA's passage, MPOs have clearly assumed a greater role in metropolitan transportation decisionmaking, and empowering MPOs to raise regional revenues would maintain this trend.

Since the 3-C process was first required in 1962, federal legislation has sought the improvement of urban transportation via the incremental expansion of metropolitan transportation decisionmaking. Perhaps the most visible catalysts for a greater metropolitan role were the urban freeway revolts of the late 1950s and the 1960s. These revolts dramatically illustrated how metropolitan transportation projects could be out of step with local priorities if they were developed and decided upon without input from urban interests. Subsequent efforts to involve metropolitan area elected officials in planning and decisionmaking aimed to produce transportation investments that better reflected the needs and profiles of metropolitan areas.

There are several reasons why dollars raised regionally may result in better, more efficient regional transportation programs. Dollars raised in and spent in a metropolitan area may more easily avoid the perverse or unanticipated consequences that can accompany federal transportation programs. Some research suggests that the availability of federal transportation matching funds can skew local investment priorities; transportation agencies may design programs and projects to meet federal guidelines and receive 'cheap dollars' rather than to select the more appropriate regional investments (Taylor 2000; Taylor and Samples 2002). If available transportation funds had been raised directly in the metropolitan area, MPO decisionmakers would face unambiguous incentives to choose the most appropriate transportation investments for the region. The subsidiarity principle implicit in federalist systems like the U.S. government also lends support to this view; if government matters should be handled by the smallest competent authority, then MPOs, as metropolitan-level organizations, may be the most efficient authority to raise and spend new metropolitan transportation funds. These and other compelling considerations for regional authority are addressed in the Brookings Institution's *Transportation Reform Series* (Puentes and Bailey 2005).

IV.B. The Practical Considerations for Empowering MPOs

Before most MPOs could pursue regionwide transportation revenues of any form, they would need to acquire the authority to do so. As their history and legal status makes clear, most MPOs are planning bodies with advisory and administrative roles. Their stature in regional transportation decisionmaking has certainly been enhanced over the last decade by such sustained ISTEA-era requirements as fiscal constraint and, in areas over 200,000 in population, the suballocation of metropolitan STP funds. Still, MPOs generally lack the authority to assess the transportation user fees and other levies discussed in the pages that follow.

IV.B.i. Current MPO Innovations: Strategic Responses to Resource Constraints

Recent evidence suggests that, despite their legal and institutional constraints, some MPOs may be ready to examine possibilities for independently raising and allocating transportation funds. Similarly, some states may support such possibilities. The story of Question 10 in Las Vegas, discussed earlier, shows how with the help of state legislation one MPO essentially borrowed local county taxing authority to finance a set of regional transportation investments with regional fuel, development, and sales taxes. Additionally, in the San Francisco Bay Area, state legislation created a regional bridge tolling authority to parallel the MPO; after meeting the maintenance and preservation needs of the region's bridges, the tolling authority may use excess funds to finance other regional transportation improvements. Also, by passing legislation that enables the formation of Regional Mobility Authorities, the state of Texas acknowledged the need for a sub-state institutional mechanism to generate transportation dollars. These examples, covered in detail in Section I.C.iii., indicate that some states and regions are together responding to metropolitan transportation needs with various institutional innovations at the regional level.

Such experiments are consistent with earlier research on the responses of MPOs and other regional bodies to a changing resource environment. In the 1980s, when federal support for regional entities was greatly reduced, McDowell observed that MPOs became more entrepreneurial; they sought out stronger relationships with local governments, as well as collaborative relationships across regional bodies. At the same time, Gage (1992) observed growing interest among regional councils in sub-state regionalism. According to Gage, regional council directors expressed "pessimism about the future of federal support, even in areas in which the regional councils currently receive the most funding: transportation, job training, aging services and housing" (Gage 1992, 216). Motivated by vexing metropolitan problems, withering federal and state funds for regional planning, and rising awareness of regional profiles in the global economy, regional councils sought strategic relationships with those sectors – private entities and local governments – more likely to support regional initiatives. What makes the more recent examples from Las Vegas, the Bay Area, and Texas different, however, is the common pursuit of revenue generating authority for a regional body.

IV.B.ii. Models for Empowering MPOs with Authority to Generate Revenues

There are several ways through which metropolitan planning organizations could acquire revenue generating authority, and any such strategy is likely to cause a shift in the MPO's appearance from a planning and advisory body to a government entity. In the case of Las Vegas, Question 10 and the state legislation that followed it allowed regionwide taxes to be

levied by the County Commission and to flow to the MPO; thus, the MPO assumed indirectly the revenue generating capacity typically reserved for government entities. This transfer of county taxing capacity to the MPO was more feasible than for most MPOs because the jurisdiction of Las Vegas' MPO and the Clark County Commission are the same. To have direct regional revenue generating capacity, most MPOs would need to possess more fiscal independence than they currently do and to span whatever county and municipal jurisdictions fall within the metropolitan region.

Currently, most MPOs are planning bodies and not government entities. As such, MPOs are generally not included in the Census of Governments which tallies all U.S. government entities every five years. The Census Bureau defines a government as

- an organized entity subject to public accountability, whose officials are popularly elected or are appointed by public officials, and which has sufficient discretion in the management of its affairs to distinguish it as separate from the administrative structure of any other government unit. The Census Bureau recognizes five basic types of local governments – counties, municipalities, townships, school districts, and special districts.

(U.S. Census Bureau, 2002a, 1)

This definition captures the three essential attributes that an entity must possess to be a government: “existence as an organized entity, governmental character, and substantial autonomy” (U.S. Census Bureau, 2002b, ix). To analyze in detail how MPO attributes commonly measure up to these criteria is beyond the focus of this report. Nevertheless it is instructive to understand that most MPOs will not fit the definition of a government because they lack the independent fiscal powers that typically indicate “substantial autonomy.” According to the Census Bureau,

- [f]iscal independence generally derives from power of the entity to determine its budget without review and detailed modification by other local officials or governments, to determine taxes to be levied for its support, to fix and collect charges for its services, or to issue debt without review by another local government.

(U.S. Census Bureau, 2002b, ix)

Thus, MPOs occupy an ambiguous position. They lack a constitutional-legal place in the U.S. federal system of government, a fact which can make them more vulnerable to fiscal pressures exerted by other levels of government. In this way, MPOs are more akin to other intergovernmental and advisory bodies that some have called “twilight-zone agencies” (Gage 1992).

To empower an MPO with direct revenue generating authority will generally require some action by the state or the federal government. Government entities with regional jurisdictions in a single state (sub-state regional bodies) and in a multi-state context (multi-state regional bodies) have been created by federal and state actions at different moments in U.S. history. Examples include the Tennessee Valley Authority, created in 1933; numerous river basin commissions, like the Delaware River Basin Commission, designed for planning and regulating regional water resources; agencies for regional economic development, such as the Appalachian Regional Commission as well as bi- or multi-state compacts; and consolidated local governments. These experiences suggest various institutional arrangements for vesting MPOs with revenue generating authority:

Consolidated local governments / Territorial annexations / City-county mergers

In this model, the municipalities and counties within the MPO boundaries could lobby for state action to incorporate them as a single government. In addition to serving other general purpose government functions, this new single entity could also host the MPO, thereby extending to the MPO the legal and financial authority of its component jurisdictions.

The annexation of neighboring territory or jurisdictions by a city and city-county mergers has sometimes been a controversial means to more regionally oriented governance in the U.S. Neighboring municipalities often compete too fiercely to merge. Similarly, outlying unincorporated territories and established suburban towns or counties may resist joining with a nearby central city. Such mergers raise complicated issues of place and community identity, and these issues are often further complicated by significant differences from one jurisdiction to another in residents' race or income. Consequently, consolidation may present too large a hurdle for seeking expanded MPO authority. However, where individual city and county governments are already considering a merger, an opportunity may exist to vest the MPO with direct revenue generating power.

Historically, territorial annexations and mergers were most common in the early late 19th and 20th century, when Progressive Era reformers sought, by joining city and suburb, to break the influence of central city political machines and to limit potentially harmful city-suburb economic competition. Boston represents one such a city-suburb annexation, while Baltimore, St. Louis and Denver were created as city-county consolidations. Miami-Dade County⁶, formed in the 1950s, offers a later city-county merger example, whereby some urban service functions are transferred to the county level, but such attempts at metropolitan- level government have failed more often than succeeded.

Regional government / regional service providers

While this model is not common in the U.S., there are a few examples of MPOs that fill broader roles. Portland (Oregon) Metro stands alone as the only directly elected regional government in the U.S. The Portland Metro is both the MPO as well as the directly elected regional government for the three counties and 25 cities in the Portland metropolitan area. Its responsibilities include open space, parks, land use planning, and garbage disposal; it also operates facilities such as the Oregon Zoo and the Oregon Convention Center. Metro's charter gives it general authority to impose, levy and collect taxes and to issue revenue bonds, although voter approval and prior consultation are often required to exercise these powers. Portland is often pointed to as a special case where local political culture made Metro possible, yet case research suggests that state-level support for locating more authority at the regional rather than county level in Portland was critical (Weir 2000).

In the seven-county Minneapolis-St. Paul region, the Metropolitan Council serves as the MPO and also operates regional services, including transit and wastewater collection and treatment. As a regional services provider, the Council collects revenues including wastewater fees and service charges, transit fares, and property taxes, and is also able to issue debt. These

⁶ For more information, see <http://www.miamidade.gov/info/government.asp>.

examples from Portland and the Twin Cities regions may offer models for vesting MPOs with revenue authority in the future.

Area-wide special districts or authorities

Special districts and authorities usually serve a single function, such as water supply, sanitation, power or highway infrastructure. Under this model, the district's function would be metropolitan transportation planning and programming. Again, state legislation would be required to create or authorize the MPO as a special district, and metropolitan interests could advocate for such state action. Special districts can also be established by interlocal agreement, following state law authorizing interlocal cooperation. For metropolitan regions that span two or more state lines, legislation from each state involved may be needed to enact a service district covering the urbanized area. Special districts are often governed by appointed boards, with members selected by city or county governing bodies, mayors, or governors, but sometimes the district board is elected.

While not all special districts have taxing and bonding authority, precisely those fiscal powers are the main advantage to enabling an MPO as a special district. As with the creation of the Bay Area Toll Authority, state legislation could establish a special district or authority that matches the MPO's boundary and that is governed by the same board. This legislation could create the MPO as an authority, vest it with revenue raising power, and specify the type and extent of that power according to local political circumstances and MPO needs. Currently, nothing prevents states from acting to create and empower a special district in this way, provided the governor and legislature agree. Yet, if a regional body is perceived as benefitting only a small portion of the state or as challenging state authority, it may be difficult to win statewide legislative support. Other politically delicate questions may concern how the authority's board is appointed or elected and whether the state would back any MPO-issued debt in case of default.

Interstate compacts and compact agencies

Interstate compacts are formal agreements among states that are generally enacted as law. "Their subject matter can be anything on which the participants are able and willing to agree" (ACIR 1972, 137). Compacts can be established as regulatory or operational forums, for planning purposes, or for regional development and services. Examples of interstate compact agencies include the Port Authority of New York and New Jersey and the Bi-State Development Agency in Kansas City-St. Louis.

About 30 MPOs currently span bi- or multi-state jurisdictions. The attractiveness of using an interstate compact in these cases to allow for MPO-generated revenues would likely depend on the relevant interstate relationships and on perceptions of transportation needs in the metropolitan area.

Federally designated regional commissions / Semi-independent federal corporation

A final way to establish revenue generating powers for MPOs is through the federal government. The federal government has acted both unilaterally and in cooperation with states

to designate regional authorities and commissions for addressing natural resource management and economic development and for improving administration of national programs. The Tennessee Valley Authority is perhaps the most prominent such example of a regional entity; its independence stems from its authority to retain earnings from the sale of electric power, provided the earnings are used to operate and construct power generating facilities in the river valley.

On the one hand, because federally designated regional entities can vary considerably in legal character and statutory basis (ACIR 1972), it may be possible to constitute an MPO in this form that is politically acceptable in specific cases. On the other hand, the devolution trend in federal transportation policy and finance over the last two decades suggests that the federal government is unlikely to intercede in metropolitan transportation affairs this directly. Federal action to empower MPOs may be welcomed or resented by a state, depending upon local circumstances.

The application of federal authority to empower all MPOs as fiscally independent is far too sweeping an approach, yet there may be suitable avenues for more refined federal action on this issue. For example, the federal government could support a pilot program for a limited number of MPOs. MPOs, in cooperation with states, could compete for federal dollars to defray costs associated with identifying appropriate institutional mechanisms and revenue sources to establish some fiscal independence for the MPO. Such a program might resemble the Value Pricing Pilot Program⁷ introduced in TEA-21 and renewed in SAFETEA-LU; by using federal incentives rather than inducements to further institutional and financial innovation among MPOs, a pilot program would better reflect the federalist tradition and devolution trend in transportation policy and finance. States and metropolitan areas would remain the best arbiters of how to empower MPOs to generate revenue, but a modest federal role could help to ensure that the resultant entities meet desirable minimum standards. For instance, a federal pilot program could require that new metropolitan-level funds are spent on investments consistent with regional long range transportation plans. Also, for MPOs that encounter stiff state resistance to their empowerment as revenue generators, some federal involvement could temper state opposition.

IV.C. MPO Revenue Authority: Concluding Discussion

Three decades ago, a series of studies on regionalism in the United States described the challenge facing regional governance efforts in any sector. The study's observations retain considerable traction for MPOs today, particularly as they are faced with widening resource constraints and pressures to develop regional funding sources.

It is difficult to establish and nourish public regional machinery...Our three tiered governmental structure may not accommodate all the problem solving and service rendering we demand, but the heavy presumption is in favor of performance or attempted performance by a single city or county, a single State, or an agency of the National Government. Those who would have it otherwise must bear the burden of inventing a new creature and explaining why the more familiar and already entrenched mechanism cannot or will not do the job. They must make their explanations to bureaucracies which sometimes view a newly proposed agency as a potential competitor; to legislatures who look upon it as a new mouth to feed; and to a public that

⁷ For information, see <http://www.fhwa.dot.gov/policy/otps/valuepricing.htm>.

constantly wonders whether the burdens and restrictions lurking in the new creature's organic act will be sufficiently compensated by the yet unproven benefits. In light of these obstacles, it is not surprising that only a small percentage of regional compacts...have yet come into being. Indeed the circumstance is similar for each of the mechanisms that might be used to operate major regional undertakings on an intergovernmental basis." (ACIR 1972, 163).

This report has reflected upon the trend in federal and state governments to push responsibility for transportation finance and decisionmaking to lower levels of government, and it has considered the valuable role that MPOs are situated to play in this devolution environment. If MPOs are well suited to make long-range transportation choices and near-term investment decisions, they ought also to be empowered with the ability to raise revenues that would support these decisions. But for the many reasons discussed above, modifying MPOs to raise revenues is not a straightforward project.

First, given the diversity of MPOs and the regions they serve, it is impractical to advocate one model for empowering MPOs to generate revenues. Regional circumstances as well as state-MPO, MPO-county, and MPO-city relationships will shape an MPO's choices for acquiring this authority. Second, it is impossible to prescribe the revenue source that an MPO should pursue. In all likelihood, an MPO will select several different revenue sources to support its transportation plans and programs; the particular mechanisms included in an MPO's revenue program will reflect such regional factors as size, rate of growth, and jurisdictional complexity. The mechanisms will also be chosen with an eye toward balancing competing claims in the region regarding the fair distribution of costs and benefits. Thus, rather than promote a single course for all MPOs, this report has developed a series of propositions about what authority structures and what revenue vehicles might suit different MPOs under different circumstances.

While MPOs are sufficiently diverse as to make general guidelines difficult, it is possible to contemplate how new authority to collect regional transportation funds might affect the MPO. The impacts of this change might include:

A heightened political profile for the MPO in the region

Once in a position to collect taxes or other fees and to allocate those moneys to transportation purposes, an MPO's regional and state partners would look at the MPO quite differently. Hoping to benefit from the regional investment dollars at stake, local officials and transportation agency heads would likely take a greater interest in MPO planning and programming activities. Currently, MPO participation can be a low priority for member jurisdictions in some places (Hoover et al), especially where MPO members feel that the MPO controls only a small portion of regional transportation dollars. This perception could change if the proportion of MPO-controlled funds increased via a regional revenue source.

Increased attention to MPO accountability

Along with its heightened political profile, a revenue-generating MPO would certainly face increased demands for public accountability. In fact, it may be necessary to develop better means for monitoring MPO accountability, as the federal certification reviews current used are deemed weak. A new pot of regional funds could create opportunities for corruption or favoritism in spending decisions, and the public may require greater assurance that public

dollars were used properly. It is not clear that all MPOs currently have mechanisms for demonstrating such accountability.

Strengthened or weakened regionalism

Analyses of regional efforts in other sectors suggest that regional initiatives may actually strengthen localism, producing a perverse and unanticipated consequence. If local counties and cities join in support of MPO revenue authority, it is possible that the individual entities may be acting in self-interest rather than regional interest. In the worst cases, new regional funds could be used to finance an unrelated batch of local projects, reproducing at the regional level the pork barrel earmarking that takes place with federal funds. However, other evidence suggests that local entrepreneurship around new funds is unlikely to displace or supplant regional goals (Gage 1992), and that MPOs would continue to prioritize regional and local relationships.

APPENDIX A: REVENUE YIELD CALCULATIONS

This appendix shows the detailed calculations used to arrive at the estimated tax and fee levels shown in Table 6.

Revenue Source	National Figure	Unit
Fuel Tax	137,970,000,000	gallons sold per year
Fuel Sales Tax	\$316,779,120,000	total value of all gallons sold
Aviation Fuel Tax	12,958,580,565	gallons sold per year
Tolls	97,102,050	persons who drive alone to work
Vehicle Sales Tax	\$440,185,745,000	total value of all vehicles sold
Vehicle Registration Fee	140,924,833	registered vehicles
Vehicle Emission Fee	11,910,000	short tons of emissions (VOC and NOx)
VMT Fee	2,890,893,000,000	VMT annually
Sales Tax	\$3,056,421,997,000	total annual retail sales
Property Tax	\$11,163,874,150,318	value of all owner-occupied housing units
Development Tax	2,108,000	annual housing starts

Fuel Tax and Fuel Sales Tax. Total gallons sold per year: 9.0 million barrels per day, multiplied by 42 gallons per barrel and 365 days per year for 137.9 billion gallons sold per year, at an average cost per gallon of \$2.30 as of November 2005. Energy Information Administration, Country Analysis Brief, United States of America, January 2005. <http://www.eia.doe.gov/emeu/cabs/usa.html>, accessed November 28, 2005.

Aviation Fuel Tax. Domestic fuel consumption: 12.9 billion gallons annually. Bureau of Transportation Statistics, Airline Fuel Cost, 1977 – 2004. <http://www.bts.gov/xml/fuel/report/temp/fuelcost.xls>, accessed November 28, 2005.

Tolls. Number of persons driving alone to work: 97.1 million. U.S. Census, 2000. Calculations assume that each driver pays one toll per day.

Vehicle Sales Tax. Number of new vehicles sold in 2004: 17,296,100, which includes automobiles and light trucks. Bureau of Economic Analysis, Supplemental Estimates, Motor Vehicles, Auto and Truck Seasonal Adjustment, Motor Vehicle Unit Retail Sales, Table 6, Light Vehicle and Total Vehicle Sales. www.bea.doc.gov/bea/dn1.htm, accessed November 23, 2005. Average cost of new vehicle: \$25,450, based on an average of new domestic autos, new imported autos, and new and used light trucks from the first quarter of 2005. Gross Domestic Product (GDP), Third Quarter Of 2005, Table 1, Key Source Data and Assumptions for the Quarterly Current-Dollar Estimates of the Gross Domestic Product www.bea.gov/bea/dn/gdp-srce.txt.

Vehicle Registration Fee. Number of registered vehicles in 2002: 140,924,833. Bureau of Transportation Statistics, Automobile Profile, passenger car and motorcycle registrations. www.bts.gov/publications/national_transportation_statistics/2004/csv/table_automobile_profile.csv.

Vehicle Emissions Fee. Number of tons of volatile organic compounds and nitrous oxides emitted in 2002: 11.91 million tons, or 4.54 tons of VOC and 7.37 tons of NOx from on-road transportation sources. VOC and NOx were used since they are the precursors to ozone. There

are six criteria pollutants for which federal air quality standards have been established, and a larger number of regions are in nonattainment for ozone levels than any of the other five pollutants. Only on-road transportation sources were used because our assumption is that a transportation fee would target only these vehicles. Bureau of Transportation Statistics, National Transportation Statistics 2005, Tables 4-41 and 4-42.

www.bts.gov/publications/national_transportation_statistics/2005/index.html, accessed November 28, 2005.

VMT Fee. Annual VMT: 2.89 trillion. Total of all urban and rural VMT for all functional classes. Bureau of Transportation Statistics, National Transportation Statistics 2005, Table 1-33: Roadway Vehicle-Miles Traveled (VMT) and VMT per Lane-Mile by Functional Class.

www.bts.gov/publications/national_transportation_statistics/2005/html/table_01_33.html, accessed November 23, 2005.

Sales Tax. Annual retail sales: \$3.05 trillion. U.S. Economic Census, Retail trade (NAICS 44-45), Table 1. Selected Industry Statistics for the U.S. and States: 2002.

http://factfinder.census.gov/servlet/IQRTTable?_bm=y&-NAICS2002=44-45&-ds_name=EC0200A1&-lang=en, accessed November 23, 2005.

Property Tax. Total owner-occupied housing units: 73,754,173. Median value for owner-occupied housing units, \$151,366. American Community Survey, 2004. Housing Financial Characteristics,

http://factfinder.census.gov/servlet/STSelectServlet?ds_name=ACS_2004_EST_G00_&lang=en, accessed November 23, 2005.

Development fee. Total annual housing starts for 2005: 2,108,000 (seasonal adjusted average). National Association of Realtors, Real Estate Outlook, November 2005.

[www.realtor.org/REIoutlook.nsf/files/Nov05MonitorPage.pdf/\\$FILE/Nov05MonitorPage.pdf](http://www.realtor.org/REIoutlook.nsf/files/Nov05MonitorPage.pdf/$FILE/Nov05MonitorPage.pdf), Accessed November 23, 2005.

Small MPO - Population: 200,000

Revenue Source	0.07% of U.S.	Rate for \$5M	Rate for \$10M	Rate for \$20M	Unit
Fuel Tax	92,700,459	\$0.054	\$0.108	\$0.216	Per gallon
Fuel Sales Tax	\$212,840,255	2.35%	4.70%	9.40%	Percentage of sale
Aviation Fuel Tax	8,706,722	\$0.57	\$1.15	\$2.30	Per gallon
Tolls	65,242	\$0.31	\$0.61	\$1.23	Per person, per day
Vehicle Sales Tax	\$295,755,749	1.69%	3.38%	6.76%	Annual vehicle sales
Vehicle Registration Fee	94,686	\$52.81	\$105.61	\$211.22	Per vehicle, annually
Vehicle Emission Fee	8,002	\$2.50	\$5.00	\$10.00	Per ton of emissions
VMT Fee	1,942,357,824	\$0.26	\$0.51	\$1.03	Per 100 miles travelled
Sales Tax	\$2,053,574,857	0.24%	0.49%	0.97%	Percentage of sale
Property Tax	\$7,500,878,898	\$0.67	\$1.33	\$2.67	Per \$1000 of assessed value
Development Tax	1,416	\$3,530	\$7,060	\$14,121	Per new house built

Medium MPO - Population 1,000,000

Revenue Source	0.34% of U.S.	Rate for \$5M	Rate for \$10M	Rate for \$20M	Unit
Fuel Tax	463,502,297	\$0.011	\$0.022	\$0.043	Per gallon
Fuel Sales Tax	\$1,064,201,273	0.47%	0.94%	1.88%	Percentage of sale
Aviation Fuel Tax	43,533,608	\$0.11	\$0.23	\$0.46	Per gallon
Tolls	326,209	\$0.06	\$0.12	\$0.25	Per person, per day
Vehicle Sales Tax	\$1,478,778,747	0.34%	0.68%	1.35%	Annual vehicle sales
Vehicle Registration Fee	473,429	\$10.56	\$21.12	\$42.24	Per vehicle, annually
Vehicle Emission Fee	40,011	\$0.50	\$1.00	\$2.00	Per ton of emissions
VMT Fee	9,711,789,119	\$0.05	\$0.10	\$0.21	Per 100 miles travelled
Sales Tax	\$10,267,874,284	0.05%	0.10%	0.19%	Percentage of sale
Property Tax	\$37,504,394,488	\$0.13	\$0.27	\$0.53	Per \$1000 of assessed value
Development Tax	7,082	\$706	\$1,412	\$2,824	Per new house built

Large MPO - Population 4,000,000

Revenue Source	1.34% of U.S.	Rate for \$5M	Rate for \$10M	Rate for \$20M	Unit
Fuel Tax	1,854,009,186	\$0.003	\$0.005	\$0.011	Per gallon
Fuel Sales Tax	\$4,256,805,092	0.1%	0.2%	0.5%	Percentage of sale
Aviation Fuel Tax	174,134,431	\$0.03	\$0.06	\$0.11	Per gallon
Tolls	1,304,835	\$0.02	\$0.03	\$0.06	Per person, per day
Vehicle Sales Tax	\$5,915,114,988	0.1%	0.2%	0.3%	Annual vehicle sales
Vehicle Registration Fee	1,893,716	\$2.64	\$5.28	\$10.56	Per vehicle, annually
Vehicle Emission Fee	160,044	\$0.12	\$0.25	\$0.50	Per ton of emissions
VMT Fee	38,847,156,474	\$0.01	\$0.03	\$0.05	Per 100 miles travelled
Sales Tax	\$41,071,497,136	0.01%	0.02%	0.05%	Percentage of sale
Property Tax	\$150,017,577,952	\$0.03	\$0.07	\$0.13	Per \$1000 of assessed value
Development Tax	28,327	\$176.51	\$353.02	\$706.04	Per new house built

APPENDIX B: URBANIZED AREAS RANKED BY DRIVING PER CAPITA, 2000

URBANIZED AREA	STATE	POPULATION (1,000)	DENSITY (Persons per Square Mile)	DRIVING (Miles per Day per Person)
Houston	TX	2,487	1,618	37
Birmingham	AL	667	1,095	35
Atlanta	GA	2,977	1,694	34
Indianapolis	IN	915	2,168	32
Austin	TX	641	2,041	31
Dallas-Fort Worth	TX	3,746	2,188	31
Charlotte	NC	646	2,161	30
San Antonio	TX	1,143	2,357	29
Kansas City	MO	1,422	1,373	29
St. Louis	MO	2,044	1,819	29
Jacksonville	FL	869	1,711	28
Orlando	FL	1,160	2,937	28
Cincinnati	OH	1,176	1,867	28
Phoenix	AZ	2,138	2,028	27
Columbus	OH	940	1,975	26
Seattle	WA	1,994	2,363	26
Memphis	TN	919	2,188	25
Salt Lake City	UT	830	2,351	25
Minneapolis-St. Paul	MN	2,475	2,076	25
Riverside-San Bernardino	CA	1,340	2,607	25
W. Palm Beach-Boca-Delray	FL	1,041	3,391	24
Detroit	MI	3,836	2,942	24
Oklahoma City	OK	1,083	1,674	24
San Diego	CA	2,653	3,619	24
Portland-Vancouver	OR	1,338	2,853	24
San Jose	CA	1,626	4,455	24
Ft. Lauderdale-Hollywood-Pompano	FL	1,601	4,896	23
Norfolk-VA. Beach-Newport News	VA	1,507	1,583	23
Washington	DC	3,617	3,621	23
Tampa-St. Petersburg-Clearwater	FL	1,953	3,005	23
Los Angeles	CA	12,384	5,551	23
Pittsburgh	PA	1,569	1,445	23
Providence-Pawtucket	RI	907	1,761	23
San Francisco-Oakland	CA	4,022	3,343	22
Denver	CO	1,993	2,768	22
Tucson	AZ	619	2,211	22
Baltimore	MD	2,107	2,959	21
Sacramento	CA	1,394	3,640	21
Cleveland	OH	1,783	2,128	21
Milwaukee	WI	1,532	2,958	21

URBANIZED AREA	STATE	POPULATION (1,000)	DENSITY (Persons per Square Mile)	DRIVING (Miles per Day per Person)
Chicago-Northwestern Indiana	IL	7,702	2,821	21
Boston	MA	2,917	2,563	20
Buffalo-Niagara Falls	NY	1,112	1,972	19
Las Vegas	NV	1,256	4,652	19
Miami-Hialeah	FL	2,270	6,431	19
Philadelphia	PA	4,068	3,020	19
New York-Northeastern NJ	NY	17,089	4,313	15
New Orleans	LA	1,065	3,944	15

Source: Highway Statistics 2000, USDOT, Federal Highway Administration

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INTERVIEWS

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