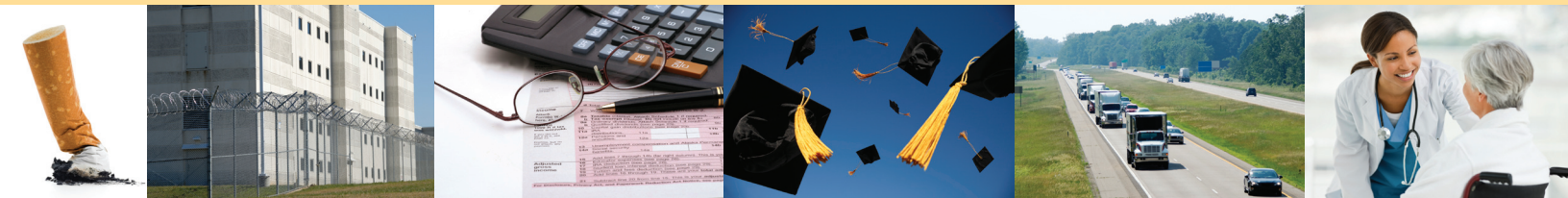


Michigan Research Briefs:

A Series on Key Policy Issues
Fall 2009



Transportation Funding: Highways, Roads, and Bridges



The Center for Local, State, and Urban Policy (CLOSUP), housed at the University of Michigan's Gerald R. Ford School of Public Policy, conducts and supports applied policy research designed to inform state, local, and urban policy issues. Through integrated research, teaching, and outreach involving academic researchers, students, policymakers and practitioners, CLOSUP seeks to foster understanding of today's state and local policy problems, and to find effective solutions to those problems.

Glossary

Surface Transportation

Refers to highways, roads and streets, bridges, and public transportation.

Toll Credits

Credits are earned when the state, a toll authority, or a private entity funds a capital transportation investment with toll revenues earned on existing toll facilities (excluding revenues needed for debt service, returns to investors, or the operation and maintenance of toll facilities). The amount of credit earned equals the amount of excess toll revenues spent on non-federal highway capital improvement projects.

Transit

Refers to the public elements of transportation, as often communicated by the term 'mass transit'. Commuter services like buses and rail are examples.

Trunkline

A trunkline is defined as a road that normally goes by a general title but is made up, at least in part, of smaller roads with different names. A Michigan example would be M-60, a state highway, with segments named Spring Arbor Road, Homer Road, and so forth. The term is also used for railways and other kinds of connected lines.

Transportation Funding: Highways, Roads, and Bridges

Executive Summary

Transportation funding in Michigan faces a serious shortfall. From 2007 to 2008, state transportation appropriations in Michigan fell from \$3.44 billion to \$3.36 billion.¹ This recent fall in appropriations may seem temporary or even relatively small, but it appears that Michigan is at the start of a long-term decline in transportation revenue. Moreover, state transportation infrastructure is in jeopardy because of the increased cost of road building and maintenance along with a fall in revenues from fuel-taxes.² Compounding the problem of increasing costs and declining state revenue is Michigan's inability to meet the revenue requirements to qualify for federal grants. The combined effects of declining state transportation revenues, uncertain federal contributions, and increasing costs threaten Michigan's transportation infrastructure. Without an improvement in the Michigan economy and/or policy changes, a number of transportation programs will likely be cut or scaled back. This brief provides an outline of methods by which highways, roads, and bridges are financed in Michigan and a discussion of the advantages and disadvantages of various policy options for solving Michigan's transportation funding shortfall.³ Because of its dominance in current policy discourse, particular attention is paid to the Transportation Funding Task Force's analysis of Michigan's transportation funding system.

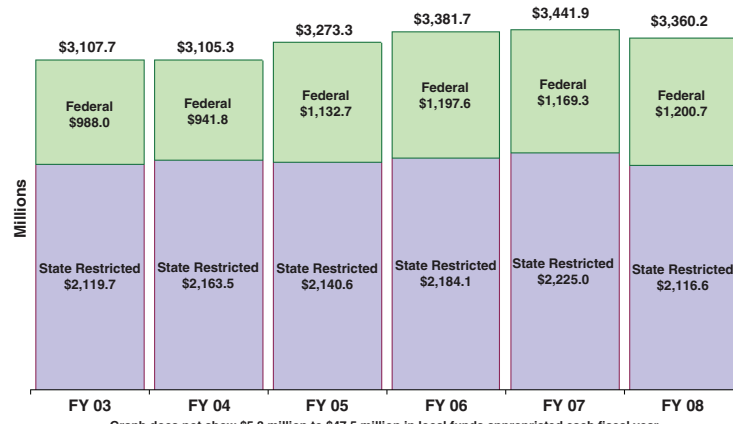
OVERVIEW

This brief focuses on the funding of highways, roads, and bridges, which comprise the majority of the state transportation budget.⁴ Insufficient state revenues are inhibiting the state's highway system goals. In 1997, the State Transportation Commission established a performance goal for the state's highway system aimed at bringing 85 to 95 percent of state roads and bridges to good condition within ten years. However, since 2008 the Michigan Department of Transportation (MDOT) has not had the revenue required to meet those performance goals while completing needed capacity improvement projects.⁵

Revenue is predicted to decline even further if Michigan is unable meet federal revenue requirements necessary for securing federal funding. In 2008 Michigan received \$1.2 billion in federal transportation funding, about one-third of its total budget (see Figure 1). The current federal aid program, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for



Figure 1. State Transportation Appropriations



Graph does not show \$5.3 million to \$47.5 million in local funds appropriated each fiscal year.
House Fiscal Agency: February 2008

Source: Hamilton, William. (2008). Transportation background briefing. February 2008, p. 8. http://www.house.mi.gov/hfa/briefings/Transport07-08%20final_files/frame.htm

Users (SAFETEA-LU), governs federal spending on programs for highways, highway safety, and transit for the five-year period of 2005 through 2009.⁶ To receive recurring federal aid from the SAETEA-LU, Michigan must meet matching requirements, and it is unclear if Michigan will be able to do so. Michigan is predicted to fall about \$500 million short of the revenues needed to receive the maximum federal contribution for the 2009-2013 period.⁷ This will not be the first time Michigan has been unable to raise enough revenue to be eligible for all available federal funds.⁸

To address the transportation revenue shortfall, a number of policy approaches, many of them tax approaches, are under consideration in Michigan. Before discussing policy options to increase Michigan’s transportation funding, the current structure of the transportation revenue system is outlined below.

TRANSPORTATION REVENUE

Sources of Revenue

About eight percent of the state’s total budget is allocated to transportation.⁹ The size of Michigan’s transportation budget decreased in 2008 for the first time since 2004. Figure 1 presents Michigan trans-

portation appropriations since fiscal 2003, and indicates the source of the funds.¹⁰

About 63 percent of Michigan’s transportation funds in 2008 were raised at the state level (collected primarily from vehicle registration fees and the state gas tax), while federal funding provided about 36 percent. Local funds contributed a scant 1.3 percent.¹¹ Figure 2 shows that an almost equal amount of state transportation revenues are generated from vehicle registrations fees and the gasoline tax.

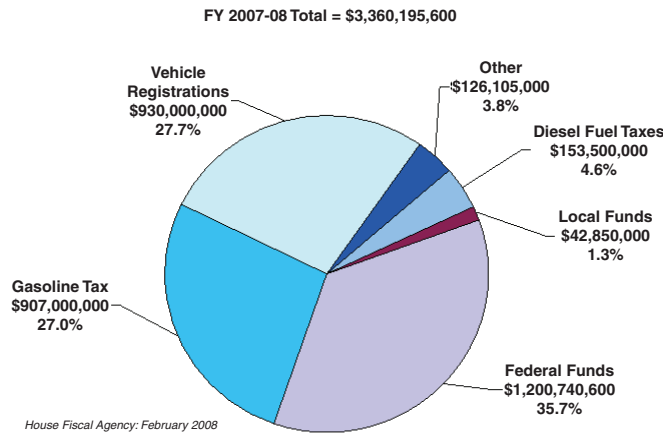
State Funding Mechanisms

Fuel taxes and vehicle registration fees. Vehicle registration fees and fuel taxes are the two main sources of state-generated transportation revenue in Michigan. These two funding streams are collected in and distributed through the Michigan Transportation Fund (MTF), and both are constitutionally restricted to funding transportation expenses.¹²

Overall, both fuel tax revenue and vehicle registration fee revenue have declined over the last decade. In Michigan, vehicle registration fees are based on vehicle value. Thus, state revenue decreases when Michigan drivers buy fewer new cars and hold on to old vehicles that are continually depreciating in value.

Meanwhile, Michigan’s fuel tax is based on a flat-rate per gallon of gas (rather than a percentage of

Figure 2.
Transportation Funding Sources



Source: Hamilton, William. (2008). Transportation background briefing. February 2008, p. 3. http://www.house.mi.gov/hfa/briefings/Transport07-08%20final_files/frame.htm

the gas price), and has remained at 19 cents per gallon of unleaded gasoline since 1997.¹³ Thus, when fewer gallons of gasoline are sold (due to either improved vehicle fuel economy standards or fewer miles being driven because of high gas prices), state gas tax revenues fall. In addition, considering inflation rates since 1997, the 19 cent per gallon tax is now the equivalent of only 14.7 cents, a 22.6 percent decline in value. Since 2003, Michigan’s cumulative gas tax revenue has decreased by \$100 million.¹⁴

Tolls. Michigan does not have toll roads. Since only major bridges and border crossings charge tolls in Michigan, revenue generated by tolls underwrite a very small portion of the state’s transportation system.¹⁵ Michigan is not the only state without toll roads; 22 states, excluding Michigan, have not authorized statewide toll roads.¹⁶ Precluding toll roads has historically been part of a Michigan strategy to encourage commerce, industry, tourism, and general economic development.¹⁷ However, as fuel tax and vehicle registration revenues decline, Michigan may feel pressure to revisit this approach.

Bond proceeds. Bond proceeds refer to the funds that are borrowed via bonds, basically loans that supplement federal and state revenues. Bond proceeds often support improvements to MDOT’s trunkline system (i.e. the highway system) and local road projects.¹⁸ Between 1996 and 2007, over

\$2.3 billion in state bond proceeds were used for the Highway Capital Program in Michigan, particularly on the Build Michigan Program, Preserve First Program, and Jobs Today Program.¹⁹ Bonding has increased transportation revenues over the past several years, but bonding carries its own costs in terms of interest payments the state must cover while repaying the bond proceeds.²⁰

Federal funding. Of the 119,570 miles of road in Michigan, 35,804 are eligible for federal funds. Local and rural roads make up 70.1 percent of these eligible roads, while 1 percent are interstates, 0.3 percent are freeways and expressways, and the remainder are considered ‘other federal-aid eligible’ roads.²¹ Federal funds are generated via an excise tax of 18.4 cents per gallon of fuel (this tax is in addition to Michigan’s state fuel tax). The federal government redistributes its fuel tax revenue based on a state’s population and revenues. As a “donor” state Michigan pays more into the federal distribution system than it receives back from the system. Donor states assist states that do not have sufficient populations and revenues to maintain their transportation infrastructure at levels that allows them to be functioning pieces of the national infrastructure. In the past, Michigan donated about 9.5 percent of its federal excise tax revenues to the federal highway trust fund, but in 2008 and 2009 the donation rate was reduced to 8 percent.²²



Federal funds are distributed to states in two ways. First, apportionments, which make up the majority of funds, are distributed through formulas that include population, lane miles of roadway, travel on the roadway system and tax payments made to the federal government. The second mechanism is direct allocation of funds to specific projects, which are sometimes called earmarks. Authorized by the SAFETEA-LU, federal transportation funds are made available to the states through a complicated web of program categories.²³

As noted earlier, states and local governments must reach a minimal threshold of state generated monies in order to receive federal matching funds. Generally, federal funding provides 80 percent of a transportation project (via either apportionments or earmarks) once the state-level entity raises the first 20 percent of the funds, but this match varies slightly by the categorization of the transportation project.²⁴

TRANSPORTATION EXPENDITURES

In 2007, a thirteen-member panel of government and industry representatives called the Transportation Funding Task Force (TF2) was established in Michigan to guide and inform the process of data collection and analysis of transportation initiatives. In November 2008, TF2 released a widely cited and influential report providing Lansing policymakers with estimates of needed funding, projections of current funding, and various proposals to improve Michigan's transportation funding system. It should be noted that the TF2 report's estimates and projections are just that, estimates and projections. Specific numbers from the report should be interpreted with caution and utilized more as a guide to relative revenues and expenditures than as absolute numbers.

The TF2 report outlines three levels of potential transportation expenditures. The first level, referred to as the 'do nothing' strategy, estimates that \$1.9 billion will be raised annually for highways, roads, and bridges if no policy changes are made. The TF2 then juxtaposes this figure with a 'good' level of investment in highways, roads, and bridges priced at \$6.13 billion annually. This 'good' level of investment would require \$4.9 billion to be raised by the state and \$1.2 billion to be

contributed in federal funds. MDOT estimates that 265 miles of road and 300 bridges per year could be improved under this plan as well the protection of 1,500 miles of pavement per year against decay.²⁵ Furthermore, this scenario could result in an additional 74,000 jobs, highway pavement and bridges could be maintained, and capacity improvements could be allowed. Safety and operation programs could be protected and rest area improvements, energy efficient improvements, and modest carpool improvements could be addressed. However, this 'good' investment level seems infeasible given that even \$4.9 billion is more than Michigan and federal grants combined have previously raised. The TF2's third expenditure level, described as 'better,' is even more unrealistic than the 'good' strategy, requiring \$12.7 billion in annual transportation revenue, which is almost quadruple the 2008 revenue.

It is important to note that transportation expenditures can be viewed as a positive economic and social investment in Michigan as opposed to simply a burden on the state budget. It is generally recognized that a \$1 investment in transportation infrastructure has the magnified affect of bringing \$5 to \$6 in direct and indirect economic benefits such as increased trade and reduced travel time opportunity costs. A 2007 study by the University of Michigan on MDOT's annual transportation investment and the benefits of the MDOT Five-Year Highway Program anticipated that statewide transportation investments would generate personal travel-time savings between \$28.3 million to \$69.2 million per year from 2007 to 2011, create business savings worth \$18.9 million to \$47.6 million per year, create 23,034 jobs, and increase Gross State Product by \$1.4 billion (in 2007 dollars).²⁶

Funding Gap

Although, the size of the funding gap depends on what services and projects the state defines as necessary, government and consultant estimates generally agree that in 2009 Michigan currently appears unlikely to generate enough revenue to handle its normal transportation expenditures.

The Transportation Funding Task Force describes of the growing funding gap in Michigan as due primarily to increasing costs of building materials (such as steel, concrete, and petroleum) and

decreasing revenues from fuel taxes and vehicle registration fees, as described above. Since 2004, revenue generated from fuel taxes decreased by a total of about \$100 million.²⁷ Meanwhile, non-adjusted vehicle registration fee revenue dropped from a high in fiscal year 2003–2004 of approximately \$979 million to about \$865 million in the 2009–2010 fiscal year, which is almost a 12 percent drop over a six year period.²⁸

Until fiscal year 2008, transportation expenditures were generally on the rise every year, with the exception of a drop in funding in 2004. If the TF2 is correct in its assumptions and \$1.9 billion in revenue is collected for Michigan transportation under current policy, the decrease between 2009 and 2008 revenues will be \$1.5 billion. The TF2 predicts that this ‘do nothing’ strategy will result in the loss of some 13,000 Michigan jobs, projects a degradation of roads that would leave only 65 percent of state roads in good condition by 2015, and notes there would be no budget for road expansion.

Compounding the funding gap at the state level is the fact that, if Michigan is only able to raise \$1.9 billion, the state will forgo an estimated \$954 million in federal matching funds, about one-third of its current revenue.²⁹ Projections into the 2010–2012 period make clear that an inability to meet federal matching requirements will remain a problem in Michigan for the foreseeable future. The MDOT projects that by 2011 Michigan will have a \$100 million shortfall, which will cost it over half a million dollars in federal funds, and similar scenarios are predicted for 2012 and 2013.³⁰ Clearly, reaching the state revenue tipping point that makes Michigan eligible for federal matching grants is critical.

Consequences of Insufficient Transportation Revenue

Given that exact amount of the transportation shortfall is unknown, it is difficult to gauge likely consequences. However, without increasing revenue Michigan will need to cut programs or scale back services and maintenance. Perhaps the most likely consequence of insufficient revenue is deteriorating road conditions. Michigan made significant gains in road conditions between 1996 and 2007, increasing the percentage of roads rated as in ‘good’ condition about

30 percentage points from 64 to 92 percent. However, MDOT estimates that the percentage of roads in good condition in 2014 could fall back to the 1996 figure if revenues are not increased.³¹ Further, MDOT estimates that the economic costs of transportation defunding could total \$1,671 per Michigan driver annually from time lost in traffic, wasted fuel, and crashes; that is equivalent to \$7 billion in lost state value.

MDOT predicts that the first programs expected to be cut are litter pickup and roadside grass mowing. Experts also suggest that maintenance on Michigan’s Welcome Centers, roadside parks, and rest areas will likely be too expensive to continue. Other potential cuts could be to state contracts that connect rural Michigan communities to the national bus network or to state contracts for passenger rail service between communities.

While an increase in transportation revenues is obviously needed in Michigan, legislators and analysts are still in the process of debating what increases in taxes and methods of taxation should be passed into law. However, federal stimulus funds have given Michigan more time to determine solutions to increase transportation revenue.³²

POTENTIAL REVENUE GENERATING POLICIES

There are many policy proposals that in aggregate could generate the revenue needed to undertake the increased investment strategies outlined by the TF2 report. The TF2 report asserts that Michigan’s transportation funding gap can be addressed by changes in state funding and by the development of private-public partnerships.³³ Relying on both TF2 recommendations and current policy in other states, this section presents a description of the means by which Michigan could generate increased transportation revenue. Most revenue-increasing measures being discussed would require new legislation involving tax increases; the question is which taxes to raise and by how much?

Motor Fuel Tax

Increases to the gasoline excise tax (commonly the ‘gas tax’) have not been pursued for a decade. Although elected officials are often averse to



increasing taxes, this type of tax increase may be relatively easier to pass—compared to more innovative tax approaches. This is because the state fuel tax makes up a somewhat invisible portion of the price paid for gas; consumers purchasing gas would typically be unaware of whether price increases for gas are due to market forces or the tax. However, if this tax remains based on a flat amount per gallon of gas, the resulting tax revenue would fall again in the future if drivers drive less in the face of high gas prices or if they continue to purchase increasingly fuel-efficient vehicles.

A variation on Michigan's current "per gallon" fuel tax, the floating percentage tax, has recently been touted by the Granholm administration and the Transportation Funding Task Force.³⁴ While Michigan's flat tax currently charges a set fee *per gallon* of gas bought (regardless of the price of that gas), a floating tax would be based on a percentage of the *price* of the gas. Therefore, as the price of gas increased, the floating tax would bring in higher amounts of revenue per gallon sold. Of course if the price of gas dropped, the floating tax would bring in correspondingly less revenue per gallon sold.

Currently proposals include an annual 3 cent per gallon increase on the fuel tax, an increased fee on plate renewals, and decreasing the vehicle value bands (utilized to determine registration fee based on the vehicle's value) to \$3,000 increments at the low and high end of the spectrum.³⁵ Also, HB 862, now in committee, would raise the diesel fuel tax from 15 cents a gallon to the regular gasoline tax of 19 cents per gallon.

Local Option Transportation Tax (LOTT)

In addition to a state-levied fuel tax, local and regional entities could also levy a fuel tax with the legislative permission of the state. This type of tax is known generally as a local option transportation tax (LOTT). The two common features among LOTTs are: one, they vary within a state, with revenues controlled at the local or regional level, and, two, their revenue is often earmarked for transportation purposes.

Fifteen states allow a local option motor fuel tax, Michigan not being among them. Only in five of these states (Alabama, Florida, Hawaii, Illinois, and Nevada) are local gas taxes widespread, and only

three (Alabama, Alaska, and New Mexico) have allowed revenues from these taxes to be used for purposes other than transportation. One difficulty with local and regional entities imposing a fuel tax is that the consumer can more easily avoid the local or regional tax by traveling a short distance to buy gas in another jurisdiction.³⁶

As with Michigan's current gas tax, most local, state, and federal fuel taxes suffer a common problem which hampers their use as a revenue source: they are often not indexed to keep up with costs of maintaining and building transportation systems or adjusted to deal with increases in automobile fuel economy. This means that their purchasing power decreases over time.³⁷ Additionally, because gas is only one product, the tax rate must be set relatively high if it is expected to substantially finance major infrastructure investments.

Local Vehicle Fees and Taxes: Registration Fees and Taxes and Operator License Fees

Thirty-three states have legislated for some type of local vehicle license or registration tax, and it can be a substantial funding resource for those local governments.³⁸ In 2004, 13 states—including Michigan—collected more in registration and license fees than in fuel taxes.³⁹ For instance, in Nevada, construction of the Las Vegas beltway was aided by a county vehicle registration tax. Local vehicle taxation can come in the form of a flat annual fee, an annual tax on vehicle value, a tax on vehicle weight, age, body type or number of wheels, and prices of vehicle rentals, leases, parking, and sales. Still, as mentioned above, reliance on registration fees for vehicles may be problematic since revenue will decline if Michigan drivers do not purchase new vehicles and their current vehicles depreciate.

Rhode Island, Virginia, and Washington have all passed legislation recently to phase out or reduce local vehicle taxes, although the elimination of the vehicle excise tax in Washington had significant negative impact on local transportation finance.⁴⁰

Road Pricing: GPS-Metered Programs and Toll Roads

The distinct advantage of road pricing is its ability to draw funds specifically from the users of roads.

It acts as a direct tax; a tax that falls initially on those people directly benefiting from the product or service. Among the many methods to charge road users according to the amount of use, technological advances such as the Global Positioning System (GPS) may facilitate the implementation of this type of tax in the near future. Traditionally, roads have been tolled in sections by traditional manned toll-booths, and recently by in-car sensors that electronically charge a toll to a personal account the driver holds with the government (I-Pass in Illinois and i-Zoom in Indiana are examples). GPS would allow a sensor to be installed in a car which would communicate with a satellite to read how many miles a car has driven, thereby allowing a mileage-based charge to the driver. The clear benefit of GPS is that a vehicle's road use can be calculated by satellite wherever it is driving, not just on specific toll roads.

Theoretically, GPS could be used to charge drivers only on certain roads or charge for all driving. However, current technology would only allow a fraction of roads—the larger, more established roads—to be tolled by GPS easily. This could lead to adverse consequences such as overcrowding on smaller roads by drivers trying to avoid tolls. It stands to reason that if GPS-based tolls are to be collected fairly and without causing new congestion, GPS technology must be improved.

Congestion pricing, or charging higher tolls for road users during busy traffic times, could be possible under a GPS-metered program. This type of program was tested in Oregon, and was found to increase the number of riders engaged in bus transit and to reduce congestion.⁴¹

Congestion pricing was just on piece of the Oregon Road User Fee Task Force's plan to redesign tolling. The Task Force's plan also included a mileage fee imposed on state roads and on new facilities such as newly constructed roads, bridges, and lanes that would be tolled in any way practicable.⁴² Mileage fees, the primary basis of the program, would be calculated based on data transmitted via GPS receivers in each vehicle. Then drivers would pay their mileage toll at gas stations when refueling. Drivers would then receive credits toward or refunds of fuel taxes they had paid or would pay in the future. In essence, the mileage fee aims to

replace the fuel-based tax collected at the pump and instead charges a miles-driven toll. Oregon planned a 1-year pilot of the technology with several hundred vehicles in Portland beginning in 2006, and since it was deemed successful, it was viewed as a suitable replacement for the fuel tax. However, the resulting report on the GPS program also concluded that the technical logistics are in need of refinement, and therefore full implementation of the plan has yet to occur.⁴³

A GPS-monitored road user tax model by which driving habits are observed and taxed may have difficulty passing through the legislative process. Instituting tolls of any kind, whether establishing a new toll road or starting a GPS system, is often politically difficult because of public opposition. Some people are uncomfortable with their vehicle's whereabouts being constantly tracked by a satellite. On the other hand, every person carrying a cell phone can be tracked in the same way via signals their cell phone produces. As more and more cell phone customers see the safety benefits of a locatable cell phone signal, the privacy concern that puts many citizens at odds with GPS tolling may dissipate.

The other main option for road-pricing—instituting physical toll booths with electronic pass sensors—tends to be legislatively unpopular as it increases congestion on roads and increases the cost of travel. Meanwhile, franchising toll roads, founding public-private partnerships in which government and private business work together to build and maintain a toll road, may make toll roads less expensive to taxpayers.⁴⁴ It should be noted that this does not happen in every case. In some cases, tolls have been increased after control is placed in the hands of a private firm. However, the public entity normally retains control over how much and when a private firm can increase tolls.⁴⁵

Emissions Tax

An emissions tax is determined based on what kind of car a person drives and what pollutants are emitted by that car. A 2001 study by Fullerton and West finds that emissions taxes, while well-intentioned, are inaccurate and expensive. In addition, the same efficiencies obtained by an emissions tax, the authors argue, can be achieved by a gas tax depen-



dent on fuel type, engine size and pollution control equipment (PCE), a vehicle tax dependant on mileage, or a combination of uniform tax rates on gasoline and engine size with a subsidy for pollution control equipment.⁴⁶

Sales Tax

Michigan drivers currently pay a 6 percent sales tax on the retail price of gasoline, which includes the federal excise tax but excludes the state excise tax. The revenues from the sales tax on gasoline fluctuate with the price of gas at the pump. In Michigan, almost three-quarters of the revenue generate from sales tax is dedicated to schools. Currently, local sales taxes are not allowed in Michigan.

Nationally, local financing of transportation has seen a shift since the 1970s towards the use of the sales tax and away from the property tax.⁴⁷ Thirty-three states allow local option sales taxes, but vary in their authorization for how those tax revenues may be spent, ranging from complete freedom (New York, Ohio, Tennessee) to required earmarks (Florida, Iowa, Louisiana, New Mexico, Oklahoma, and Texas) to the development of a per project legally binding expenditure plan before a tax can be adopted (Arizona, California, South Carolina, and Wyoming). The broad base of a sales tax is appealing, and revenues can be substantial in metropolitan counties.⁴⁸ Michigan's state sales tax does not typically fund transportation (with the exception being a small portion going to public transportation), but on the local level the voters could decide whether or not to use sales tax revenue for transportation purposes. In other states, local option sales taxes have funded new rail projects in Atlanta, Charlotte, Dallas, Denver, Houston, Los Angeles, Phoenix, Sacramento, Salt Lake City, Seattle, San Diego, San Francisco, San Jose, and St. Louis. Growing metropolitan areas such as San Jose and Phoenix redirected sales tax revenues from highways to new transit projects.⁴⁹

Income, Payroll and Employer Taxes

Yet another means to generate revenue for transportation projects is via income, payroll and employer taxes. In 2003, 15 states utilized these taxes, generating a small portion of each state's total transporta-

tion financing. Michigan does not divert income or payroll tax revenues to transportation funding.

These types of taxes are vulnerable to times of mass unemployment and economic downturns. The appropriate taxable population is also disputed; while seemingly appropriate for urban services as urban residents and commuters both benefit from the tax-funded projects, controversy emerges as commuters may not be represented by the government imposing the tax. If these taxes are imposed region-wide, they are less likely to encourage a relocation of businesses and people out of urban areas. Regional income, payroll, and employer taxes could play a significant role in financing transportation related projects in metropolitan Detroit.

Public-Private Partnerships (PPPs)

A potential funding solution, as well as point of caution to state and local governments, is the increased use of public-private partnerships (PPPs) to fund local transportation projects. PPPs have taken various forms, including the increased use of toll roads and the use of tax-exempt municipal bonds. Recently, lawmakers in the U.S. House Transportation and Infrastructure Committee have cautioned states to ensure the protection of the public interest in public-private partnerships agreements that involve highways. Congressional lawmakers have specific concerns about projects that improve select segments of the surface transportation network, but do little to improve the integrity of the national system.⁵⁰

Still, such arrangements could feasibly work if properly executed between the public and private sector. Many of the agreements are extensive with requirements imposed on the private firm in various project aspects such as maintenance standards. However, a common criticism of these agreements is also that the leases involved are too long, some as long as 99 years.

California provides a good example of successful PPPs. In California private toll road projects have been made possible by legislation that allows the state transportation department to enter into agreements with private entities for the construction and operation for four specific toll roads.⁵¹ The California SR 91 Express Lanes, now operated by

a public authority but originally conceived of and operated by a private-sector firm, is an example of a highway congestion pricing. SR 91 and SR 125 in California were particularly attractive for privatization because their high levels of congestion ensured substantial revenue. The state conducted environmental reviews on SR 91 previously, lessening the risk that the project would be stopped—a risk run by most high revenue projects that likely pose some environmental and right-of-way obstacles.⁵²

CONCLUSION

The shift toward environmentally friendly vehicles with improved fuel efficiency combined with a national economic downturn has produced an especially difficult funding environment for state transportation. It can be anticipated that fuel efficient vehicles and hybrids will continually lower gas tax revenues that are based on flat per gallon rates. Tough economic times compound this issue as Michigan residents put off buying new vehicles while paying ever lowering taxes on the depreciating vehicles they keep.

Numerous policy options can be considered to address the state's growing transportation funding gap. Toll roads are a very accurate way to collect fees from road users, and GPS technology appears nearly ready for use as a tolling mechanism. Alternative revenue options include a myriad of taxing mechanisms at both the state and local levels. But no matter what policy decisions are made, state lawmakers face the urgent issue of raising enough revenue to capture federal matching funds, rather than letting those dollars go to other states, a situation which would only worsen Michigan's status as a donor state today.

Notes

1. Hamilton, W. (2008). *Transportation: Background Briefing*. House Fiscal Agency. Lansing, MI: House Fiscal Agency, p. 8. http://www.house.mi.gov/hfa/briefings/Transport07-08%20final_files/frame.htm
2. The Michigan Transportation Funding Task Force. (2008). *Transportation Solutions: A Report on Michigan's Transportation Needs and Funding Alternatives*. Lansing, MI: Author.

3. For information on the administrative structure of transportation in Michigan see: *MDOT: A Guide for Legislators* (2007) made available through the Michigan Department of Transportation website. The Guide is a helpful primer on the structuring of Michigan's transportation administration. http://www.michigan.gov/documents/mdot/MDOT_Legislative_Guide_198127_7.pdf

4. Highway-related programs in Michigan comprise the largest portion of the state's surface transportation funding; approximately 90 percent of the transportation budget or narrowly over \$3 billion.

5. See the Michigan Department of Transportation's Five-Year Transportation Program draft cited at the end of this document for more information.

6. Notably, as the spending SAFETEA-LU enables states to pursue specific transportation projects, this legislation was the source of the infamous 2008 Presidential election battle over pork barrel spending that argued 'the Bridge to Nowhere' (the Gravina Bridge) in Alaska was an abusive use of earmarks. Note that \$244.1 billion in SAFETEA-LU provisions is occasionally represented as \$286.4 billion, as this larger figure includes the 2004 authorized funding that occurred in the 2004, between TEA-21's expiration in September 2003 and the enactment of SAFETEA-LU in 2005. The 2004 spending figure is from the Michigan Department of Transportation. (2005). *Reauthorization: the Final Chapter*. http://www.michigan.gov/documents/mdot_Reauthorization_Overview_Commission_135365_7.pdf

The \$244.1 billion figure is from the Federal Highway Administration. (2009). Fact Sheets on Highway Provisions. Section on guaranteed funding. <http://www.fhwa.dot.gov/safetealu/factsheets/guarfunding.htm> and <http://www.fhwa.dot.gov/safetealu/factsheets.htm> for the full highway fact sheet document.

7. The Michigan Department of Transportation. (2009). *Five-Year Transportation Program, FY 2009-2013*. http://www.michigan.gov/mdot/0,1607,7-151-9621_14807_14810---,00.html

8. In recent years, Michigan's Comprehensive Transportation Fund (CTF), the fund for public transportation, has not had sufficient revenue to reach federal aid eligibility. Furthermore, the state has used toll credits and bonds since 2005 to raise the funds to meet the federal requirements. Unfortunately, the toll credit mechanism is predicted to be exhausted in 2009 or 2010, as well as the CTF bond (The Michigan Department of Transportation. (2009). *Five-Year Transportation Program, FY 2009-2013*. http://www.michigan.gov/mdot/0,1607,7-151-9621_14807_14810---,00.html).



9. The state's budget totaled to roughly \$42.4 billion in 2007-2008 (Hamilton, 2008).
 10. Hamilton, 2008.
 11. Hamilton, 2008.
 12. Within the term transportation funding, by a statutory funding formula, state transportation funds are allocated to Michigan's 79 public transit agencies, which include state, county, city, and village road agencies, a Critical Bridge Fund, Economic Development Fund, the State Trunkline Fund (STF), and the Comprehensive Transportation Fund (CTF) providing capital and operating assistance to Michigan's 79 public transit agencies.
 13. The tax on diesel fuel is 15 cents per gallon.
 14. The state sales tax, currently 6 percent in Michigan, is also charged on the price of gasoline purchases, but those tax revenues are not set aside for transportation exclusively.
- Michigan Department of Transportation. (2009). *Transportation Funding Crisis: What You Don't Know Will Cost You*. Lansing, MI: Author.
15. The Mackinac Bridge, Blue Water Bridge at Port Huron, and International Bridge at Sault Ste. Marie are all funded with toll revenue.
 16. In 2007 Alaska, Arizona, California, Connecticut, Hawaii, Idaho, Iowa, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Carolina, South Dakota, Vermont, Virginia, Washington, Wisconsin, and Wyoming all did not have statewide road tolls. However, as is the case in Michigan, there are elements, such as bridges or regions that charge tolls in California, South Carolina, and Virginia (National Council of State Legislators. (2007). *Toll Facilities Map*).
 17. Michigan Department of Transportation. (n.d.). *Why Doesn't Michigan Have Toll Roads?* Retrieved March 24, 2009 from http://www.michigan.gov/mdot/0,1607,7-151-9631_12965_14013-28071--,00.html.
 18. The Michigan Transportation Funding Task Force, 2008.
 19. The Michigan Transportation Funding Task Force, 2008.
 20. The Michigan Transportation Funding Task Force, 2008.
 21. Michigan Department of Transportation, Transportation Funding Task Force. (2008). *Transportation Funding Mechanisms and Systems*. Functional classification: eligibility for federal funds. p. 80 Available at: http://www.michigan.gov/documents/mdot/MDOT_TF2_4_21_08_Transportation_Funding_Mechanisms_and_Systems_232494_7.pdf
 22. Michigan Department of Transportation. (2005, August 10). *Governor: Michigan's Hard Work Pays Off in New Transportation Bill*. Retrieved March 24, 2009 from <http://www.michigan.gov/mdot/0,1607,7-151-9620-124074--,00.html>.
 23. For more detailed information on flow of federal aid to Michigan's highway program, please see Statewide Systems Management Section, Statewide Transportation Planning Division, Bureau of Transportation Planning, Michigan Department of Transportation. (2007). *Federal Aid to Highways Program: Michigan, FY 2007*.
 24. For example, interstate projects are covered by 10 percent local funds and 90 percent federal funds.
 25. Michigan Department of Transportation. (2007). *MDOT: A Guide for Legislators*. p. 8 http://www.michigan.gov/documents/mdot/MDOT_Legislative_Guide_198127_7.pdf
 26. Fulton, G., Grimes, D., & Petraglia, L. (2005). *Economic Benefits of the Michigan Department of Transportation's 2005-2009 Highway Program*. Ann Arbor, MI: Economic Development Research Group, Inc; Institute of Labor and Industrial Relations, University of Michigan.
 27. The Michigan Transportation Funding Task Force, 2009.
 28. Michigan House Fiscal Agency. (2009, June 18). *MTF Revenue Charts – Rolling Update*. Retrieved on September 8, 2009 from <http://house.michigan.gov/hfa/transportation.asp>.
 29. The Michigan Transportation Funding Task Force, 2008.
 30. The Michigan Transportation Funding Task Force. (2009, February 6). *Presentation on Funding Crisis*. Retrieved April 10, 2009 from http://www.michigan.gov/mdot/0,1607,7-151-9623_31969_49303--,00.html.
 31. The Michigan Transportation Funding Task Force, 2009.
 32. The American Recovery and Reinvestment Act (ARRA) made about \$134.3 million available to Michigan for urban and rural transit, and \$847.2 million for roads, bridges, and highways. The Michigan Department of Transportation. (2009). *Michigan Recovery and Reinvestment Plan*. <http://www.michigan.gov/mdot/0,1607,7-151-48661-210002--,00.html>
 33. The Michigan Transportation Funding Task Force, 2008.
 34. Heinlein, G. & Cain, C. (2009, March 5). Gov Backs Gas Tax Change. *Detroit News*.

35. Gongwer News Service. (2009, June 3). *Steudle: Proposed Gas Tax Increase Not Painful*. 48: 105(2).
36. Goldman, T. & Wachs, M. (2003). A Quiet Revolution in Transportation Finance: The Rise of Local Option Transportation Taxes. *Transportation Quarterly*, 19-32.
37. Ang-Olson, J., Wachs, M., & Taylor, B.D. (2000). Variable-Rate State Gasoline Taxes. *Transportation Quarterly*, 55-68.
38. Goldman & Wachs, 2003.
39. Transportation Research Board. (2006). *Special Report 285: The Fuel Tax and Alternatives for Transportation Funding*. Washington, D.C.: Transportation Research Board of the National Academies.
40. Goldman & Wachs, 2003.
41. Small, K.A. (2004). Road Pricing and Public Transport. In G. Santos, *Road Pricing: Theory and Evidence* (pp. 133-158). Oxford, UK: Elsevier.
42. Oregon.gov. (2009, February 18). *Road User Fee Pilot Program*. Retrieved March 24, 2009 from <http://www.oregon.gov/ODOT/HWY/RUFPP/mileage.shtml>.
43. Oregon.gov, 2009.
44. Transportation Research Board, 2006.
45. For example, the City of Chicago and Skyway Concession Company LLC (SCCL) have between them the Chicago Skyway Lease and Concession Agreement. The agreement sets out tolling level requirements setting maximum toll rates subject to an exception for variable tolls. Future years are divided into regulatory terms in which new formulas determine toll levels for different vehicles. Tollroads News. (2004). *Toll regulation on the Chicago Skyway*. Posted November 23. <http://www.tollroadsnews.com/node/923>
46. Fullerton, D. & West, S. (2001). Can Taxes on Cars and on Gasoline Mimic an Unavailable Tax on Emissions? *Journal of Environmental Economics and Management*, 135-157.
47. Krmeneč, A.J. (1991). Sales Tax as Property Tax Relief? The Shifting Onus of Local Revenue Generation. *Professional Geographer*, February, 60.

Advisory Commission on Intergovernmental Relations. (1988). *Local Revenue Diversification: Local Income Taxes: A Staff Report*. SR-10. Washington, DC.
48. Goldman & Wachs, 2003.
49. Goldman & Wachs, 2003.
50. The Council of State Governments, 2007.
51. California Assembly Bill 680, 1989. Retrieved March 25, 2009 from <http://www.dot.ca.gov/hq/paffairs/about/toll/ab680.htm>; Transportation Research Board, 2006.
52. Transportation Research Board, 2006.

Acknowledgments

CLOSUP appreciates the work of the project manager, Tamara Wilder, throughout all phases of this project. CLOSUP gives special thanks to Heidi Kaplan for assistance in researching and writing drafts of the brief. Brian Jacob and Tom Ivacko provided invaluable support during the revision of this brief. CLOSUP is grateful to the following reviewers for their time and expert advice: Chris Mann (Southeast Michigan Council of Governments), Michele MacWilliams (Associated Food and Petroleum Dealers), William Hamilton (Michigan House Fiscal Agency), and Peter Sweatman (University of Michigan Transportation Research Institute)

Regents of the University of Michigan

Julia Donovan Darlow, Ann Arbor
Laurence B. Deitch, Bingham Farms
Denise Ilitch, Bingham Farms
Olivia P. Maynard, Goodrich
Andrea Fischer Newman, Ann Arbor
Andrew C. Richner, Grosse Pointe Park
S. Martin Taylor, Grosse Pointe Farms
Katherine E. White, Ann Arbor
Mary Sue Coleman (ex officio)

MICHIGAN RESEARCH BRIEF SERIES

Business Taxes

Economic Revitalization through College Scholarships:
The Kalamazoo Promise

Regulation of the Individual Health Insurance Market

The Prison Population and Corrections Expenditures

Smoke-Free Legislation

Transportation Funding: Highways, Roads, and Bridges



Gerald R. Ford School of Public Policy
Joan and Sanford Weill Hall
735 South State Street
Ann Arbor, MI 48109-3091

www.closup.umich.edu

734-647-4091

closup@umich.edu