

Commission Briefing Paper 5A-16

Overview of Sustainability of Current Revenue Sources for Highway and Transit

Prepared by: Section 1909 Commission Staff
Date: March 6, 2007

Introduction

This paper is part of a series of briefing papers to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. The papers are intended to synthesize the state-of-the-practice consensus on the issues that are relevant to the Commission's charge outlined in Section 1909, and will serve as background material in developing the analyses to be presented in the final report of the Commission.

This paper presents information on key criteria for assessing the advantages and disadvantages of alternative revenue sources for surface transportation. A broad range of taxes, user fees, and other revenue sources currently support surface transportation programs at all levels of government. The many revenue sources reflect in part historical practices among States and local government agencies and in part differences in the kinds of fees that are most appropriate to finance different types of transportation services. There is increasing concern, however, about whether current revenue sources can continue to sustain future transportation improvement programs.

Background and Key Findings

Several factors point to the need for new revenue sources to support surface transportation, both in the short term and the long term. Without changes in either revenues or outlays, the Federal Highway Trust Fund is projected to have a negative balance by 2009. Likewise, many State departments of transportation face revenue shortfalls that do not allow them to meet important transportation priorities. New revenues will be needed to meet near term revenue shortfalls. Questions about the sustainability of the fuel tax are even more serious in the longer term. Alternative fuels and increasing vehicle fuel efficiency will make it difficult to rely on fuel taxes to support highway and transit programs.

Several recent studies have examined this issue and it is one of the key issues to be considered by the National Surface Transportation Policy and Revenue Study Committee. Advantages and disadvantages of alternative revenue sources can be evaluated against a number of criteria including yield, revenue stability, efficiency, equity, the applicability to different types of improvements, public acceptance, and other potential barriers to implementation.

Fuel taxes represent the largest source of highway revenues for the Federal Government and most States. Motor vehicle related fees are only about 10 percent of Federal highway revenues, but in several states they account for a larger share of highway revenues than fuel taxes. Vehicle fees could be increased to generate substantially more revenues, but because they generally are flat fees that do not vary with the amount of travel, they are not as efficient as fuel taxes, tolls, or

other direct user fees. Several recent studies have pointed toward a mileage-based fee as a longer term replacement for the fuel tax, and it has many desirable characteristics. However, many potential barriers to implementing mileage-based taxes must be overcome before they could be implemented on a widespread basis.

Tolls, congestion pricing, local option taxes, and private capital currently represent a small share of total highway revenues and can be considered niche revenue sources for some years to come. Several States are beginning to make greater use of tolls, but motorists who are not accustomed to paying tolls resist them, especially on existing lanes. Each of these sources, however, can be an important potential source of revenues to fund new highway capacity, and pricing can be an effective tool in reducing congestion.

Transit generally has more balanced funding than highways, with fares, general funds, sales taxes, and other public funds all representing significant revenue sources. Impact fees currently are not as large a source of transit revenues, but they could become more important, especially where transit improvements are linked with broader land use development.

Evaluation of Alternative Transportation Revenue Sources

Several studies recently have examined alternatives to the fuel tax including a studies sponsored by the National Chamber Foundation of the U.S. Chamber of Commerce, the Transportation Research Board, and the National Cooperative Highway Research Program (NCHRP). The following charts are taken from the December 2006 NCHRP study, Future Financing Options to Meet Highway and Transit Needs. They succinctly summarize advantages and disadvantages of alternative revenue sources in terms of the amount of revenues that each can produce, the stability of those revenues over time, administrative costs, the extent to which they promote economic efficiency and equity, their applicability to different types of transportation projects, public acceptability, implementation issues, and potential strategies to overcome barriers to implementation.

The NCHRP study did not assess several revenue sources that have been mentioned as potential mechanisms to finance freight-related projects. Those revenue sources are evaluated against the same criteria used in the NCHRP study in the final chart. An assessment of a value-added tax has also been included in the charts.

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Motor Fuel Taxes - Excise Tax (Per Gallon)</p> <p>Most states have a traditional "cents per gallon" excise taxes on the highway use of motor fuel. Some also have variable rates based on an inflation adjustment or a fuel price.</p>	<p>Motor fuel taxes are constitutionally dedicated to highways in most states, and therefore, adjustments to these taxes result in higher yields for highway investment.</p> <p>Motor fuel taxes have been the most important revenue mechanism for highway programs at the Federal and state levels.</p> <p>They also support transit programs at the Federal level and in some states.</p>	<p>Motor fuel taxes are very easy to administer and have low costs of compliance. Evasion has been a major issue, but states and the FHWA have curtailed evasion.</p> <p>Motor fuel taxes at rates sufficient to fund all needs will not add enough to fuel prices to impact travel volumes. Motor fuel prices have recently increased by amounts significantly higher than tax rate increases that could fund all needs, with very minimal impacts on travel behavior.</p>	<p>The motor fuel tax could add cents per gallon or could be indexed to inflation or to fuel prices as in some states.</p>	<p>Based on history, adjustments through legislation to the motor fuel excise tax have been the method of choice in most states for major new funding resources to fill funding gaps for state highways.</p> <p>Flat rate fees per gallon have not been adjusted fast enough to keep pace with needs.</p> <p>Motor fuel taxes may be higher per gallon than in some neighboring states. Opponents of fuel taxes generally raise the issue of diversion of purchases to neighboring states.</p>
<p>Motor Fuel Taxes - Indexing of Fuel Taxes</p>	<p>The yield of motor fuel taxes could be enhanced by indexing to inflation or, in some cases to fuel prices. A ceiling and a floor on the change in the indexed rate is likely.</p>	<p>Motor fuel taxes by themselves are not equitable among vehicle classes, since the largest vehicles may pay less in fuel taxes relative to the costs imposed on highways.</p>	<p>Indexing the rate to inflation is a very promising adjustment since the index to inflation makes partial corrections for economic changes. It could also be indexed to needs estimates or to construction prices, making it responsive to anticipated program costs.</p>	

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Motor Fuel Taxes - Sales Tax on Fuel</p>	<p>A sales tax on fuel is likely to be more volatile, but could be subject to limits in terms of the maximum or minimum or the rate of change each year.</p>	<p>Motor fuel taxes are mildly regressive among income groups.</p>	<p>A sales tax on fuel also is promising; some states have a portion of the total tax based on sales prices.</p>	<p>Sales taxes on fuel have recently been of greater interest due to the increase in fuel prices.</p>
<p>Other Types of Petroleum Taxes</p>	<p>Other types of motor fuel taxes could be utilized.</p>		<p>Pennsylvania has an oil company franchise tax to collect fees on petroleum fuels. This is currently capped at its maximum allowed rate.</p>	<p>Some believe that petroleum taxes have more voter appeal because of a perception that they are imposed on petroleum companies rather than on individual drivers; however, such taxes are normally passed through to drivers the same as other types of motor fuel taxes.</p>
<p>Value Added Tax</p> <p>The U.S. is one of the few countries that does not have a value added tax. The tax is similar to a sales tax, but is levied at every stage in the production process, not just on final consumption as the traditional sales tax.</p>	<p>The yield could be high and would be fairly stable, fluctuating with changes in the national economy.</p>	<p>Administrative costs would be higher than for the fuel tax since there are many taxpayers and considerable documentation involved. This potentially could also make it subject to evasion. The economic efficiency would not be as great as the fuel tax since the VAT would not directly reflect transportation requirements or use.</p>	<p>The VAT could be applicable to general transportation purposes. Like any new tax it would face opposition from taxpayers and from businesses.</p>	<p>A general VAT has been discussed for many years, but rejected. Estimating just the value added by transportation could be difficult.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Registration and Other Vehicle Fees</p> <p>All states have traditional types of registration fees for light vehicles and somewhat higher and graduated fees for heavy vehicles</p>	<p>Registration fees provide major revenue sources for states and local governments (through state allocations) and must be adjusted through legislation.</p> <p>In addition to adjusting rates, other options include revising the type of registration fee.</p>	<p>Registration fees are relatively inexpensive to administer in relation to potential yield, but not as inexpensive as fuel taxes. Registration fees can be varied by vehicle size and can be set in rough relation to highway cost responsibility, except for the impacts of different mileage by similar sized vehicles.</p>	<p>Registration fee adjustments are very promising as both a short- and long-term option for funding highways.</p> <p>Registration fees allow for collections from vehicles using alternative fuels without establishing new mechanisms for collection.</p>	<p>Equity among vehicle classes would indicate that parallel adjustments in registration fees should be made applicable to all vehicles.</p>
<p>Registration Fees Based on Value - Personal Property Taxes</p> <p>A registration fee based on value can be structured as a personal property tax and be deductible from Federal income.</p>	<p>A fee on the value of a vehicle could raise substantial revenue, and could be structured to be deductible for Federal income tax purposes, thus increasing the state's revenue yield without an equal increase in net total tax payments.</p>	<p>Registration fees for light vehicles, if collected on a flat basis, are somewhat regressive by income class. Registration fees for light vehicles on the basis of value are progressive.</p>	<p>Registration fees (in actuality, personal property taxes on vehicles) based on value have the best revenue generating potential and are less costly to taxpayers in the state.</p>	<p>Some states have recently eliminated or reduced such fees despite their advantages in comparison to collecting other state taxes that are not deductible for federal income tax purposes.</p>
<p>Sales Taxes on Vehicles</p>	<p>Sales taxes on vehicles can be useful revenue sources.</p>	<p>Sales taxes on vehicles will be fairly progressive.</p>	<p>Sales taxes on vehicles have substantial revenue raising potential.</p>	<p>All sales taxes already may be deposited into general revenue accounts.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Traditional Tolls</p> <p>Selected highways and selected bridges have historically been toll facilities.</p>	<p>Existing toll facilities have been proven to be reliable and stable generators of revenue. The bonds of toll agencies are highly marketable.</p>	<p>Administration and compliance costs for tolling are greater than for motor fuel taxes, although these costs are reduced greatly through electronic toll collection.</p>	<p>Tolls and pricing may be considered to be highly promising options for application to new highway capacity in the longer term with perhaps some limited short-term opportunities.</p>	<p>A few existing toll facilities have been leased to international companies, substituting short-term revenue gains by public agencies for lesser longer-term revenues.</p>
<p>Tolling New Lanes</p> <p>In the past 10 years, 30-40 percent of new limited access highway mileage has been financed at least in part through tolls.</p>	<p>Legislation may be necessary to enable new types of tolls or pricing initiatives. Electronic pricing could significantly expand future opportunities.</p>	<p>Tolls can be set to achieve equity among vehicle classes</p> <p>Concerns about the impacts of tolling on equity among income groups have been addressed in several analyses.</p>	<p>Major positive opportunities exist to toll new future capacity. Sometimes this could be accomplished with tolls covering only a portion of needed revenues, which provides more total revenue and capacity than no tolling new facilities. Special types of toll facilities such as for truck lanes or HOT lanes could be promising.</p>	<p>Acts allowing Regional Mobility Authorities (RMA) and a PPP act could expand future possibilities for tolling. Some states do not yet have a PPP act parallel to that of other states, which would enable private parties to initiate proposals to develop new facilities or to add toll lanes to existing facilities.</p>
<p>Tolling Existing Lanes</p>	<p>Tolling existing lanes could provide very substantial additional revenues.</p>	<p>Tolling existing lanes could provide for greater equity than other sources of new revenues, but is widely perceived as inequitable ("paying twice").</p>	<p>Little short-term opportunity is thought to exist to toll existing free lanes. This does not mean that such opportunities might not exist in the future, particularly with new types of approaches to toll collection and pricing, including electronics and PPPs.</p>	<p>Sentiment is against tolling any currently free highway lanes. Likewise, little opportunity exists for tolling existing free bridges.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>VMT Fees</p> <p>Fees on VMT could be longer-term options that could supply revenues without being directly tied to fuel consumption.</p>	<p>VMT fees could be set to yield any level of desired revenues.</p> <p>VMT fees do not conflict with the need to reduce energy costs, reduce the balance of payments, or reduce fossil fuel consumption.</p> <p>VMT fees could be indexed to carbon output if a jurisdiction chooses.</p>	<p>VMT fees are slightly more related to vehicle use equity than fuel taxes or registration fees.</p> <p>VMT fees, especially if applied as congestion pricing fees, send strong pricing signals to travelers.</p>	<p>In the long run, VMT fees and congestion pricing could replace all or a portion of current user fees.</p> <p>Oregon is demonstrating the technologies for collecting VMT fees at the fuel pump.</p>	<p>VMT fees or congestion pricing fees require the technology to collect those fees reliably and also the political will to implement a new approach.</p>
<p>Congestion Pricing</p> <p>Could be applied as a special kind of VMT fee, with fees varying based on the level of congestion on the road.</p>	<p>VMT fees or congestion-related fees themselves would have to be indexed to respond to inflation.</p> <p>Congestion fees could be indexed to carbon output if a jurisdiction chooses.</p>	<p>VMT fees will require much more administrative and compliance efforts than motor fuel taxes.</p> <p>VMT fees will be about as regressive among income groups as motor fuel taxes, since DOE data show small differences in fuel efficiency by vehicles owned by different income groups.</p> <p>VMT fees must be graduated by vehicle weight and characteristics to raise fees equitably among the various vehicle classes.</p>	<p>A 2005 study of highway and transit revenue options for the U.S. Chamber of Commerce’s National Chamber Foundation identified VMT fees and congestion pricing fees as a promising option in the long term (15 or more years.).</p>	<p>There are not yet any VMT fees or congestion pricing fees in the United States that are not associated with toll facilities.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Local Option Taxes</p> <p>Have been widely used in many states to support highway and transit investments. Local governments in most states have implemented some type of local option tax, which must be specifically allowed by state enabling legislation.</p> <p>Local option taxes for transportation investments include motor fuel, vehicle, property, sales, and income taxes.</p>	<p>Sales taxes tend to have the highest yield compared to other local option taxes. Motor fuel and vehicle taxes tend to generate less revenue compared to other local option taxes.</p> <p>Except for motor fuel and vehicle taxes, other local option taxes tend to be indexed with inflation. Sales taxes respond to economic growth.</p> <p>Fluctuations in economic conditions tend to affect sales tax yield. Gasoline taxes and income taxes also could be impacted to some level by fluctuations in the economy.</p>	<p>Collection mechanisms already are in place to levy these taxes at the state or local level.</p> <p>Most local option taxes do not send pricing signals to drivers.</p> <p>Most local option taxes are regressive (except for income taxes). However, sales taxes tend to receive stronger support than other local option taxes. People consider that sales taxes are more "fair," since everyone pays, whether they are vehicle or transit users.</p>	<p>State legislation must be in place that allows local option taxes.</p> <p>Sales taxes have been widely used by transit agencies to support operations and capital investments.</p> <p>Rates of success with ballot measures to fund transportation have been increasing, as documented by the Center for Transportation Excellence.</p>	<p>Commonly, local option taxes require voters' approval. While an expenditure plan that specifies projects and/or programs to be funded with the new local option tax levies is not always required, local option taxes have better chances of success for implementation where expenditures and uses are clearly defined.</p> <p>Implementation plans that are well designed have resulted in very high success rates for ballot measures to enhance transportation revenues.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Beneficiary Charges</p> <p>Impact Fees</p> <p>Impact fee legislation exists in 26 states (excluding Florida). Impact fees for transportation improvements are widely used in California and Florida.</p>	<p>Revenues from impact fees are typically dedicated for certain road and transit improvements that would serve the new development. In addition, revenues from impact fees will be highly dependent on development opportunities in the area where implemented.</p> <p>Value capture tools are subject to increases in property value realized by infrastructure improvements.</p>	<p>Beneficiary charges send modest pricing signals to encourage efficient transportation and land use decisions.</p> <p>These charges can be relatively efficient and equitable if properly structured. Benefit districts can target the specific beneficiaries.</p> <p>While impact fees are directly charged to developers, they pass those charges to buyers, increasing the cost of real estate.</p> <p>TIF allocates a portion of the additional property taxes resulting from the increase in property values.</p> <p>Communities and local agencies could argue that implementation of TIF would take away revenues that otherwise would be used to meet other public needs.</p>	<p>Implementation is subject to enabling legislation that allows the collection of impact fees and the formation of assessment districts.</p> <p>These tools tend to be most applicable in higher growth state or localities.</p>	<p>Impact fees are only applicable to new development. TIF and other property assessments may require the formation of districts, where property tax levies are dedicated for transportation improvement. This may require voters' approval from district residents and business owners.</p> <p>Beneficiary charges have been the subject of numerous lawsuits in many areas.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Innovative Finance</p> <p>Most states have used one or more forms of the IF financing tools.</p>	<p>IF financing tools are used to leverage capital in the form of debt or equity. They rely on existing or new revenue sources to pay the indebtedness.</p>	<p>Incurring longer-term debt helps advance programs and projects that would otherwise take years to develop if at all.</p>	<p>They are widely applicable and can be used for program and individual project delivery.</p> <p>The applicability of finance tools is market driven, with the financial community rating each project or deal.</p>	<p>States may require enabling legislation to issue GARVEE bonds. Most innovative finance grant management tools are codified under Title 23 U.S.C. and require no special action from states to be used. To test new grant management tools, states may apply to U.S. DOT under the SEP-15 or TE-045 programs</p> <p>Debt mechanisms must be balanced against long-term revenue sources. Many states cap the amount of debt that can be issued.</p>
<p>Public-Private Partnerships</p> <p>PPPs are a long-term opportunity to impact on project and program delivery. PPPs are commonly used in Europe to reduce public-sector costs to construct, operate, and maintain highway facilities but are not yet widely used to support similar projects in the United States.</p>	<p>States and other public sponsors increasingly consider private-sector involvement as a way to spur implementation of large projects</p>	<p>PPPs can facilitate access to private capital and bring innovative cost-saving projects delivery methods.</p>	<p>Several states are using PPPs to operate and maintain portions of their highway systems. There is potential for large-scale PPPs. The U.S. DOT has preliminary evaluations which indicate the potential for significant cost savings and improvements in the quality of highway services provided to the public.</p>	<p>Specific project proposals need to be evaluated to determine if it will be cost-effective.</p> <p>May require enabling legislation. More than 20 states have explicit PPP acts that provide means to bring the private sector into funding and management of highways. Virginia's act has fostered a wide range of proposals.</p>

Source and History	Yield, Adequacy and Stability	Cost-Efficiency, Economic Efficiency, and Equity	Potential Applicability and Acceptability	Implementation Issues and Potential Strategies to Overcome Barriers
<p>Container fees</p> <p>A number of current and emerging trends are driving the exploration of container charges and other direct user fees as a transportation revenue source. These include the rapid growth in international and domestic freight volumes and recognition that new revenue sources will be needed to fund freight-specific transportation improvements.</p>	<p>Container fees represent a potentially large source of revenue. A recent NCHRP report estimated that a \$30/TEU fee applied at all U.S. ports, would generate average annual revenues of \$2.2 billion through 2017¹. A study performed in 2005 for the Southern California Association of Governments (SCAG) found that a container fee of \$192 per TEU assessed on every inbound loaded container at the San Pedro Bay ports could fund about \$20 billion in access infrastructure improvements.</p>	<p>Container fees offer a way to tie freight system users more directly to the resources and infrastructure they use. These fees are seen by many as a more efficient and equitable method to raise revenue that can be dedicated specifically to freight system improvements.</p>	<p>There are limited options to fund or finance non-highway freight improvement projects. Current federal programs may be applicable to small, localized freight system improvements, but are not well suited to larger regional intermodal freight improvements. Container fees could provide substantial revenues for such large-scale projects.</p>	<p>It will be challenging to develop consensus among competing jurisdictions and other stakeholders on the types and locations of projects to be developed. Implementing a container fee that equitably links costs and potential benefits for the mix of freight traffic using any given gateway may also be difficult.</p>
<p>Customs Duties</p> <p>The majority of customs duties currently are deposited into the U.S. General Fund, although a portion is used to support costs of Customs and Border Patrol operations.</p>	<p>In FY 2002 these fees amounted to \$23.8 billion in gross revenue, ¾ of which was collected from marine sources. This would be a very stable source of revenues.</p>	<p>Fees based on the value of cargo are not as equitable as those on the volume because they do not reflect the transportation requirements as well.</p>	<p>Customs duties would be most appropriately used for improvements to waterside or landside port or airport facilities, to improve the connections between these facilities and the highway and freight rail systems, or to improve freight facilities serving large volumes of international shipments.</p>	<p>One key disadvantage is the likely resistance by the Congress and federal agencies to the diversion of Customs duties to offset freight transportation investments. Some will argue that gateway improvement programs already exist and point to SAFETEA-LU’s Coordinated Border Infrastructure Program (Section 1303), but finding from that program currently is inadequate.</p>

Conclusions

Federal and state governments have come to rely on the fuel tax for a large part of their highway funding. For many years fuel taxes served as a solid financial base for highway programs. They produced large amounts of revenue and lawmakers were relatively willing to raise taxes to meet growing program needs. The attractiveness of fuel taxes has diminished somewhat in recent years, especially with respect to their stability and revenue adequacy. In the long term as fuel economy improves and as alternative fuels become more prevalent, problems with equity and economic efficiency could also become significant.

In the short term vehicle fees are a potential supplement for motor fuel taxes, especially at the State level where they already exceed fuel taxes in some States. At the federal level vehicle fees currently apply only to heavy trucks. Several recent studies have identified increased vehicle fees as an alternative to raising the fuel tax to support the Highway Trust Fund, but efficiency and equity would require that vehicle fees be extended to all vehicle classes if that were to be done. There is a precedent for that since there had been a federal sales tax on automobiles ranging from 3 to 10 percent of the manufacturer's sales prices dating from 1917 until it was repealed in 1971. Vehicle sales taxes and registration fees are not nearly as efficient as the current fuel tax or other direct user fee alternatives, but they can be relatively more progressive.

In recent years as States have been unable to increase fuel taxes to meet highway investment requirements, State and local governments have turned to a variety of other revenue sources to construct key facilities. Included in these sources are tolls, dedicated taxes such as sales and property taxes, private equity, and general funds. Toll revenues increased from 7 to 10 percent of total State highway revenues between 1980 and 2005, and a recent report estimates that between 30 and 40 percent of new limited access road mileage built over the past 10 years was financed at least in part through tolls.ⁱⁱ There also has been an increase in some States, especially in the West, to impose local option sales taxes, fuel taxes, property taxes, and other fees to finance needed highway and transit improvements.

Several recent studies have suggested that a mileage-based tax may be a strong alternative to the fuel tax in 15 to 20 years. There is a general belief that until that time trends toward alternative fuels and more fuel efficient vehicles will not have eroded the fuel tax so much that it no longer was viable, but that after that time the fuel tax may no longer be sustainable. Mileage-based taxes would be more economically efficient and equitable than the current fuel tax, but administrative costs would be higher. Unless indexed, they could face the same problem as the fuel tax in terms of not rising automatically with inflation. Many technical and institutional issues need to be resolved concerning mileage-based taxes. On-going demonstrations will provide some of those answers.

ⁱ National Cooperative Highway Research Program (NCHRP), *Future Financing Options to Meet Highway and Transit Needs: NCHRP Project 20-24*, 2005.

ⁱⁱ Current Toll Road Activity in the U.S., A Survey and Analysis (http://www.fhwa.dot.gov/ppp/toll_survey_0906.pdf)