

ROAD FUNDING

TIME FOR A CHANGE

John C. Taylor, Ph.D.



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Executive Summary

How to Use This Report

To the author's knowledge, this report is the most comprehensive attempt to date to address public policy related to Michigan's current transportation infrastructure. More than two dozen specific recommendations are presented to help policymakers fund, reform and prioritize the state's road network. Every attempt has been made to balance costs and benefits, address long- and short-term needs, and acknowledge the trade-offs inherent to all acts of public policy.

None of the individual recommendations herein is a "silver bullet," nor is the sum of them one. The recommendations should be considered in their totality and not in isolation from one another.

No one should interpret this report to mean that the author is recommending more spending on roads without spending less on other items both inside and outside of the state transportation budget. Although this report focuses on the transportation and related budgets, the author's colleagues at the Mackinac Center have recommended hundreds of millions of dollars in cost savings from elsewhere in the state budget. Those ideas are a good place to start when determining how the state should raise the priority of its road system without increasing the size of the state budget, or piling new burdens on our already troubled state economy.

Overview of Michigan's Road Conditions and Funding Trends

The Michigan highway system is at a turning point. Funding is declining at a time when the need for additional investment is increasing. The system can be revitalized with appropriate new investment and reforms, or it can be allowed to deteriorate to a point where it has a significantly negative impact on economic development and the quality of life in the state.

In order to build its economy, Michigan needs a road system that offers fast and reliable transportation for freight and people. Manufacturers are dependent on a well-maintained highway system in order to move freight "just-in-time" and allow for low inventory levels that result in lowest total distribution cost. Manufacturers and service businesses want to locate in areas where the specialists — technicians, consultants, sales people and the like — can interact easily, but also in areas where they can draw a workforce in from a wide commuting range and where employees' families will want to live because of the quality of life afforded by easy mobility.

While good roads are critical to Michigan's auto industry, they are perhaps even more important to some of the kinds of new industries that are critical to Michigan's future. For instance, the aerotropolis air freight hub being discussed for Wayne and Willow Run airports will be highly dependent on a well-constructed, congestion-free road system that can move air freight between all the ground intermediaries involved in the air supply chain. Likewise, capitalizing on Michigan's position at the center of the U.S.-Canada trade network and broader NAFTA trade area, is dependent on roads and border crossings that allow for reliable transportation of goods and business people. The same is true for companies like Google that won't be happy about investing in a metropolitan Ann Arbor region that is in danger of being ensnarled by congestion on U.S. 23.

The state spends some \$3.4 billion annually on Michigan's state and local roads, but there are many indications that additional funding is necessary. One key indicator is the fact that current taxes will not support current road spending — in fact, spending in the current five-year plan is scheduled to decline from \$1.62 billion in 2007 to \$1.23 billion in 2011. Even that spending plan looks like it may fall short by \$300 million and may face future cuts. In addition, the five-year plan calls for "expansion" spending on new interchanges and lanes to decline from \$310 million to just an average of \$36 million between 2009-2011. Expansion spending is critical to fighting congestion.

There are many other indicators of need. The Michigan Department of Transportation, for example, has identified backlogs in construction needed to maintain state-owned road and bridge conditions, and to fight congestion. This study estimates that these backlogs have a cost of at least \$800 million per year. There are additional county and city road needs over and above that amount.

Absent new spending, MDOT forecasts that the surface and more important sub-surface life and condition of our state-owned roads will deteriorate from 92 percent "good" to 68 percent by 2014. Looking solely at surface conditions — not the underlying quality of the road structure — 13 percent of Michigan's urban interstates are in poor condition, while neighboring states averaged just 6.5 percent in that category. Michigan also ranks far worse than neighboring states on "urban other principal arterials."

Michigan does not fare any better in terms of congestion levels. For instance, Michigan's urban non-interstates are 29.6 percent congested, while Midwestern states overall averaged 19.4 percent congested. Michigan's urban interstates are also somewhat more congested than those in neighboring states. So what should be a distinct economic development advantage given our slow population growth relative to these states, is in fact no advantage at all.

A number of other measures indicate that Michigan must invest more in its highway system. Road usage has increased by far greater percentages than actual lane mile additions over the last 30 years. Fuel prices and the auto fleet's increasing fuel economy have had a major impact on the amount of fuel sold and, consequently, the amount of tax collected, since fuel taxes are per gallon and not tied to the fuel price. Inflation has also taken a toll on available road money with Michigan's gasoline tax losing 42 percent of its purchasing power since gasoline taxes were last raised in 1997.

Additional Revenues Must Be Linked to Offsets and Reforms

The current transportation funding system cannot give us the kind of road system we need or even keep us from falling further behind. But the way forward should involve a funding and spending plan that is part of a comprehensive strategy for addressing the state's economic development and government services needs. As part of the solution, higher road user fees/taxes – linked to offsetting tax and spending cuts and other reforms – will be needed.

Other states have started aggressive programs to expand and improve their highway capacity in major urban areas and Michigan must do the same. In order to compete in the 21st century, Michigan must raise the amount of money available for highway spending through a 6-cent-per-gallon increase in the gasoline tax — from 19 cents to 25 cents. At the same time, while the evidence shows that truckers pay a fairly large share of the costs they impose, there is no way to justify a diesel tax that is lower than the gasoline tax as currently exists. Therefore, the diesel tax should be raised from 15 cents to 25 cents per gallon. These increases should be phased in over three years, and sunset after six years, with a vote of the Legislature required to extend the increases. The tax should be indexed to Consumer Price Index inflation as was the case prior to 1984. Virtually all of Michigan's taxes are in effect indexed to inflation as they are tied to the value of goods or income. After the full phase-in, but before indexing, these taxes would raise \$388 million per year. The indexing would raise the gasoline and diesel tax by approximately 0.75 cents per gallon per year at 3 percent inflation, and should be capped at 5 cents per gallon.

Michigan's fuel taxes alone are quite low relative to other states. Michigan's current gas tax is ranked 31st, while a 6-cent increase would put the state about 5 cents over the national average and slightly above neighboring states. For diesel on motor carriers specifically, Michigan currently ranks 45th without the sales tax.. After a 10-cent increase, Michigan would be a few cents above the national average but still almost 5 cents below neighboring states. With sales taxes included our current highway user taxes are quite high, however, sales taxes do not go towards roads.

While we do not recommend a general increase in registration fees, this study does recommend closing several loopholes in registration fee collections and reducing registration and other fee payments going to the Secretary of State's office through the Michigan Transportation Fund and the Michigan Transportation Administration Collection Fund. These measures would raise another \$98 million per year.

Altogether, this proposal would raise \$486 million per year in state fuel taxes and registration fees before indexing.

In addition, more money should be raised at the local level for county/city roads, given the relatively low amounts raised locally in Michigan compared to other states. As part of this effort, county governments should be allowed to initiate county referendums on a countywide registration fee of \$50. This fee could raise \$500 million per year for county and city roads if enacted in all 83 Michigan counties. The money could be divided between county and city roads based on a legislatively directed percentage split, perhaps similar to the current formula between counties and cities.

But Michigan cannot afford a net tax increase. Offsets for these increases can come from cost savings and reductions in spending in other parts of state government. The Mackinac Center has proposed hundreds of state budget cuts adding up to billions of dollars. Just one Mackinac Center list of recommendations, including privatization of prisons, Medicaid reform and competitive bidding for public school teachers' health care insurance could save the state \$1.8 billion per year. While many of the spending reforms would require changes in the way the state operates, implementing just one-third of them would offset all of the state tax increases that are being proposed in this study.

Lane Expansion and Federal Funds

While the above funding increases would allow for improvements to the existing road system, they will not generate sufficient money to allow for lane expansion on critical corridors in southeast Michigan, such as I-75, I-94 and U.S. 23, or for critical roads in western Michigan. The state should aggressively pursue federal permission to build new automated congestion-priced toll lanes on key corridors. These new lanes on existing roadways would allow drivers with transponders to use the new roadway and pay a price per mile that would vary with the amount of traffic. The lanes could be publicly or privately owned, although public ownership is more likely given that the existing lanes are public and could not be sold under current guidelines without paying back the federal government for its initial investment in the roads. These kinds of “express” or “hot” lanes are already operating in several cities, including Minneapolis and San Diego.

Policy Reform Recommendations

Three key categories of reforms recommended in this study should be tie-barred to any increase in taxes for roads. The first reform would dedicate a large percentage of newly raised state money to critical economic development roads by designating a high-priority road network. These roads should be selected and targeted for investment irrespective of which government entity owns them. The network would consist of the National Highway System roads plus another 10,000 miles of the most important arterial roads. Arterial roads would be selected based on economic importance, vehicle miles traveled, commercial truck importance, etc. Four cents per gallon of the gasoline tax and all 10 cents per gallon of the diesel tax increase (\$291 million per year) plus half of the index funding increases should be directed towards this network. State-owned roads would be limited to 69.1 percent of the system, with county and city roads representing no more than 21.2 percent and 9.7 percent of the miles respectively. The roads would be selected by a committee of state, county and city road officials and will allow the state to focus significant monies on key roads without changing jurisdiction or geographic funding formulas.

The second key reform is to promote consolidation in the number of road agencies involved in Michigan road building and maintenance. Act 51 should be changed to allow counties to consolidate road commissions into general county government and regional authority language

should be included to specifically provide for contiguous road agencies to form regional road authorities. The Legislature should also consider requiring cities receiving less than \$150,000 in MTF funding to contract with neighboring cities or their county.

The third set of key reforms relate to a variety of spending efficiency proposals:

- Eliminating prevailing wage laws;
- Making changes in state trunk line maintenance, including putting out to bid all state work in each county;
- Getting the state out of the business of doing its own maintenance on state roads in those 21 counties where this is still occurring;
- Consistently requiring design and build warranties;
- Increasing the use of scorecards;
- Increasing performance auditing of state and local road agencies;
- Improving the state's control over the type, length and cost of environmental impact statement studies;
- Consolidating mass transit agencies in southeast Michigan; and
- Reviewing the previous recommendations of the last Governors/Legislative Transportation Funding Committee in 2000.

Given our recommended emphasis on directing most of the new state raised tax dollars to the high priority network, and our recommendation that counties be given the option to raise local money for local roads, we propose that just 1 cent per gallon of the gasoline tax increase, but all the proposed registration fee enhancements, totaling \$146.5 million per year, be directed into the existing formulas for distribution to state, county and city roads. Half of all index funds should also be directed to the formulas.

We also propose directing the last 1 cent per gallon of gasoline tax increase into a Local Incentive Match Fund that would be designed to incentivize three actions. This local incentive money would be used to encourage local governments to increase both public and private funding of local roads, and to provide incentives for consolidation and other local cost saving measures. One third of the money would go into a subfund to encourage local funding of local roads through local property taxes, special assessments, etc. This subfund would be augmented with \$10 million per year of existing local formula money for a total incentive sub-fund of \$27 million per year. Currently, Michigan local governments are far more dependent on state transfers for funding than is the case in other states. Another third of this money would go to partial match incentives for increases in local private funding. The final third, plus an additional \$30 million of existing local formula money that we recommend be considered, would go into a subfund to promote consolidation and cost sharing between the 616 local road agencies. This \$47 million per year would be available for partial match grants to local entities showing cost-savings from consolidation and/or other efficiency programs.

Other recommendations include:

- Appointing a legislative transportation committee or expert panel to reevaluate the recommendations of the Legislature's 1998 Transportation Funding Study Committee.

- Creating a study committee to consider: replacing registration fees with fuel taxes; altering or replacing gasoline and diesel taxes; and taxing electric, hybrid and alternative fuel vehicle road usage.
- Enacting legislation to provide for and regulate developer impact fees.
- Considering whether county road commissions, or alternative county road organizations, should have the authority to request a county millage vote for roads.
- Reviewing the extent to which private bidding is being required on state and local construction and maintenance projects, the effectiveness of the existing requirements and the potential need for more guidance on bid requirements.
- Studying the costs and results of the southeast Michigan expressway message board system. While millions of dollars per year have been spent, signs often don't work and often provide meaningless information when they do.
- Requiring additional electronic signage and/or local site FM radio stations where drivers can get information regarding state, county and city road construction projects.
- Requiring signage on high vehicle miles traveled roads that tells the public what agency owns the road and provides a phone number for reporting potholes and other issues.
- Requiring local agencies to remove any remaining "paper" road mileage from their systems. These often are subdivision roads that were platted but never built.
- Investigating whether recycled materials should be used in the construction of Michigan roads. Recycled materials that are mandated in Ohio are banned here.
- Considering requirements for planning coordination between local road agencies and local public works (sewer, water) agencies to avoid reworking the same road segments for multiple projects.
- Considering the use of variable direction lanes on some congested roads as many other states do.
- Reevaluating the need for a new Detroit-Windsor bridge given that auto traffic has fallen by more than 25 percent and truck traffic growth has been flat since Sept. 11, 2001.
- Implementing truck and auto electronic tolling at the Blue Water Bridge and urging the Ambassador Bridge owners to do the same.
- Passing legislation to provide for heavy truck "one-stop shopping" for all truck licenses, registrations and fees. Currently truck owners must deal with five separate agencies.
- Repealing the \$100-per-truck registration fee for economic regulation provided for in a 1933 law since the Public Service Commission is preempted from regulating virtually all aspects of intrastate trucking.

INTRODUCTION

Michigan's highway system is at a critical juncture. According to the Michigan Department of Transportation, road condition is scheduled to begin deteriorating following several years of improvements. Congestion is forecast to increase, and Michigan is in need of several major reconstruction projects on southeast Michigan interstates. Funding for new projects is in short supply. In fact, the overall five-year plan for work on state-owned roads is going down from recent spending levels, and there is almost no new money for expansion of capacity. State transportation bonding is also at an all time high and debt service on those bonds is scheduled to take up a very significant share of available money. The local road system owned by counties, cities and villages is also in poor shape and in need of additional funding.

An efficient transportation system has played an important role in Michigan's economic development over the years, and government has had an important role in assuring that appropriate transportation infrastructure is in place. However, the organizations and methods for planning, funding, constructing and maintaining our transportation infrastructure need to be reevaluated to ensure we are getting the most effective system for the money invested. We must figure out the best way to obtain infrastructure investment in the most efficient and effective manner. Other key issues that need to be addressed include the role of the public and private sectors, the costs of obtaining a given level of infrastructure and the costs of maintaining that system.

There has also been considerable press coverage in recent months about the potential need for a fuel tax increase. Will Michigan's road taxes go up in the near future? If so, which specific taxes should be raised and by how much? One answer is simply to raise taxes by the amount various interests suggest is needed. A more creative approach is to study the real level of needs, and to tie any funding increases to reforms in how the money is spent. A responsible approach also demands that other spending and tax cuts should be identified to offset any transportation tax increases. A business as usual approach to the way we develop and maintain highway infrastructure simply won't work any longer.

A strong highway network is critical to economic development and quality of life. For individual travelers the benefits of a well performing highway system relate to fast and delay-free travel, safety and comfortable, damage-free experiences. For business, an effective highway system allows for specialist employees to commute, and travel back and forth to suppliers and customers in a fast and reliable way. It also allows for freight to be moved back and forth between suppliers and customers in a way that keeps distribution costs to a minimum while allowing for just-in-time oriented operations that provide maximum service levels.

This report first seeks to provide an understanding of how Michigan's highway system is structured and funded. Ownership of the system, funding of state and local roads, and the disposition of money on those roads is discussed. Following these initial sections, the report examines the various revenue sources and specific taxes Michigan uses to fund highways, and how our existing taxes compare to neighboring states and the U.S. average. The next section tries to identify the level of need for additional investment in the Michigan highway system. This section examines what various organizations are saying about that need. It also looks at specific

information about road surface condition, congestion levels, levels of auto damage, existing funding level trends, the impact of construction cost inflation, etc. The following section studies an age-old question in Michigan: the role of “heavy” trucks in damaging the roads, and the degree to which trucks pay their fair share of costs for highways nationally and in Michigan. The report then examines the role that the highway system plays in providing a climate receptive to economic development, and the role that the road system plays in assuring individual mobility and quality of life. Finally, the report concludes with a series of recommendations on specific taxes, the way highway money should be spent, and a variety of needed reforms in the system.

None of the individual recommendations herein is a “silver bullet,” nor is the sum of them one. The recommendations should be considered in their totality and not in isolation from one another.

No one should interpret this report to mean that the author is recommending more spending on roads without spending less on other items both inside and outside of the state transportation budget. Although this report focuses on the transportation and related budgets, the author’s colleagues at the Mackinac Center have recommended hundreds of millions of dollars in cost savings from elsewhere in the state budget. Those ideas are a good place to start when determining how the state should raise the priority of its road system without increasing the size of the state budget, or piling new burdens on our already troubled state economy.

MICHIGAN’S TRANSPORTATION SYSTEM

The Michigan transportation system consists of a combination of roads, airports, mass transit systems, ports, waterways and international border crossings. From both a passenger and freight perspective, it is important to ensure that this system is interconnected and that smooth “intermodal” operations can be conducted across modes on any given trip. Since Michigan sits at the middle of the U.S.-Canadian economy and trading network, it is also important to ensure that people and goods can effectively travel to and from Canada. As such, the state must work to ensure that the highway network effectively interconnects these various modes of transportation and facilities.

Michigan’s transportation infrastructure is owned and operated by a combination of state, county and city entities. While the vast bulk of transportation trips are made on the highway system in cars and trucks, state and local entities are also responsible for mass transit, airport and port infrastructure. With respect to highways, the state itself owns a small percentage of the system, but these state roads, as compared to county/city roads, account for the bulk of auto and truck traffic every day. The number of miles of roads owned by each entity, and the importance of those roads, is an important factor to consider in studying current and proposed road funding plans.

The following subsections discuss the ownership and types of Michigan roads, and their funding.

Road Ownership, Classification and Travel Volumes

While little known to the general public, Michigan roads are owned, managed and maintained by one of three levels of state government, and are classified into various systems based on their travel characteristics. See Table 1 for a summary of road ownership by type of road, and annual vehicle miles of travel (AVMT) by road type. These ownership designations and functional classifications are very important to understand in that past, current and potential future road funding decisions are likely to be impacted by issues related to road ownership.

Table 1
2005
Road Ownership and Classification
(Actual Miles)

System/Jurisdiction	State		County		City/Village		Total	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
Route Miles	9695	8%	88960	74%	20914	18%	119569	100%
Annual Vehicle Miles of Travel		51%		31%		18%		100%
National Functional Classification								
- Principal Arterial	5271		767		426		6464	
- Minor Arterial	3947		3901		1722		9570	
- Collector	464		21938		2160		24562	
- Local	13		62354		16606		78973	
Total	9695		88960		20914		119569	
Federal Aid System	9682	24%	26607	66%	4308	10%	40597	100%
National Highway System	4450	93%	219	5%	92	2%	4761	100%

Source: MDOT, State Long Range Transportation Plan 2005-2030 - Highway/Bridge Technical Report, Oct. 31, 2006

Michigan's road system covers 119,569 route miles, and is owned by the state, counties and cities. In 2005, the Michigan Department of Transportation owned and was responsible for all the "I," "US," and "M," roads in the state, plus some 4,413 key bridges, or 8 percent of the route miles. Eighty-three (83) county road organizations were responsible for 74 percent of the miles, and 533 cities/villages were responsible for another 18 percent of the system.¹ The county road organizations consist of 82 county "road commissions" and one county, Wayne, where the road organization is consolidated into the operations of the overall county government.

The county road commissions are somewhat unique to Michigan. They are legally distinct from the rest of the county government with elected or county-board appointed commissioners who are in most respects independent of the county board. While county boards must approve annual budgets for road commissions, that is the only real level of control by the county board. The commissions were created in 1893 to provide roads between population centers when townships had been unwilling.² Beginning in 1905, state government began providing funding for the road

commissions. In 1931, township roads that had been controlled by townships were consolidated into the road commissions in order to avoid defaults during the Depression. At that time, a portion of state gasoline taxes and weight taxes were dedicated to the road commissions. Following the 1931 act, property taxes ceased being the primary means of funding local roads. The new, wholly independent county “road commissions” were necessary to get townships to go along with the plan, to make the sale of road bonds more feasible, and to separate road decisions from the politics of the regular county boards.

Given the above system of county and municipal roads, the Michigan DOT controls a relatively small percent of total route miles as compared to the national average and neighboring states. For instance, nationally the average percent of roads controlled by the state is 19.5 percent, while in neighboring states the average is 12.4 percent.³ In Ohio, 15.5 percent of the roads are controlled by the state. This is an important piece of information because as compared to neighboring states Michigan state officials are somewhat limited in their ability to directly control many key roads. While the difference between controlling 8 percent and 12.4 percent of route miles may seem fairly small, it is important to note that a disproportionate share of total vehicle miles traveled moves on that incremental percent of road route miles.

The number of miles of roads assigned as state versus county versus city, and the Michigan formula for distributing state transportation revenues to specific local governments (the geographic formula) has been relatively static for many decades. However, in 1997, as part of the proposed Build Michigan II proposal that raised the gasoline tax 4 cents per gallon, Gov. John Engler’s administration proposed a major reclassification of the roads that would have increased the percentage of state roads.⁴

At the time the administration argued that, given population changes and economic development over many years, it was necessary to put more roads under state control so that the governor could ensure that the most important roads were expanded and maintained. The proposal also called for changing the distribution formulas so as to reduce the impact of simple route miles and population in determining allocations to specific counties and cities. New factors such as road usage and condition would have been introduced in an attempt to distribute money to areas with the most growth and traffic volume. However, these elements of the Engler proposal for road funding were not adopted by the Legislature and road jurisdiction and geographic formulas have not been changed significantly in a half century.

Roads are also classified under the National Functional Classification (NFC) system in terms of character of service the roads are intended to provide.⁵ This classification system also determines which roads are eligible for federal aid. Roads are classified in a hierarchical system in which “principal arterials” are at the top, followed by minor arterials, collectors and local roads. Roads classified at “collector” or higher levels are eligible for federal road money. In Michigan 40,613 route miles are eligible for federal aid, with 23.8 percent of those roads on the state system.

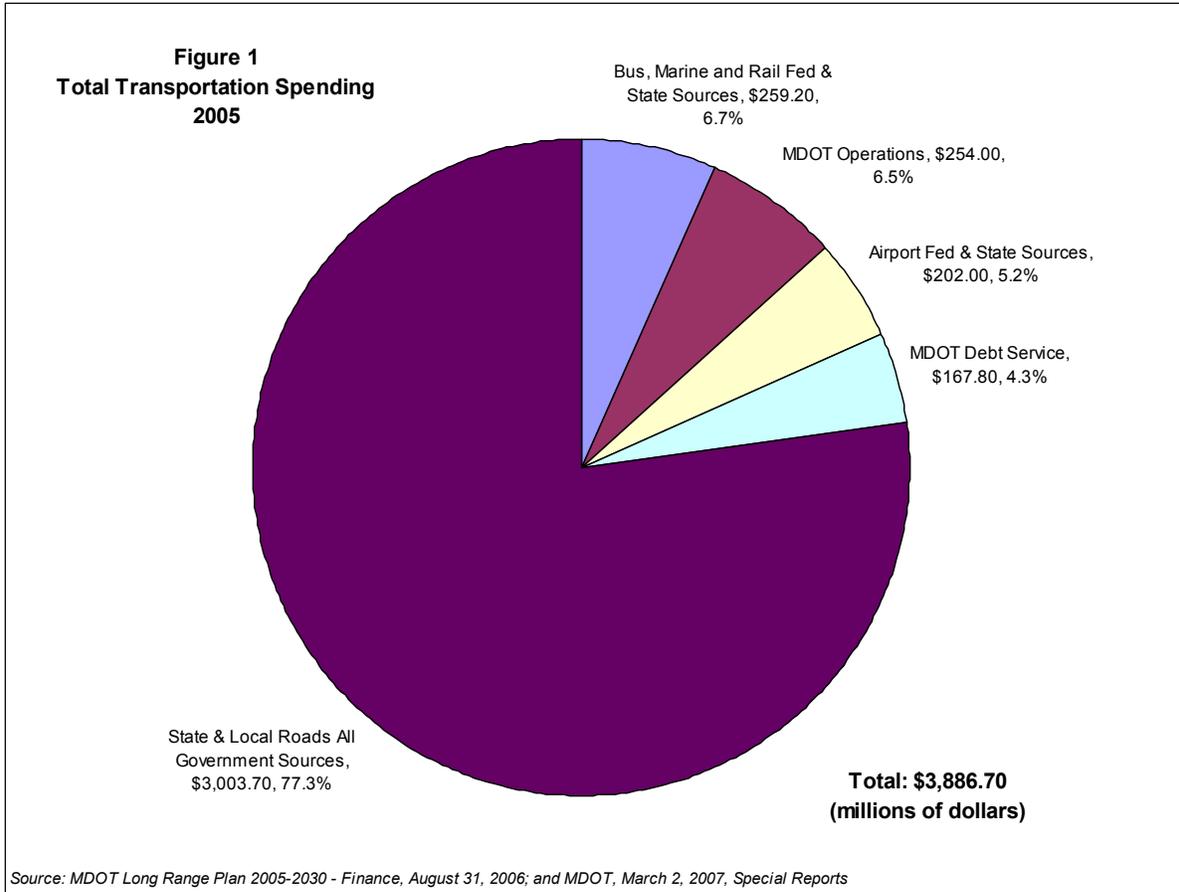
Another classification system is the National Highway System (NHS), consisting of those roads that have the greatest state, regional and national significance to the country. The NHS routes were selected almost exclusively from roads classified as principal arterial or higher, with all

interstate (I) miles included automatically. Some additional roads that serve major intermodal terminals and military installations are also included. In Michigan, some 4,761 miles are in the NHS, with 93 percent of the system consisting of state owned roads.

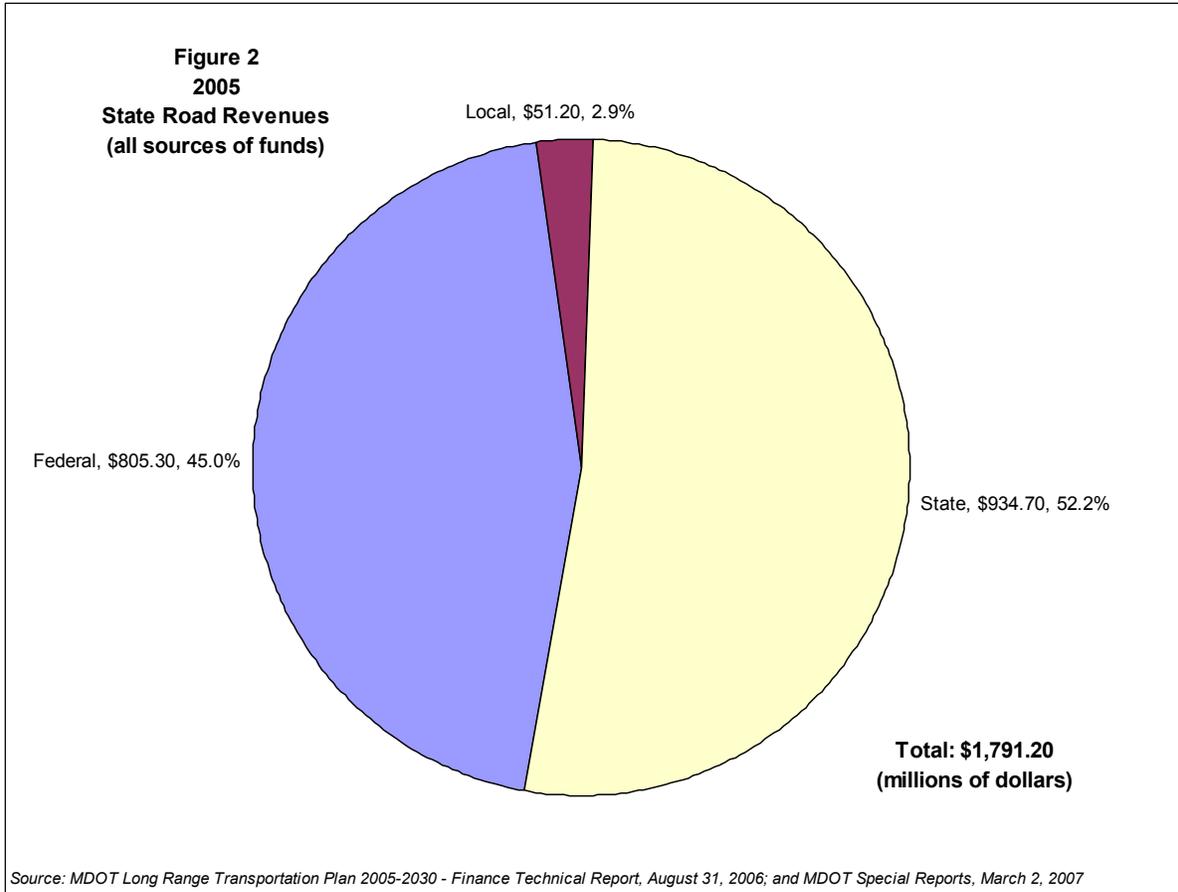
Michigan AVMT has increased 20 percent since 1995 to a total of 103.2 billion miles in 2005. State owned roads, while just 8 percent of total route miles, carried 51 percent of the total traffic in the state and therefore are critical to state commerce and personal mobility. However, if Michigan were to control about 12 percent of roads, as is the case in neighboring states, MDOT would likely be responsible for some 65 to 70 percent of the traffic. County roads representing 74 percent of total route miles carry just 31 percent of the total AVMT, and city roads carry 18 percent of the traffic. It will be important to consider these route miles and AVMT numbers by jurisdiction in comparison to current and proposed funding by jurisdiction.

Michigan Transportation Funding

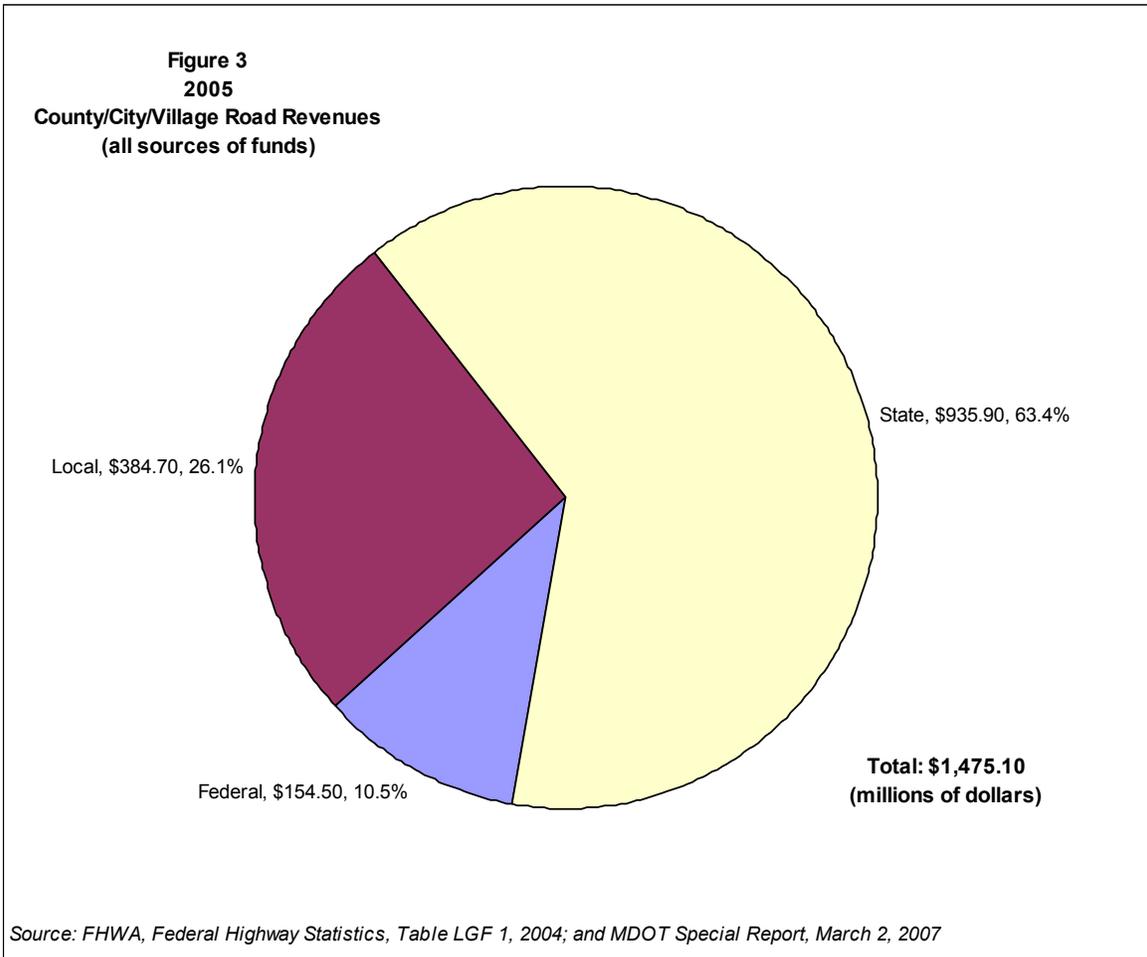
Figure 1 depicts how Michigan's transportation funds are spent by source. This figure includes all federal highway, mass transit and air funds, Michigan MTF funds, and local road only funds. In 2005 Michigan spent \$3.89 billion on transportation from all sources of state/federal funding, plus local road funding. About \$3.43 billion of that total was spent on roads, MDOT administration, and overall debt service. An additional \$461.2 million of federal/state money was spent on airports, bus, marine and rail – with most of that being restricted federal money.



The State Trunkline Fund roads, owned by the state, received a total of \$1,791.2 million in funding in 2005. Figure 2 summarizes the source of this funding. About half of these funds, 52.2 percent, came from state sources. An additional 45.0 percent came from federal funds. A small amount of funding for state roads was provided through transfers from local governments.



Local county/city and village roads received a total of \$1,475.1 million in 2005 funding as shown in Figure 3. These figures are based on Act 51 reports provided to MDOT from local units of government. The FHWA Highway Statistics report on Michigan numbers shows larger dollar amounts of locally raised money. However, they may include the \$245 million that MDOT sends to locals for contractual work on the state road system and that should not be counted. The Act 51 reports to MDOT should be the most accurate report on local raised funds for local roads and those numbers are used here. However, this makes it somewhat more difficult to compare to other states.



The largest source of funding for local roads was from state fuel taxes and registration fees, with \$935.9 million transferred to locals, or about 63.4 percent of their total local spending. Figure 3 depicts these fund source amounts and percentages. These state transfers of \$935.9 million are greater than the \$934.7 million spent by the state on state roads. The other major source of funding for local roads is local governments, which provided \$384.7 million in 2005, or 26.1 percent of the total, based on Act 51 reports to MDOT. The third source of funding for locals is the federal government. Michigan, unlike many states, passes on to locals a relatively large share of federal funds. In 2005, a total of \$154.5 million of federal funding was dedicated to county/city roads.

The relatively large transfer of state funds to locals is unusual when compared to other state practices, and may be a factor in the low level of state spending for key state owned high volume economic development oriented roads. For instance, while Michigan transfers to locals represent 63.4 percent of their spending on local roads, the national average is for state transfers to represent just 20.1 percent of local receipts. *In total absolute dollars, Michigan ranked number two out of 50 states for the amount transferred to locals, with just California transferring more.*⁶ Conversely, local governments in Michigan raise a relatively small part of the total dollars they spend on their own local roads. Using the Act 51 reports, they raised \$384.7 million in 2005.

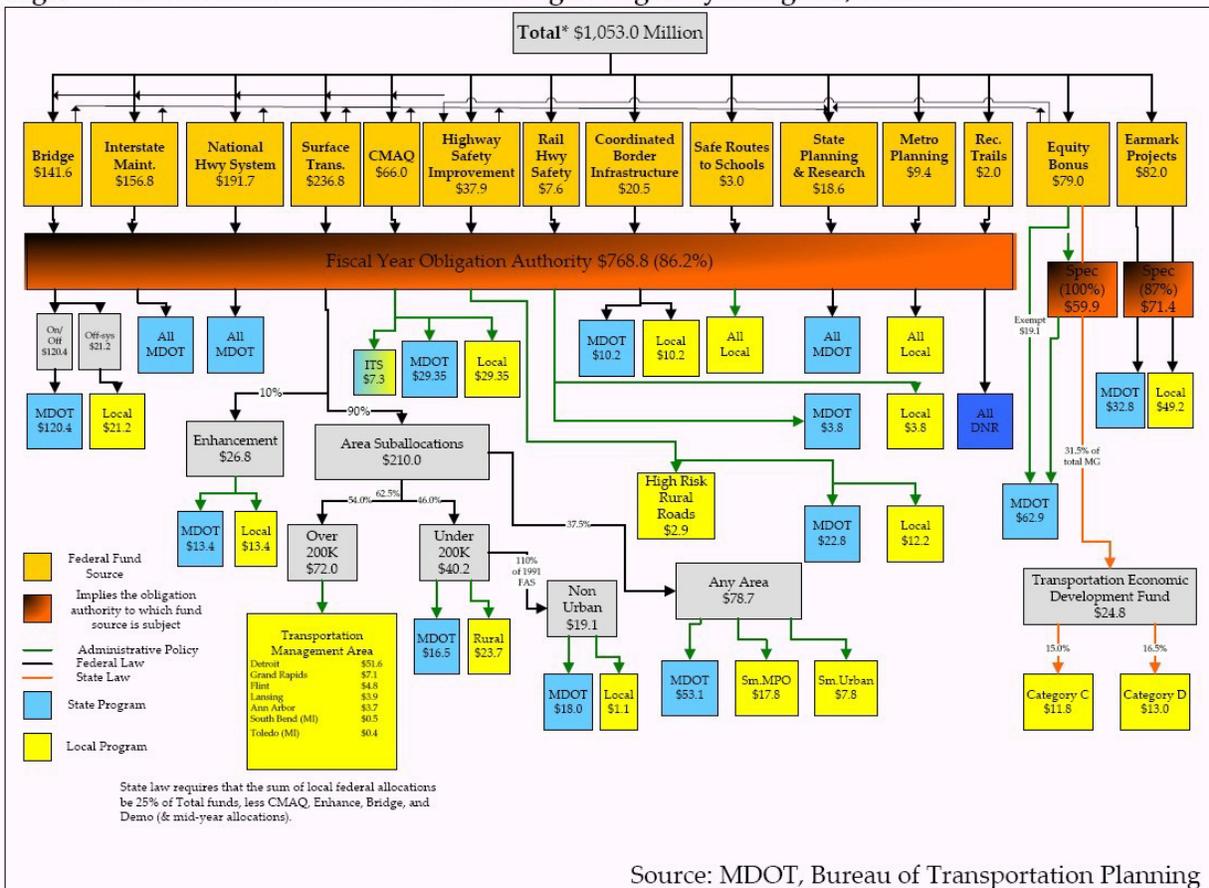
DISPOSITION OF STATE AND LOCAL TRANSPORTATION REVENUES

The following sub-sections review how federal and state transportation revenues are distributed by jurisdictional level and geographic area. A final subsection also examines state and local expenditures by function, such as maintenance versus expansion versus improvements.

Disposition of Federal Transportation Revenues

The federal government provided a total of \$1,053 million in road funding in FY2006. Figure 4 provides a depiction of the various categories of federal funds and how they are distributed for various state and local programs. Additional federal monies went to mass transit. Under state law, Michigan divides federal money 75/25 with 75 percent going to state owned roads and 25 percent going to county/city roads. In FY2006 the state system received \$765.7 million while the locals received \$295.3 million. Michigan's dedication of a portion of federal road funds to county/city roads is somewhat unusual because most states keep a larger share of federal funds for state roads.

Figure 4: Federal Aid Distribution to Michigan Highways Program, FY 2006

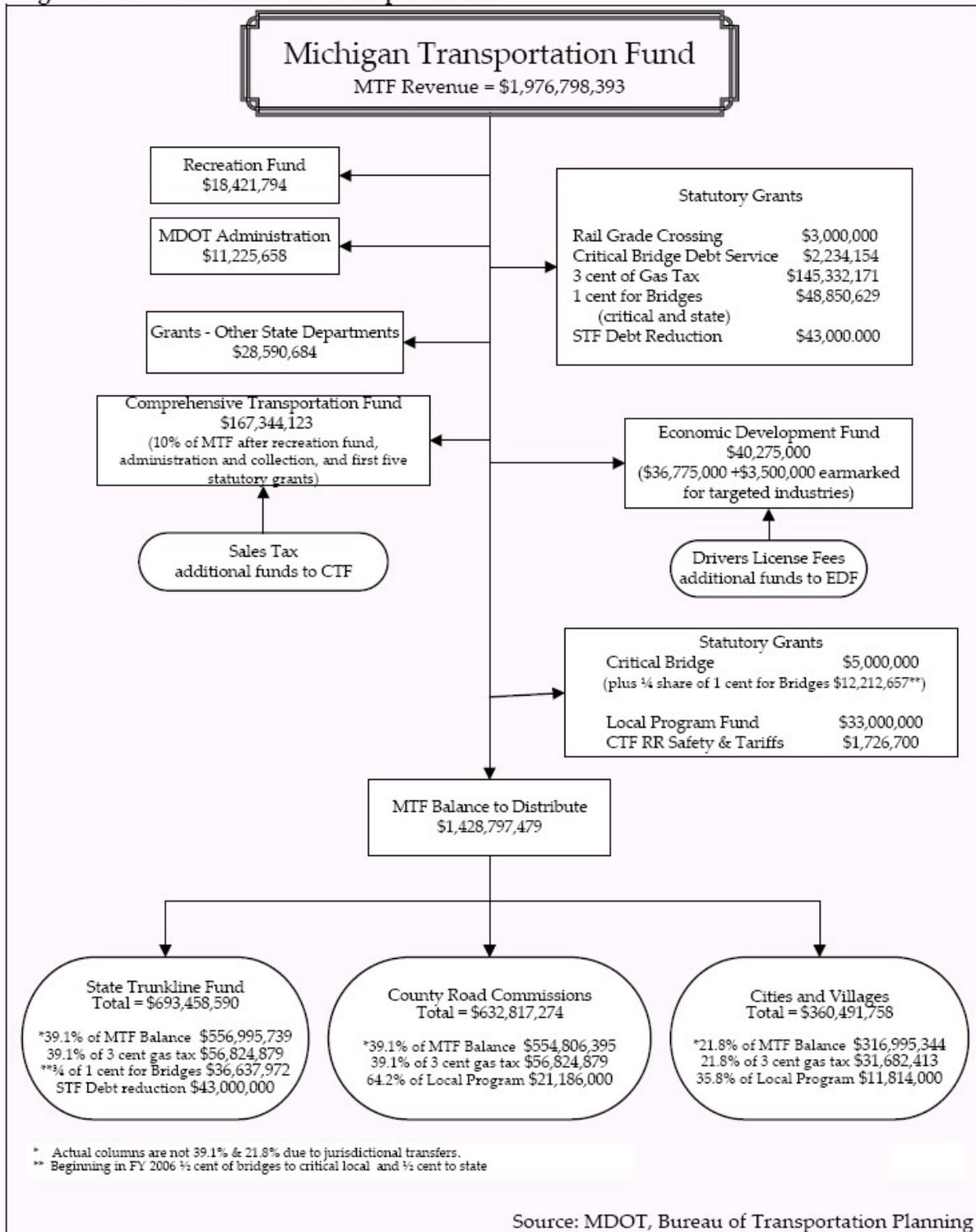


Disposition of State Transportation Revenues

The Michigan Constitution provides strong guidance on how highway user taxes should be spent. The document requires that taxes and fees collected on items used “for the operation of a motor vehicle on the state highways,” including fuel and registration taxes but with the exception of general sales taxes, are to “be used exclusively for ‘transportation’ purposes.” At least 90 percent of these taxes must be spent on the planning, designing, and construction of roads and bridges designed primarily for the use of motor vehicles using tires.

Additional detailed guidance on how state transportation revenues should be spent is contained in Public Act 51 of 1951 (MCL 247.667), as amended. Under the act a number of funds and sub-funds are established to receive and distribute money to the state, county, city and village roads in Michigan.⁷ The Michigan Transportation Fund (MTF) is the most important of these funds, with state highway user tax receipts deposited into the fund. Figure 5 depicts the various MTF transfers and amounts to sub-funds for 2005. In addition, proceeds from various bond offerings are received into special Bond Proceed Funds for distribution to approved projects. The money in the MTF is allocated to other sub-funds and distributed to state, county, city and village owners of the roads based on formulas specified in Act 51. Generally, Act 51 requires that revenues first be spent to pay administrative costs, collection costs, and principal and interest on bonded indebtedness.

Figure 5: FY 2005 MTF Distribution per Act 51



For a number of years monies were transferred from the MTF, via interdepartmental grants (IDG's), to pay for the Secretary of State's (SOS) costs of collecting registration fees, and to pay

for a variety of other services to MDOT. In FY 1997 \$95.6 million was appropriated from the MTF to other state departments. However, in 1997 PA 111 provided an additional \$43 million of general fund funding for the SOS, thereby allowing for an offsetting reduction in MTF funding of the SOS.⁸ With the aid of the extra General Fund monies, the MTF contributions to the other state departments were cut to \$54.1 million in FY 1998, and they were below \$60.2 million for each of FY's 1999, 2000, and 2001.⁹ However, in order to close a FY 2002 General Fund deficit, an Executive Order was used to transfer an additional \$40 million of MTF money to the SOS, with offsetting reductions in General Fund contributions to the SOS.¹⁰ This raised the MTF contribution to SOS specifically, from \$55.8 million to \$95.8 million for FY 2002.

Then, in 2003, an important legislative change was made that masks the true level of transfers to the SOS for "collection services." In 2003, a new fund called the Transportation Administration Collection Fund (TACF) was created. Registration fees and various other license fees that had been previously placed into the MTF were placed instead into the TACF and transferred to the SOS.¹¹ Transfers from the MTF to the SOS were reduced since the fees were no longer being deposited into the MTF. In FY 2005 approximately \$68.4 million of previous MTF money was being transferred to the SOS. In FY 2006 this was closer to \$78 million (although total appropriations for the TACF were at \$118 million including some \$40 million of "lookup fees" that are unrelated to registration fees and which would never have gone to the MTF). However in addition to the TACF money, in FY 2006, \$20 million of MTF revenue was also transferred to the SOS.

So in total some \$98 million of former and current MTF revenues was still going to SOS for collection expenses in FY 2006. This change made the loss of "collection fees" from the MTF less visible since the money was never deposited into the MTF to begin with and then transferred out in a visible way as had been the previous practice. The net result of these changes is that the MTF is being reduced by some \$98 million per year to cover SOS collection expenses, thereby reducing the need for General Fund contributions to the SOS.

The MTF has also been used to pay for the services of a number of other state agencies. In 2005 some \$43.4 million was transferred from the MTF via interdepartmental grants (IDGs) to other state departments, including SOS, for "collection expenses" and for various other services.¹² An additional \$31.1 million of MTF monies were appropriated for Information Services and the MEDC in FY 2005. MDOT also contracted for a variety of other services from state departments, at a cost of \$70.1 million in 2005. The grants were for services provided to MDOT, such as for State Police, Civil Service, etc., and for the noted collection expenses. While these are reasonable service charges in most cases, they still reduce the amount of money available for road investment.

Once the funds (minus SOS administrative costs) are actually placed in the MTF and the above costs and transfers have been paid out, the remaining balances are then allocated to a number of special funds, such as the Critical Bridge Fund, the Recreation Fund, the Rail Grade Crossing Account and the Transportation Economic Development Fund. After allocation of money to five statutory grant accounts — including rail grade crossings, critical bridge debt service, revenues from the 4-cent-per-gallon 1997 gas tax increase, and State Trunkline Fund (STF) debt reduction — 10 percent of remaining funds are deposited to the Comprehensive Transportation

Fund. The MTF balance, after these transfers, and other transfers to a Critical Bridge Fund and Local Program Fund, is then distributed to the state road STF, county road commissions, and cities and villages. The state STF roads get 39.1 percent of the MTF balance including the revenues from 3 cents per gallon of the 1997 4 cent per gallon gasoline tax increase. STF bridges also get the revenues from one-half of 1 cent per gallon of the 1997 tax increase. County road commissions also get 39.1 percent of the MTF balance, including the same percentage of the 3 cent per gallon increase, and 62.2 percent of the Local Program Fund. Cities and villages get 21.8 percent of the 3 cent per gallon revenues and remaining MTF fund balances, and also get 35.8 percent of the Local Program Fund.

It is important to note that the 4 cent per gallon gasoline tax increase in 1997 was dedicated specifically to roads and bridges. Revenues from the tax were not to be spent on the Comprehensive Transportation Fund (CTF) which is primarily used for mass transit. In supporting the increase, Gov. John Engler argued that this was a tax on road users, and that he was selling the program to the public on the basis that the money would be used for roads, and that therefore, the money should only go for roads and bridges. That is why revenues from the 4 cents were placed into a “statutory grant” account and distributed to roads and bridges and not left in the general MTF balances where 10 percent would be distributed to the CTF.

It is also important to note that Act 51 specifies how money will be distributed geographically across the state. First, 83 county road commissions pick their “county primary,” and “county local” roads. The county money is then distributed to county primary and local roads around the state based primarily on the county population, route miles and number of vehicles registered in the county. A similar system is used for distributing money to some 533 city and village local road agencies. First, cities categorize their streets into “major street,” and “local street” systems. Some 75 percent of the state money going to cities is reserved for major streets and debt service, with about 25 percent reserved for local streets. Money is then allocated to these systems by city on the basis of the city’s population and route miles in each category. As noted earlier in the report, this county/city system for distributing money focuses primarily on population and route miles. The system does not take into account factors such as vehicle miles of travel, congestion levels, road condition or other factors that better address the level of need for funding.

State Expenditures by Type/Function

In 2005 Michigan spent \$1.685.8 billion for state administered highways from the State Trunkline Fund, including bond proceeds.¹³ Capital expenditures accounted for \$1,022.5 million of the total, or 60.7 percent, with maintenance accounting for another \$250.5 million (14.9 percent), for total capital and maintenance spending of \$1,273.0 million (75.6 percent). The next biggest expenditure was for administration, totaling \$162.9 million (9.7 percent).

Local Expenditures by Type/Function

Local governments dispersed \$1.79 billion for roads in 2004, including transfers from the state for work under contract on state roads.¹⁴ Of that total, \$765 million, or 42.7 percent was spent

on capital outlay, primarily on construction and system preservation. An additional \$506.3 million, or 28.2 percent, was spent on maintenance excluding snow removal. Snow removal consumed 8.3 percent of the money, and administration expenses accounted for another 4.8 percent of the total.

FEDERAL, MICHIGAN AND LOCAL REVENUE SOURCES

Michigan's state and county/city road funding comes from four primary sources – the federal Highway Trust Fund, state fuel taxes and registration fees, and local government appropriations.

Federal Sources

Michigan received \$959.8 million in federal highway funding in 2005, with \$805.3 million going to the state trunkline system and approximately \$154.5 million going to the local road system. An additional \$119.7 million of federal money went into mass transit and other non-highway programs in the state. The source of these federal funds is the Federal Highway Trust Fund, funded exclusively by user taxes on highway automobile and truck users.

In 2005, the fund revenues equaled \$39.5 billion, with \$32.1 billion dedicated to the highway account and \$7.4 billion dedicated to the mass transit account. Approximately 66 percent of revenues came from gasoline fuel taxes, 22 percent from diesel taxes, 8 percent from the truck and trailer sales tax, 3 percent from the heavy vehicle use tax and 1 percent from the truck tire tax.¹⁵ Truck users contribute \$12.1 billion of the total dollars going into the Highway Trust Fund, excluding any truck gasoline taxes.¹⁶

The federal fuel taxes going into the fund come from gasoline and diesel taxes. Federal gasoline taxes are currently 18.4 cents per gallon and were last increased in 1993. The federal diesel tax is 24.4 cents per gallon. Revenues from the federal user taxes have been relatively flat due to increased conservation resulting from higher prices. Conservation lowers the number of gallons consumed, thereby lowering the revenue from the tax since the tax is a fixed number of cents per gallon regardless of the price of the fuel.

Michigan has historically received back approximately 92 percent of the federal fuel tax dollars collected in the state given our dubious distinction of being one of several “donor states.” Donor states get back in highway/mass transit spending apportionments less money than they send in for fuel taxes, so that other states can get back more than they send in. Table 2 shows the percentage of return of several neighboring and other states. Such a funding balance is probably necessary to provide for a truly “national” highway/mass transit system given that some states have wide expanses with very little population to fund their roads. However, many of the states that we subsidize are very populated ones, such as Pennsylvania, New York and Massachusetts.

Table 2
Federal Highway Trust Fund
Ratio of Deposits to Apportionments/Allocations
(Millions of Dollars)

State	2005			Since 1956		
	Payments	Apportionments	Ratio	Payments	Apportionments	Ratio
Michigan	\$1,056.20	\$1,070.00	1.01	\$20,478.60	\$18,845.30	0.92
Illinois	\$1,218.50	\$1,128.00	0.93	\$22,168.20	\$23,605.10	1.06
Indiana	\$903.90	\$842.60	0.93	\$15,374.30	\$13,739.30	0.89
Ohio	\$1,306.60	\$1,378.30	1.05	\$23,953.40	\$22,347.70	0.93
Wisconsin	\$615.60	\$701.40	1.14	\$11,196.20	\$11,105.10	0.99
Massachusetts	\$580.00	\$638.00	1.10	\$11,093.60	\$16,170.70	1.46
New York	\$1,302.70	\$1,740.90	1.34	\$26,314.00	\$33,040.90	1.26
Pennsylvania	\$1,286.60	\$1,718.40	1.34	\$24,763.80	\$29,559.90	1.19
National	\$32,907.50	\$37,581.80	1.14	\$575,070.20	\$634,020.50	1.10

Source: FHWA, Federal Highway Statistics Table, FE 221, 2005

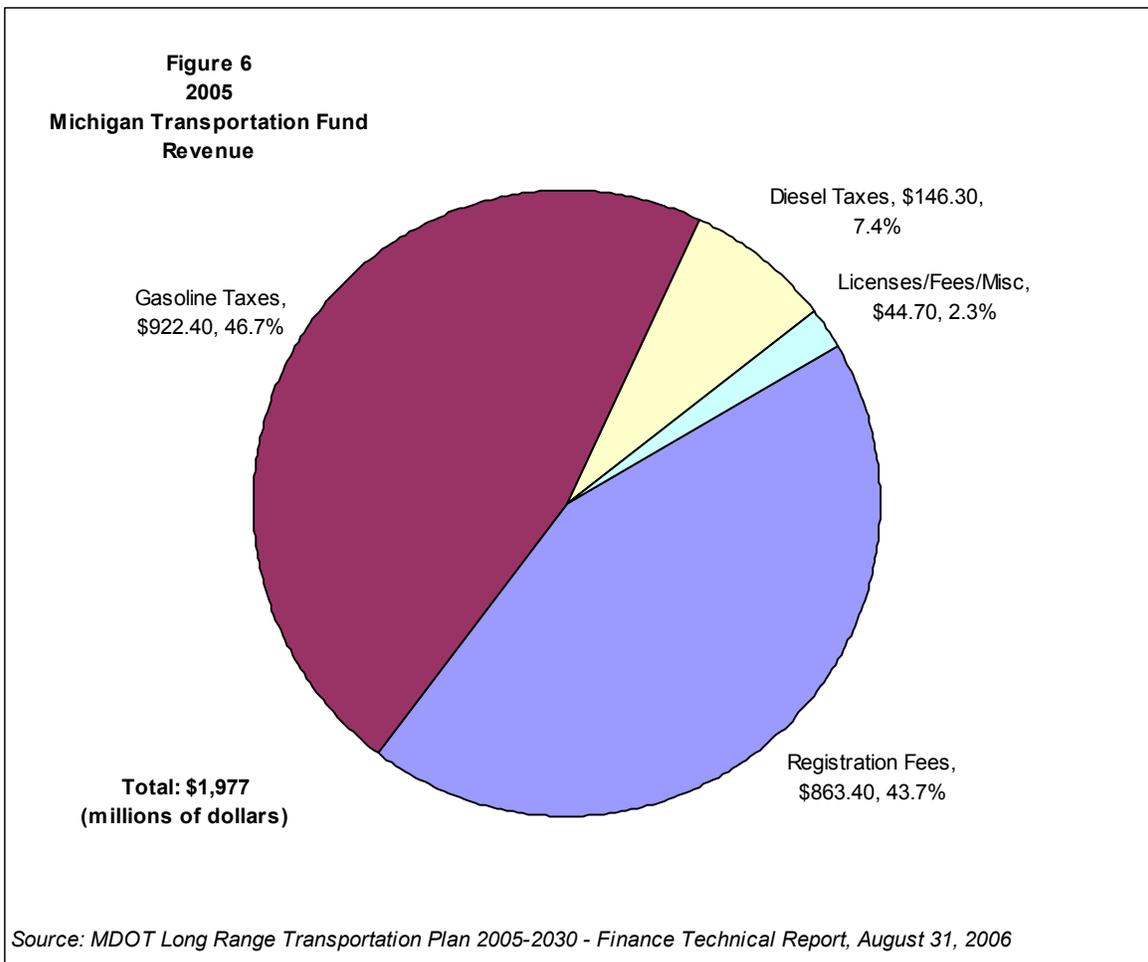
While Michigan was able to increase the percent of dollars that are supposed to come back to the state to 92 percent in the last federal highway bill (SAFETEA-LU of 2005), we are still significantly shortchanged compared to other states.¹⁷ Since 1956 we have ranked 46th out of the 50 states in the percent of fuel taxes returned to the state. In 2005 we had improved somewhat to a 101 percent return rate due to the work of our recent congressional delegations, but we still ranked just 38th while the national average return was 114 percent. There is one caveat with these numbers – and that is that the FHWA Highway Statistics source shows us getting back a higher percentage than MDOT says we actually get back. MDOT has generally said that we currently get back just 92 percent of our dollars. The difference may be due to the fact that the table looks just at highway dollars while MDOT’s figure includes the mass transit account where we do not do as well. Also, the above cited numbers are based on monies apportioned to the state. However, due to obligation ceilings and other limits on us actually ever receiving some of the earmarked money, our actual return may be less than what is shown by FHWA.

The chances of increasing our return of federal dollars are somewhat limited. This is primarily due to two points. First, other states fight very hard in Congress to maintain their advantage, and the donor states like Michigan are outvoted in total and under-represented on key committees. Secondly, the amount of money available to be disbursed is going down. Michigan was able to improve its return in recent years because the Congress voted to spend down the sizeable balances of funds that had been building up in the Trust Fund. This allowed the “donee” states to keep receiving more than what they were putting in each year, while using a good portion of the surplus to help make the donor states whole in the last few years. Unfortunately, this policy will result in the Trust Fund going into deficit in the 2009 fiscal year, with balances dropping from \$10.7 billion in 2006 to (\$0.6 billion) in 2009.¹⁸ At that point or even sooner, absent a federal fuel tax increase or some other source of new funds, expenditures will be limited to the revenues actually being taken in and states will get back less than they were promised in the recent SAFETEA-LU highway funding bill.

Michigan had hoped to receive an increase in federal funding of approximately \$300 million per year under the SAFETEA-LU federal highway bill passed in 2005. However, federal aid has been very flat the last three years and is forecast to decline further in 2007-2009. For instance, in FY 2004 the Obligation Authority which limits the amount of appropriated monies actually available to a state, was \$928.2 million for Michigan, but it declined to \$919.1 million in FY 2006. Unfortunately, a significant portion of the federal money has also been tied up in “earmarks” for specific Congressional projects, limiting the ability of state officials to use the money for the best and most necessary projects.

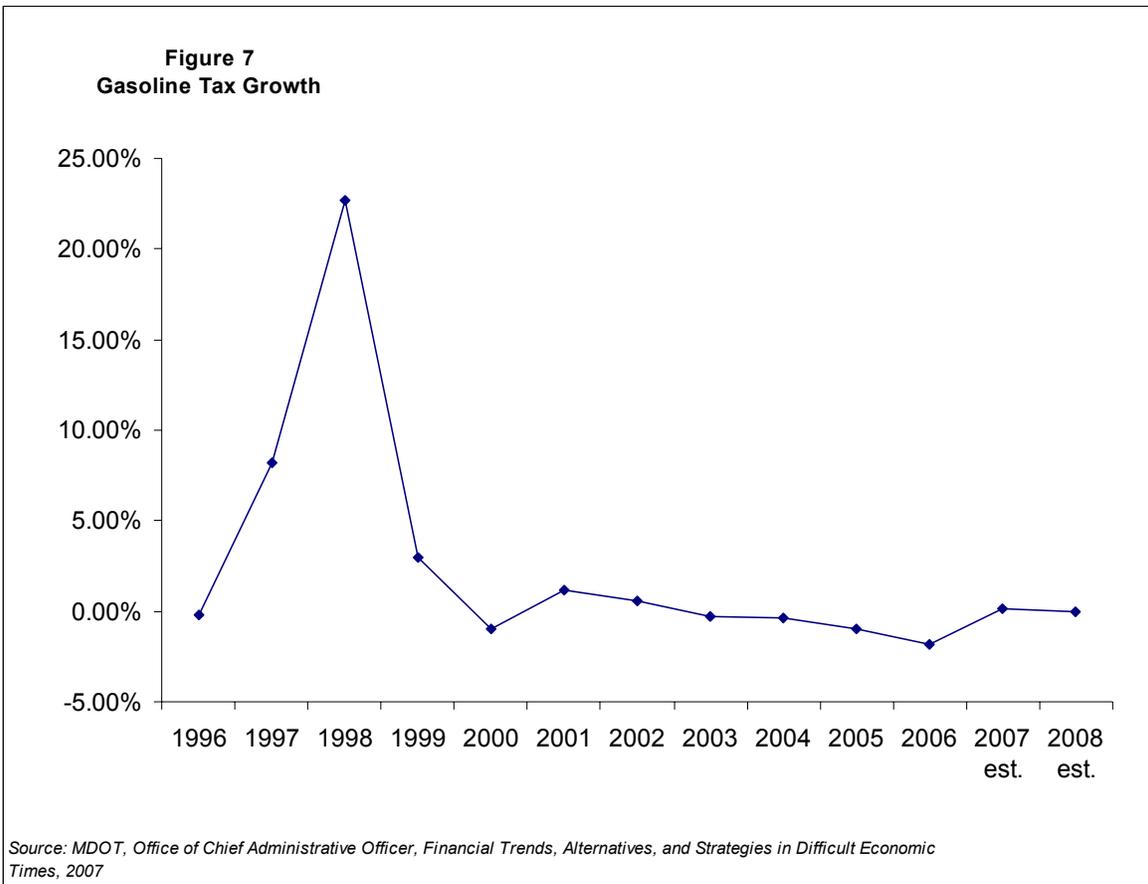
State Sources

The second and third key sources of funding are state monies. In FY2005 the Michigan Transportation Fund (MTF) received \$1.977 billion dollars, primarily from state fuel taxes and registration fees. Figure 6 summarizes the funding by tax type. Gasoline taxes generated \$922.4 million of the funding, or 46.7 percent of the total, with registration fees totaling \$863.4 million, or 43.7 percent. Diesel taxes generated \$146.3 million.



Fuel Taxes

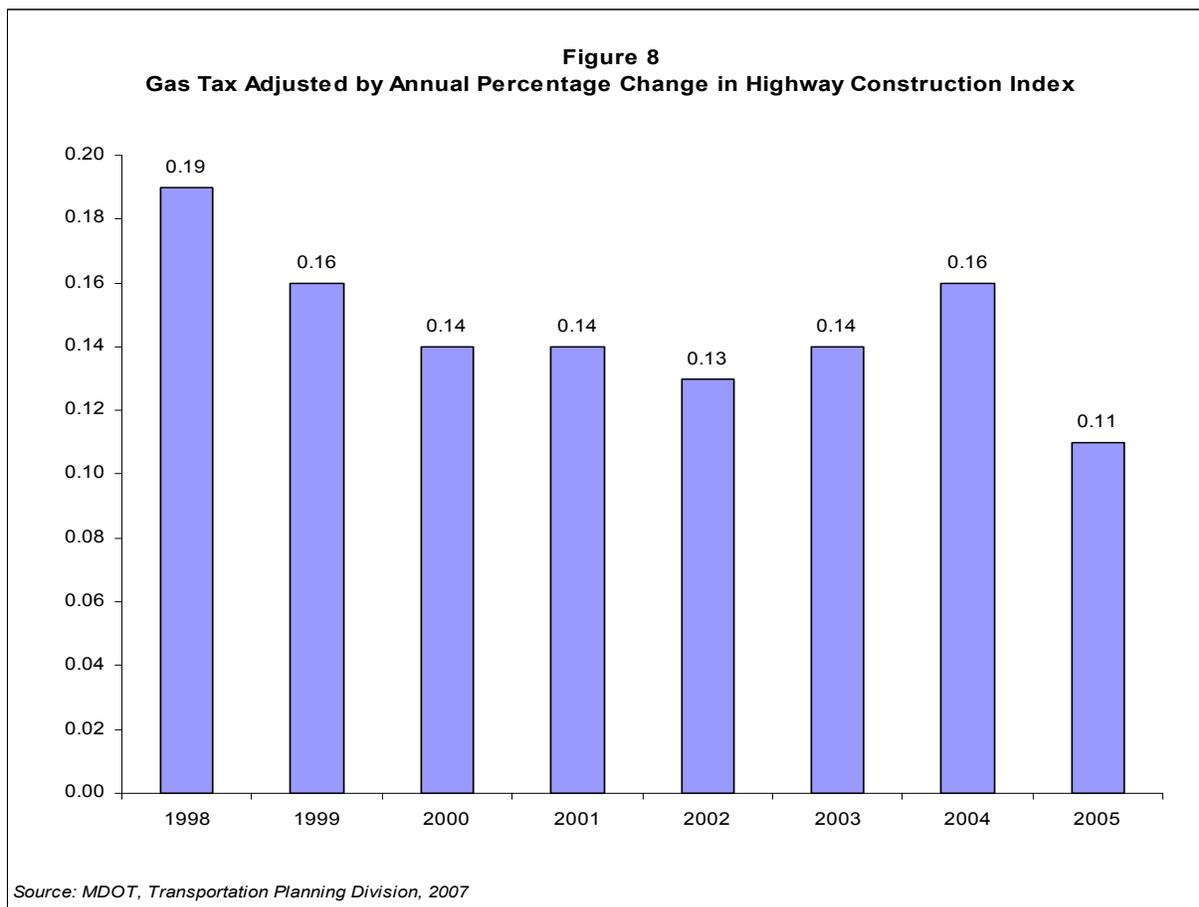
The state gasoline tax is 19 cents per gallon and is a fixed amount per gallon regardless of the price of gasoline. This tax was last raised in 1997 when it was increased from 15 cents per gallon. Prior to that the gasoline tax was last raised in 1984. Each penny of state gasoline tax raised \$48.5 million in 2005. However, as can be seen in Figure 7, the total amount of money raised from the gasoline tax has been very flat to even negative in recent years due to the increased conservation resulting from high gasoline prices. For instance, in FY2002 the tax raised \$938.9 million for the MTF, but has declined each year since then to just \$906.2 million in 2006. This is a 3.5 percent decrease in actual gasoline tax dollars. The revenue declined by \$16.2 million (1.8 percent) in FY2006 alone. Long term there will also be a small negative impact to MTF revenues resulting from a 2006 Act which will decrease the tax rate for E85 gasohol fuel from 19 cents to 12 cents per gallon.¹⁹



The other component of fuel taxes is the diesel tax. This tax is currently 15 cents per gallon, with the exception of bio-diesel which was reduced to 12 cents per gallon under 2006 legislation. Diesel taxes are deposited to the MTF. The basic diesel tax has been 15 cents per gallon since 1984.²⁰ The tax raised \$9.7 million in FY 2005. The diesel tax is also 15 cents per gallon for truckers, the same rate as for all diesel users, following the end to a very convoluted and

confusing “discount” program for truckers. In FY 2006, the diesel tax raised \$149.1 million, a \$2.4 million increase from FY 2005.

Because the gasoline and diesel fuel taxes that go into the MTF are not tied to the price of fuel, and are instead a fixed amount per gallon, they are not protected from the impact of inflation on the purchasing power of each dollar raised. This lack of indexing to the constantly inflated price of gasoline and diesel results in constant nominal revenue, while highway construction costs are constantly going up. Figure 8 shows the impact of inflation on the purchasing power of our gasoline taxes over recent years. Michigan gasoline tax revenues have lost 42 percent of their purchasing power since they were last raised in 1997. The 19 cent per gallon tax passed in 1997 now has the purchasing power of just 11 cents per gallon using the federal highway construction index as the deflator.²¹ If the Detroit CPI is used as the deflator, which has seen far less inflation than has been the case in highway construction costs, the gas tax has still dropped from 19 to 15 cents per gallon in purchasing power. Diesel taxes have lost similar amounts of purchasing power since 1997. Other Michigan taxes, such as the property tax, income tax, sales tax, former single business tax, and the proposed services excise tax, are all in effect indexed because they are tied to the inflating value of goods, services and property values. Some states, such as Wisconsin, and even Michigan in the early 1980s, have also indexed their fuel excise taxes to inflation to maintain the value of highway funding.



Purchasers of Michigan gasoline, and truckers using Michigan roads and buying diesel, also pay sales or use taxes on Michigan gasoline and diesel. The sales/use tax is 6 percent on the base price of the fuel, excluding the state fuel excise taxes described above, but including the federal excise tax in the base. The sales/use tax, however, does not go into the MTF, but instead is used to fund K-12 education and other general fund needs. Of the total 6 percent, 4 percent is constitutionally dedicated to the School Aid Fund.

Table 3 compares Michigan's current fuel and sales/use tax rates to those in neighboring states and to the national average.²² The fuel tax rate is for the excise tax only for gasoline, and in the case of diesel for motor carriers specifically. The add-on column includes sales taxes. For gasoline, Michigan fuel taxes alone rank 31st nationally, with Ohio and Wisconsin considerably higher. The 19 cent rate is below the national and neighboring state averages. However, seven states, including Michigan, add sales tax to the price of gasoline. It is also important to note that nine other states also have local sales taxes that are added to the price of gasoline (including Illinois), while Michigan does not allow such local sales taxes on gasoline. After adding in state sales taxes, Michigan ranks second nationally, and with maximum local sales taxes added, Michigan ranks fourth nationally in the size of the total gasoline excise and sales taxes per gallon levied. While the excise fuel tax goes to the MTF road fund, the sales tax does not fund roads in any way.

Table 3
State Gasoline and Motor Carrier Diesel Tax Comparisons
(cents per gallon)

State	Gasoline (1,2)				Motor Carrier Diesel (2,3)			
	Fuel Tax	Rank	w/Sales Tax	Rank	Fuel Tax	Rank	w/Sales Tax	Rank
Michigan	19.0	31	34.4	2	15.0	45	28.6	9
Illinois	19.0	31	34.1	3	31.4	4	49.5 (4)	1
Indiana	18.0	33	32.3	5	27.0	11	27.0	11
Ohio	28.0	5	28.0	10	28.0	9	28.0	8
Wisconsin	29.9	4	29.9	9	32.7	3	32.7	3
National Average	20.3		22.9		22.9		NA	
Neighboring Average	23.7		31.1		29.8		34.3	

1. Gasoline fuel tax rate for each state based on September 2005
2. Diesel fuel tax rate for each state based on December 2005
3. Assumes gasoline and diesel prices of \$2.41 per gallon including sales tax
4. Illinois diesel sales tax as of October, 2006

Note: The figures in Table 3 represent the author's best estimate of these taxes per gallon at the time of publication. Gasoline taxes and motor carrier diesel per-gallon excise taxes and sales taxes for each state vary depending on the source consulted. Motor carrier diesel rates are higher than regular diesel rates in some states.

Sources: Michigan Department of Treasury, Michigan's motor fuel and registration taxes, February 2006 and American Petroleum Institute, notes to state motor fuel excise and other taxes, October 10, 2006

Motor carrier diesel rates are difficult to determine because states sometimes tax carriers at a different rate than other diesel users. They also may have sales taxes on gasoline but not on diesel, or not for diesel used by motor carriers, and the sales tax rate may vary based on where the fuel is purchased and consumed. For this analysis, five different sources were reviewed to determine motor carrier diesel rates with and without sales taxes and each source had a different rate for most neighboring states. The sources included the American Petroleum Institute, American Trucking Association, Nevada Trucking Association, Michigan Infrastructure and Transportation Association and the Michigan Department of Treasury. In the final analysis, Michigan Department of Treasury numbers were used, however, sales taxes on motor carrier diesel had to be estimated as the Treasury diesel rates do not include sales taxes.²³

Based on the Treasury information, the motor carrier diesel tax rate in Michigan ranks 45th in the country before sales/use taxes. Our 15-cent-per-gallon rate compares to a national average of 22.9 cents, and a neighboring state average of 29.8 cents. After sales/use tax is included, Michigan ranks 9th, with a rate of 28.6 cents per gallon (assuming a fuel price of \$2.41 per gallon), with the average of the neighboring states at 34.3 cents per gallon. This assumes an Illinois rate of 49.5 cents per gallon including all state and local sales taxes.²⁴ Given the varying information on diesel taxes, especially including sales taxes, the above information should be used with some caution.

When looking overall at the gasoline and diesel fuel taxes used to support the MTF, Michigan ranks quite low in the level of taxation.²⁵ In 2003, Michigan's per person motor fuel tax rates averaged \$107 per person, or 42nd nationally. Michigan also ranked 42nd when looking at these taxes as a percent of personal income.

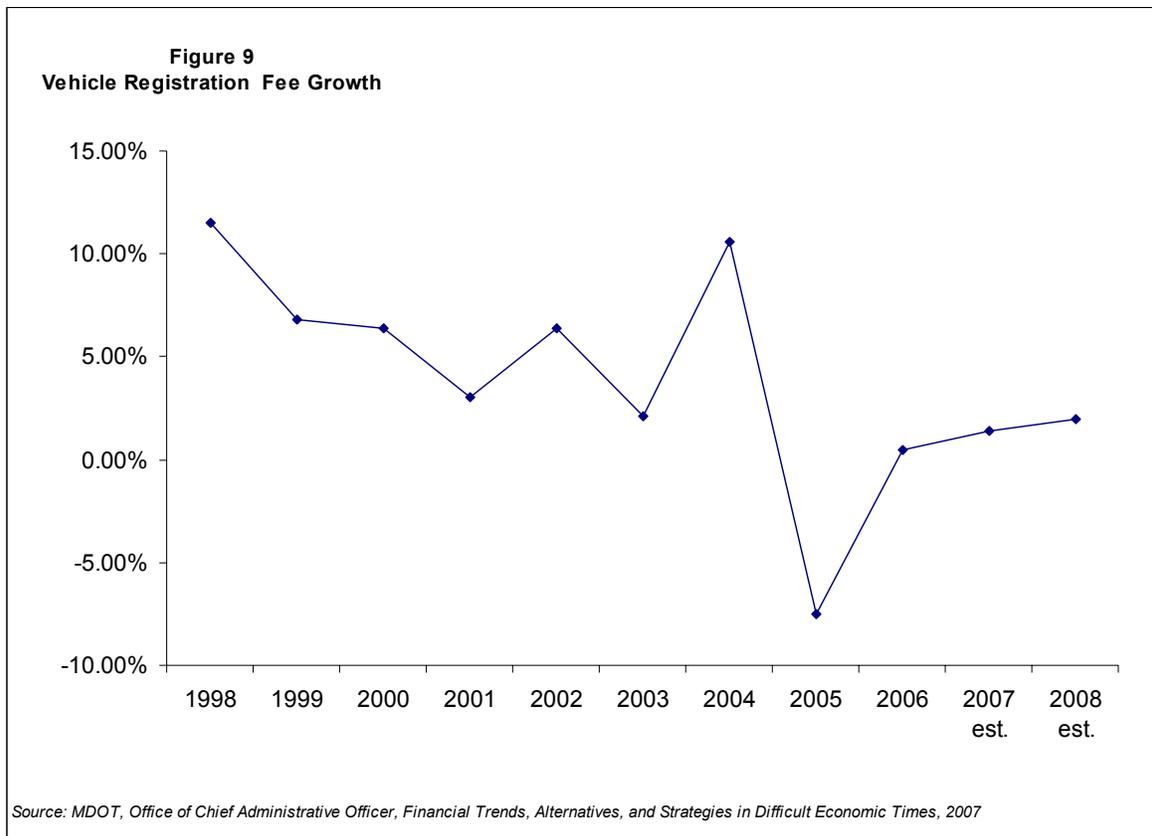
It is also helpful to put some perspective on the prices paid for fuel in the U.S.²⁶ First, prices can be compared to fuel costs in other countries. In August, 2005 prices in the U.S. for gasoline averaged US\$2.46 per gallon. However, in Canada prices averaged US\$3.14, in Japan they averaged US\$4.63, and in the United Kingdom US\$6.10 per gallon. Prices of gasoline per gallon can also be compared to the price of other fluids in order to put some perspective on overall prices. While gasoline was \$2.46 per gallon in August 2005, whole milk was \$3.16 per gallon, orange juice was \$3.77 per gallon and malt beverages were \$8.52 per gallon.

Registration Fees

Michigan auto and commercial use truck registration fees generated \$863.4 million for the MTF in FY2005. While additional registration fees were actually collected, a significant portion were diverted to the TACF for paying the Secretary of State (SOS) for collection costs, rather than first being deposited in the MTF for later transfer to the SOS as had been prior practice. Registration fees for autos have been based on the value of the car since 1983. Autos are taxed approximately 0.5 percent of the list price (regardless of what the consumer actually pays for the car) of the vehicle with the exact tax depending on whether the car has a list price above or below \$30,000. Registration fees are 90 percent of the prior year for the second, third and fourth year of registration, and then are level from that point forward. The average auto registration today is about \$100.

Commercial use vehicle registration fees are based on weight and were last increased in 1997 when they went up about 30 percent. The average registration fee on a Michigan 5-axle tractor trailer combination truck is \$1,699, which ranks 22nd among the states.²⁷

While registration fees have held their purchasing power fairly well since they are primarily tied to the price of a car, as compared to fuel taxes, total registration revenues have been negatively impacted in recent years by falling auto sales in Michigan. Figure 9 shows registration fee absolute dollars and growth rates since 1998. Revenues grew by about 5 percent per year through 2004, somewhat blunting the loss of purchasing power from the fixed price fuel tax. They dropped in 2005 due to a change in the lifetime trailer registration fee, have been flat for 2006, and are forecast to stay flat through 2008.

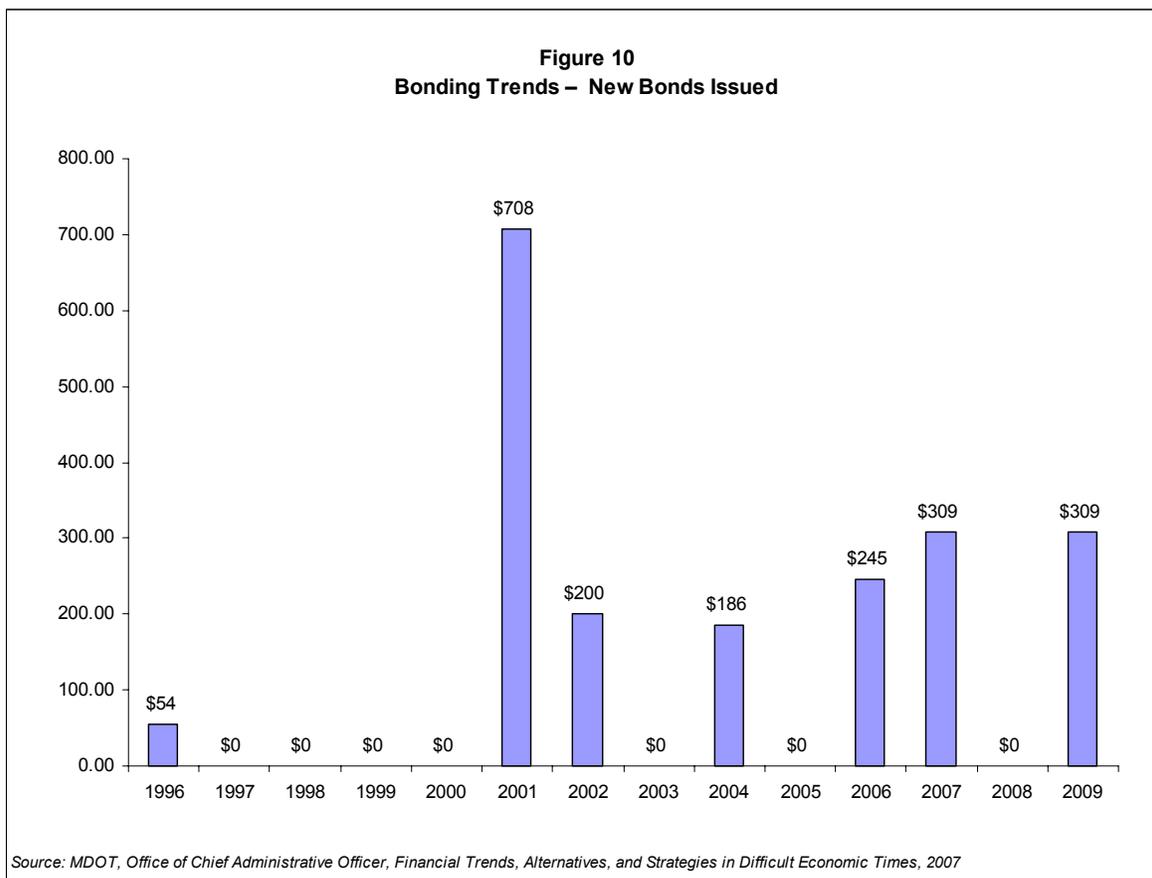


Bond Proceeds

Bond and note issues are used to augment tax and registration fee monies. In recent years they have been critical to maintaining funding levels for the highway and bridge program on the state trunkline system. In 2006 bond and note issues were also used for the “Jobs Today” program to help provide funding for local governments to use in match money for federal funds. Bond proceeds are not routed through the MTF and their values are over and above amounts reported

for the MTF. Each bond program is accounted for in a separate Surface Transportation or Comprehensive Transportation Program Bond Proceeds Account.

Bond and note proceeds in recent years are shown in Figure 10. In 2006 and 2007 bonds generated \$245 and \$309 million respectively. Another \$309 million of issues are scheduled for 2009. As of Sept. 30, 2005, total bond and note balances for the combined CTF and STF totaled \$1.575 billion. Debt service on STF bonds totaled \$72.7 million in 2004, and reached \$114.1 million in 2005. Debt service is scheduled to total \$160 million in 2007, \$180 million in 2008, \$205 million in 2009, and then average about \$220 million until 2019. As a percentage of projected STF revenue each year the bond debt service is approximately 10 percent after 2008.²⁸ However, as a percent of the five-year plan, capital program (expansion and preservation) for highways the STF debt service rises to 22.1 percent in 2009 and 24.1 percent in 2010. These are quite high debt levels, but at least through 2003, rank just 21st in the country. Also, all neighboring states but Wisconsin had considerably higher debt levels.



Total

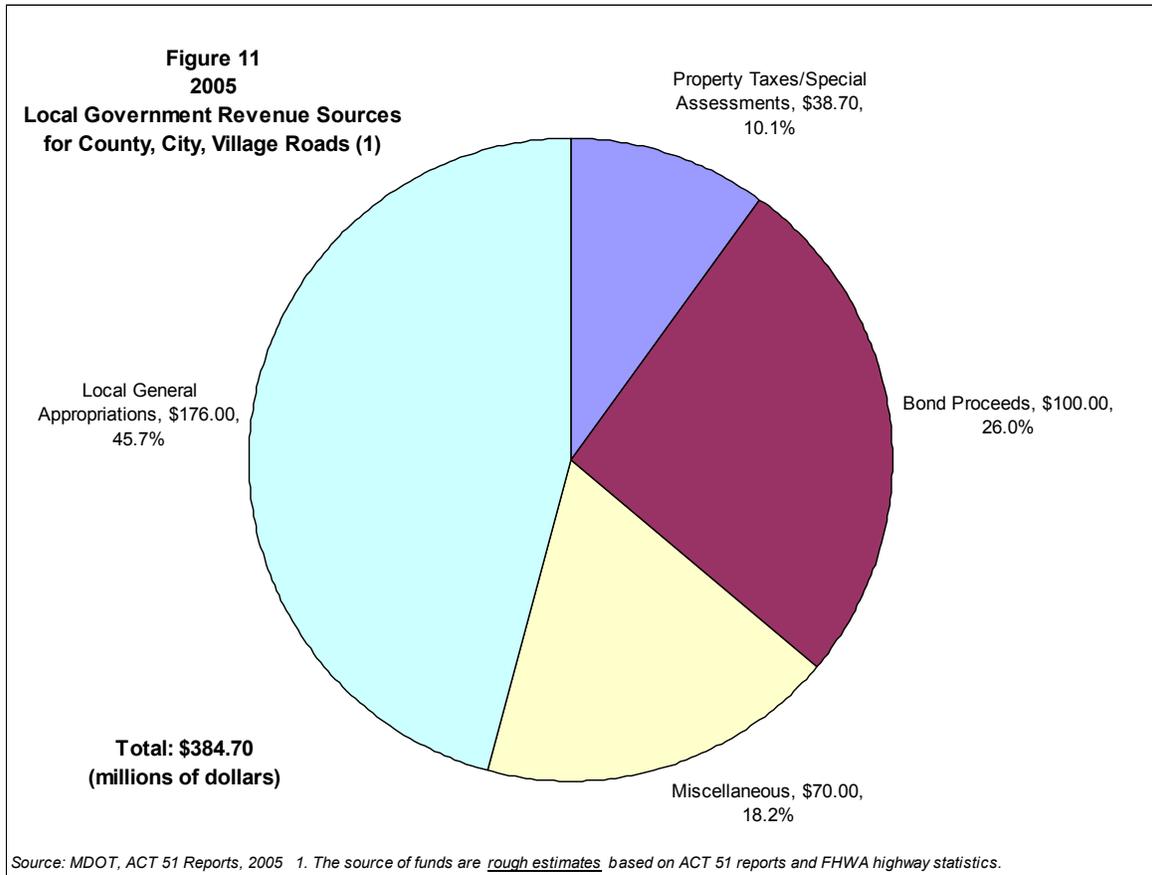
In 2005 registration fee and fuel tax revenue, the two primary sources of funds, totaled \$1,932.1 million. However, the proportion of funding provided by registration fees has increased

significantly since the early 1980s because of the fixed nature of the fuel taxes per gallon and the fact that registration fees are tied to prices of vehicles and therefore inflation indexed. Currently fuel taxes account for 52 percent of funding, but by 2017 this is expected to drop to just 47 percent of the total as registration fees continue to increase.

Overall, to put this data into perspective, registration fees and gasoline taxes cost the average Michigan resident approximately \$31.87 per month in 2005, or about 2.4 cents per mile.²⁹ It is interesting to compare the cost of road access to the costs of other utility-like services. Typical Michigan costs for other utilities are approximately \$70 for monthly household electricity service, \$50 for cable television service and \$60 for cellular service.

Local Sources

The final key source of funds is local government monies spent on county/city roads. Based on Act 51 reports to MDOT, local governments raised and spent \$384.7 million on local owned roads in 2005. Figure 11 summarizes a very rough estimate of the local sources of money for this spending. These estimates are based on the Act 51 reports and the use of some information from FHWA Highway Statistics 2004 to develop a basis for rough estimates of the source of funds in prior years. Of the various sources, property taxes are the only figure which is thought to be fairly accurate. We estimate property taxes totaled \$38.7 million and represented about 10.1 percent of local source revenue for local roads. The figures for other sources of funds are very rough estimates based on prior Highway Statistics and Act 51 data. General appropriations were estimated to be the primary source of local funding, accounting for \$176.0 million, or 45.7 percent of the total. Bond proceeds were another major source and estimated to be \$100 million, with miscellaneous revenue estimated at \$70.0 million. However, the above figures on the source of funds should be considered very rough estimates.



TRUCK TAXATION AND ROAD COSTS

Any discussion of Michigan highway revenue needs and system reforms requires a careful analysis of truck taxes and the degree to which the industry covers the costs it imposes on the system. Generally speaking, the Michigan public's perception of the trucking industry is that it does not pay its fair share nationally, or in Michigan. But what do trucks pay and is it a fair share?

Truck Taxes and Revenue

Nationally, trucking firms contribute \$12.1 billion of the total dollars going into the federal Highway Trust Fund, or about 30.6 percent of the total \$39.5 billion in Trust Fund revenues.³⁰ In terms of revenues assigned to the Highway Account (\$32.1 billion), as opposed to the mass transit account, the trucker contribution is equal to 37.7 percent of highway account revenues. These trucker taxes were in the form of diesel taxes (73.4 percent), retail taxes (15.3 percent) and use/tire taxes (11.3 percent). While these are the best numbers available, it should be noted that commercial truck gasoline taxes are excluded from the above figures, but that registration fees include some commercial pickup trucks. A somewhat better measure of the contribution of heavy trucks can be found in the data on national average federal taxes charged on a typical 5-

axle, 80,000 pound GVW tractor-trailer combination truck. For a typical 80,000 pound GVW tractor-trailer combination truck the federal highway taxes average \$8,959 per year.³¹

The trucking industry also makes major contributions to the revenues of state road funds. Across the 50 states, excluding gasoline taxes on light trucks, the trucking industry contributes \$15 billion, with half of that in diesel taxes, and 36 percent in truck registration fees.³² The figures exclude gasoline taxes on commercial trucks, but include registration fees on all commercial trucks including pickups. As with the federal taxes, a better measure of the contribution of heavy trucks can be found in the data on national average state taxes charged on a typical 5-axle, 80,000 pound GVW tractor-trailer combination truck. These taxes relate primarily to state diesel tax, registration fees and weight fees. On average, heavy trucks paid \$4,930 each per year in state charges, including an average \$1,672 in registration fees and \$2,935 in fuel taxes.³³

On average, a typical 80,000 pound GVW tractor-trailer truck pays \$13,889 per year in truck highway taxes according to the above data. A hypothetical auto owner driving 20,000 miles per year at 25 mpg, and paying \$100 in registration fees, ends up paying about \$397 per year. So on average, looking at federal and state taxes, a tractor-trailer combination trucks pay about 35 times what a typical auto would pay based on national averages.

Turning to Michigan more specifically, the state last raised its registration fees for heavy trucks in 1997, when they were increased by 30 percent, but has not raised the diesel tax since 1984. Including adjustments to the diesel discount made in 1996, and the 1997 registration fee increases, truck taxes increased by about \$70 million from 1996 to 1998.³⁴ While a typical 80,000 pound GVW truck began paying \$1,793 in registration fees in 1997, a 100,000 pound truck was increased to \$2,223, and a maximum weight truck over 160,000 pounds was increased to \$3,117.³⁵

Based on the Nevada Trucking Association's (NTA) rankings of truck registration and diesel taxes, the average 5-axle tractor-trailer pays \$4,830 in Michigan, excluding sales taxes.³⁶ These taxes include \$1,699 in registration fees and \$3,131 in diesel taxes. The numbers reflect a correction of the Michigan diesel rate from the 27.7 cents reported by the NTA, to the more accurate rate of 15 cents given that none of the reported rates appear to include sales tax. After making this adjustment, Michigan ranked 43rd amongst the states on the combined registration and diesel taxes. For the neighboring states, the combined truck taxes are \$10,597 in Illinois (3rd nationally), \$7,789 in Indiana (16th), \$7,216 in Ohio (20th) and \$8,933 in Wisconsin (7th). So Michigan's truck taxes going to road upkeep are quite low relative to other states. No combined tax data including sales taxes could be found.

Truck Cost: Revenue Equity Studies

In 1997, the Federal Highway Administration conducted a study of truck user tax equity, called the "Highway Cost Allocation Study."³⁷ The study was updated in 2000. The study found that tractor-trailer combination trucks in the 80,000 pound GVW category range pay about 80 percent of the costs they impose. For even heavier capacity trucks, in the 100,000-pound GVW category and up, however, they found that trucks pay just 40 percent of costs incurred by the federal

government on their behalf. On the other hand, for trucks under 50,000 pounds GVW, the study found that trucks paid 140 percent of their fair costs. Overall, this data would suggest that trucks pay a significant share of the costs they impose, but that, at least at the typical 80,000 pound tractor-trailer level, that not all costs are covered.

The above studies estimated that trucks may be responsible for up to 40 percent of the costs to design, build and repair the roads they travel on. In Michigan, in 2000, trucks were estimated to pay 16 percent of the monies going into the MTF.³⁸ This information, and the fact that Michigan ranks very low among the states in total truck taxation, would suggest that Michigan trucks are not yet paying their fair share of road costs.

Michigan's Extra Heavy Trucks

Another question that comes up often in Michigan relates to our extra heavy trucks. While most states allow up to just 80,000 pound GVW trucks, Michigan allows up to 164,000 pound GVW trucks. Ontario has a similar system. Generally, the public perception is that these extra heavy trucks that Michigan allows are responsible for a large amount of the damage to Michigan roads. However, engineers generally believe that Michigan's heavy trucks actually impose less damage than standard weight trucks because of the way loads are required to be spread over multiple axles. The heaviest Michigan trucks are required to have 11 axles, and these trucks are allowed to have a maximum weight per axle of 13,000 pounds, as compared to standard 5-axle trucks that can have up to 18,000 pounds per axle. Engineers generally believe that it is axle weight that damages roads, not overall gross weight.³⁹

During Michigan House of Representatives hearings on this issue in 1990, MDOT Director Jim Pitz indicated that engineering tests suggested that 13,000-pound axle loads would result in 62 percent less stress to the road than would be the case with 18,000-pound axle loads.⁴⁰ During the same hearings MDOT officials testified that all state trunkline system bridges built after 1973, and all bridges reconstructed since that date, had been designed and built to withstand the full weight of 164,000-pound trucks. The additional cost to take these bridges up from 80,000-pound design specifications was 4 percent, or about \$16,000 per bridge in 1990.

Nor are there a large number of 80,000 to 164,000-pound trucks on the road. While more recent data is not available, a 1998 MDOT report indicated that there were about 15,000 over-80,000-pound trucks registered in Michigan at that time, with less than 5 percent of the total truck traffic licensed to carry over 80,000 pounds.⁴¹ Also, even when licensed to carry heavier loads, these trucks often are carrying loads below what their license allows. Limiting trucks to 80,000 pounds would substantially increase the number of trucks on the road, with negative implications for safety, fuel consumption and air pollution. It also should be noted that the heavier weight limits in Michigan provide a significant advantage to Michigan manufacturers. In 1993, testimony by the Michigan Trucking Association estimated that an 80,000 pound limit would require an additional 21,500 trucks at an acquisition cost of \$2.15 billion and annual operating costs of \$0.77 billion. Of course this cost would be passed on to manufacturers and ultimately consumers.⁴²

Summary

In conclusion, while Michigan truckers pay significant taxes, they do not pay their fair share nationally, and they pay an even smaller share of the costs they impose here in Michigan. Michigan truck taxes dedicated to roads are also some of the lowest in the country. While it is also true that truckers using the Michigan roads pay additional sales/use taxes that do not go to the roads, Michigan automobile drivers pay similar sales taxes. The bottom line is that while Michigan's extra heavy trucks are not the culprit they are often perceived to be, trucks do not pay their fair share of taxes. The tax level on Michigan trucks should be addressed in any future road funding package, although any taxes that are raised should go to a high priority network of roads that are the most important ones for commercial users.

MAJOR NEEDS

Any credible review of highway infrastructure needs will conclude that additional highway expansion, preservation and maintenance investment is necessary. However, the amount of that need, and the amount that can be fulfilled through cost management and prioritization of projects, must be determined. While there are many "wish lists" for highway spending, it is critical that the amount of additional funding be based solely on priority spending needs that will actually contribute to improving the state's business climate and quality of life.

There are two ways that the need for additional funding can be assessed. The first way is by reviewing the conclusions of various federal and state organizations that have reviewed the issue from both a national and state perspective. The second approach is to evaluate various indicators such as traffic growth vs. lane additions, pavement condition and trends, congestion levels and trends, transportation investment funding trend-lines, etc. The following sections explore each of these indicators of need, with a final section drawing conclusions about new funding needs.

Federal Funding Trends

Before considering the additional needs it is important to point out that federal "authorization" funding for surface transportation was recently increased significantly. This funding was made available as part of the August 2005 five-year federal surface transportation funding program, called the Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), the source of about 40 percent of all U.S. highway investment.⁴³ The act provides authorization for \$286.4 billion in surface transportation funding, with \$193.2 billion for highways and \$45.3 billion for transit. This authorization level represents a \$68.0 billion increase over the prior 1998 act; however it is far less than the \$375 billion that the U.S. House passed in its version of the bill.⁴⁴

However, even though spending authorization levels were increased, it is unlikely that this spending level can be implemented. The Highway Trust Fund, which collects fuel taxes and is the source of all this funding, is running out of money and will be in deficit by 2009 unless fuel

taxes are increased. The Trust Fund is running out of money because fuel taxes have not been increased since 1993 and have lost 30 percent of their purchasing power to inflation. As a result of these issues, Congress seldom appropriates each year all the money that has been authorized in the transportation authorization act. For instance, for 2005, only about 85 percent of approved levels were made available under the so-called “obligation limit” set annually by Congress.⁴⁵ Allocation levels were further reduced for 2006 and 2007, and are likely to be reduced even further in 2008-2009.

For Michigan, the act authorizes an average five year increase in funding of \$239 million, or about 27 percent.⁴⁶ For 2007, the act authorizes \$1,137.5 billion. However, the funding includes \$643.3 million in five year total funding that is “earmarked” or dictated specifically by Congress. These earmarks represent 11 percent of total SAFETEA-LU funding for Michigan, up from 6 percent in the prior six-year act.⁴⁷ Some \$314.3 million of that total is above line and reduces our regular formula funding dollar for dollar. Just \$120 million is over and above what our normal formula funding would have been. More importantly, just \$15.9 million of the earmarked dollars were in Michigan’s 2005 five-year plan of priority projects.

As with the nation as whole, it is important to point out that Michigan is not seeing annual appropriation levels at the authorized levels because of the shortfalls in the Highway Trust Fund. For instance, over the prior five-year TEA-21 federal authorization act, Michigan received obligation authority averaging \$834.5 million per year, with levels of \$928.2 million in FY 2004, \$888.1 million in FY 2005, and \$919.1 million in FY 2006.⁴⁸ Since FY 2005, we have received obligation limits averaging just \$903.6 million, or a \$69 million increase over the prior five-year period. These increases are nowhere near the \$239 million increase for Michigan that was authorized under the act and trumpeted to the media. Going forward it appears federal funding levels will be further curtailed, with MDOT now estimating it will receive \$157 million less in federal funds over the state five-year plan than what it had previously conservatively estimated.⁴⁹

In conclusion, federal funding to Michigan is up somewhat from the early part of the decade but not by as much as had been initially approved, and funding over the next five years is likely to be further curtailed absent new federal fuel taxes.

National Highway Funding Needs

Several major government officials and organizations have recently commented on the status of the nation’s transportation system, and on the need for additional funding to support investment. These officials and organizations include the Secretary of Transportation, the U.S. Chamber of Commerce, the National Association of Manufacturers and the American Trucking Associations, among others.

Former Secretary of Transportation Norm Mineta, and his successor, Secretary Mary Peters, have both spoken extensively about a growing national transportation crisis that must be addressed. The Department of Transportation has also produced several reports that point out the issues. The Department’s Federal Highway Administration (FHWA) estimates that nationally, another \$5.7 billion in funding over and above 2002 levels is needed annually simply

to maintain the system, and that another \$50.7 billion per year is needed to make improvements.⁵⁰

The U.S. Chamber of Commerce has been very vocal about the need for increased transportation investment.⁵¹ Nationally, they indicate that \$222 billion is needed annually to preserve the system, but that 2005 revenues were just \$180 billion – a \$42 billion per year shortfall. To actually improve the system with new capacity they say we are \$91 billion per year short of funds. Since this report was written, federal funding authorizations increased by about \$14 billion per year, but not by anywhere near enough to close the gap in funding. The Chamber Foundation, which prepared the report, suggests one key option for increasing funding is to begin indexing fuel tax rates to inflation. If indexing was applied retroactively to the time of the last fuel tax increase in 1993, it would raise approximately \$19 billion per year.

Other organizations and companies have reached similar conclusions about the need for increased transportation investment. For instance, the National Association of Manufacturers' president, former Gov. John Engler, says Congress must address transportation infrastructure needs this year.⁵² Even the American Trucking Association has made increasingly strong comments about the need for additional funding, and has indicated it would prefer higher fuel taxes rather than more toll roads.⁵³ While it has not yet outright endorsed a tax increase, it seems to be open to the possibility. However, one of the biggest truckers in the country, FedEx Freight, has called flat out for fuel tax increases.⁵⁴ FedEx Freight President Doug Duncan says his company supports increasing the federal fuel tax if the money is used solely for highways. They indicate an additional \$35 billion per year is needed to reduce congestion along the nation's highways.

State Investment Needs Studies

Various Michigan organizations have studied and commented on the level of unmet highway investment needs. These organizations include the Michigan Department of Transportation, the Michigan Chamber of Commerce, the County Road Association of Michigan (CRAM), the Southeast Michigan Council of Governments (SEMCOG), the Road Commission for Oakland County, The Road Information Program (TRIP) and the Reason Foundation. Their views on investment need are discussed below and summarized in Table 4.

Table 4
Summary of Michigan Needs Studies
Annual Needs
(Millions of Dollars)

Michigan Department of Transportation (1)	\$787-1180
Michigan Chamber of Commerce Proposed Tax Increase	\$580
SEMCOG Unfunded Road Needs	\$1,000
County Road Association of Michigan (CRAM) Unfunded County Needs	\$1,000
The Road Improvement Program (TRIP) State And Local Road Needs	\$2,700
The Reason Foundation	\$1,000

*1. MDOT mileage estimate with author estimates of costs/mile.
Backlog costs spread over 10-15 years. Trunkline only.*

MDOT

The Michigan Department of Transportation is in the process of determining its position on the level of additional funding required for the Michigan state-owned (“I,” “U.S.,” and “M” roads) highway and transit systems. Determination of funding needs is part of the 25-year planning process required by the federal government and that the department is currently in the midst of. While a final funding needs analysis is not complete, interim reports have determined the backlog of highway reconstruction needed to complete and maintain the department’s 10-year goal of having freeways in 95 percent “good” condition, with non-freeways at 85 percent “good.”⁵⁵ These measures of “good” are based on Remaining Service Life (RSL) calculations that take a different approach to roadway evaluations than the often publicly reported International Roughness Index (IRI) conditions. The differences in these systems are described more fully in a later section on Pavement Condition.

Table 5 summarizes MDOT’s estimates of 2005 state trunkline backlog need for various types of urban and rural reconstruction, resurfacing, expansion of lanes, etc.⁵⁶ The backlog does not include county/city needs, and is over and above what can be done with available funding. In order to meet the road condition goal, as of 2005, there is a backlog of 543 lane miles of freeway and 264 lane miles of non-freeway requiring reconstruction. In addition, in order to reduce congestion to acceptable levels, at 2005 year end, there was a need for 722 lane miles of new freeway lanes (major and regular urban), and 1,387 lane miles of new non-freeway expansion. There was also a backlog of 464 state bridges needing replacement, and 331 needing major preventive maintenance. Costs per lane mile for reconstruction are in the \$0.8 to \$1.3 million per mile range, with capacity expansion costs ranging from \$3 million to \$26.6 million per lane mile. Bridge costs range from \$0.6 to \$1.1 million for each depending on the setting and type.

Table 5
Funding Needs Assessment
State Trunkline System
2005 Backlog
(Millions of Dollars)

Type	Urban			Rural			Total		
	Lane Miles	Cost per Lane Mile	Backlog Cost	Lane Miles	Cost per Lane Mile	Backlog Cost	Lane Miles	Cost per Lane Mile	Backlog Cost
Reconstruction									
Freeway	161	\$1.30	\$209.30	382	\$1.00	\$382.00	543	NA	\$591.30
Non-Freeway	116	\$1.20	\$139.20	148	\$0.80	\$118.40	264	NA	\$257.60
Resurface									
Freeway	NA	NA	NA	NA	NA	NA	820	\$0.50	\$410.00
Non-Freeway	NA	NA	NA	NA	NA	NA	1324	\$0.40	\$529.60
Preventive Maintenance									
Freeway	NA	NA	NA	NA	NA	NA	850	\$0.05	\$42.50
Non-Freeway	NA	NA	NA	NA	NA	NA	2975	\$0.04	\$119.00
Capacity Expansion (1)									
Major Urban Freeway	100	\$26.60	\$2,660.00	-	-	-	100	NA	\$2,660.00
Regular Urban Freeway	317	\$10.00	\$3,170.00	305	\$3.80	\$1,159.00	622	NA	\$4,329.00
Non-Freeway	285	\$4.00	\$1,140.00	1102	\$3.00	\$3,306.00	1387	NA	\$4,446.00
Bridge Replacement									
Freeway	192	\$1.10	\$211.20	218	\$1.00	\$218.00	410	NA	\$429.20
Non-Freeway	14	\$0.80	\$11.20	40	\$0.60	\$24.00	54	NA	\$35.20
Total Backlog Cost									\$13,849.40

Source: MDOT, Long Range Plan 2005-2030 - Conditions and Performance, Dec. 11, 2006; and author estimate of costs per lane mile

1. Expansion needs will be reduced some by mitigation factors so some percent of expansion miles will not be built. Author separated out 100 miles of urban freeway to be costed at a higher level, with regular urban freeway costed at a lower level.

Based on the MDOT need estimates and the author's estimates of construction costs per lane mile, there is a backlog of \$13.8 billion in investment needs. This includes some \$11.4 billion of lane expansion projects, \$848.9 million for reconstruction, and \$939.6 million for resurfacing. The expansion projects are costed assuming some 100 urban freeway miles would be at a major cost of \$26.6 million per lane mile, with the remaining urban freeways (317 miles) costed at a lower rate of \$10 million per lane mile. However, as MDOT notes in their report, not all of the capacity expansion will be needed given the benefit of various demand mitigations strategies. If \$2 billion in lane expansion needs can be avoided, this would lower the total investment need to

\$11.8 billion. While new needs will continue to be added each year, the current backlog investment spending would be spread over 10 to 15 years. At that rate, there is an annual need for an additional \$0.787 to \$1.18 billion per year. It is also important to point out that this need analysis reflects a perfect world where all needs are addressed. Some needs are greater than others and it is likely that the needs list will be prioritized each year and that some needs will never be fully addressed.

Michigan Chamber of Commerce

The Michigan Chamber of Commerce has determined that there is a need for additional highway funding in Michigan. In late January the Chamber said it would back fuel tax increases on gasoline and diesel to help address that need. The Chamber said that “transportation is a critically important economic development and infrastructure issue.” In order to resolve unmet needs the Chamber specifically called for a series of reforms, and a phased in 9 cent per gallon increase in the gas tax and a 13 cent per gallon increase in the diesel tax. These changes would generate \$580 million per year, with the increases sunsetted in seven to 10 years. The Chamber also endorsed providing an option for county governments to impose county wide registration fees that would potentially generate several hundred million more dollars.⁵⁷ Other recommendations included providing for automated toll lanes in some urban areas.

Southeast Michigan Council of Governments (SEMCOG)

The Southeast Michigan Council of Governments (SEMCOG) has done an extensive analysis of funding needs for roads and transit in Southeast Michigan. It estimates that needs in southeast Michigan on combined state and local roads, through 2030, total \$55.3 billion for roads and \$13.6 billion for transit, or a total of \$68.9 billion. The needs for roads and transit can be broken down as follows in terms of types of expenditures required:

Congestion Reduction	\$4.0Billion
Bridges Reconstruction and Replacement	7.2B
Safety Improvements	1.6B
Preservation of Road Conditions	27.9B
Road Operations	<u>14.2B</u>
Total	55.3B
Transit	<u>13.6B</u>
Total	68.9Billion

For roads alone, over 25 years, this totals \$2.2 billion per year of need. Out of this total, SEMCOG estimates that \$25.0 billion is unfunded over 25 years, or about \$1.0 billion per year.⁵⁸

*County Road Association of Michigan (CRAM)
and the Road Commission for Oakland County*

The County Road Association of Michigan (CRAM) reported in 2002 that it would take \$1 billion per year of new money to get county roads around the state up to 90 percent “good” condition.⁵⁹ Oakland County has done its own review and says an extra \$1.5 billion is needed over 10 years (\$150 million per year) to complete a variety of projects for Oakland roads. They point out that in 2005 alone there were some \$60 million in projects competing for just \$23.8 million in available federal funding for the county.⁶⁰

Outside Organizations

The Road Information Program (TRIP), a well-regarded nonprofit association financed by the highway construction industry has done a number of studies of national and individual state road conditions, operating characteristics and funding needs. In 2004, TRIP concluded Michigan state roads were underfunded by \$700 million per year, with county/city roads under-funded by another \$2 billion per year.⁶¹ The TRIP analysis did not consider funding needs for urban interstates in southeast Michigan, so I-75/I-94 investments that will be in the billions of dollars are not included in the \$700 million estimate.

The TRIP report was, however, completed prior to the passage of SAFETEA-LU so it does not take into account the additional \$193 million per year that the act authorized for Michigan highways. At the same time, not all of the authorized aid is being appropriated, with Michigan expected to get just 80 percent of authorized levels, or about \$154 million per year. After the 75/25 state/local split that results in an additional \$115.8 million for state-owned roads over and above the level of funding when TRIP did its needs analysis. Taking that extra funding into account would lower the TRIP assessment of state road funding needs to \$584.2 million, with local needs reduced to \$1,961.5 billion.

The Reason Foundation, another outside organization that has studied Michigan road funding, found the state needs to spend an additional \$27 billion by 2030, or about \$1 billion per year more.⁶²

Analysis of Michigan Needs Indicators

While the above organizations have produced estimates of total annual spending needs for the state, another approach is to look at specific indicators of needs. Indicators such as traffic increases vs. lane mile increases, truck traffic growth, road condition, congestion levels, vehicle damage levels from poor roads, funding trends, etc. can all be used to gauge the need for additional funding. A number of these measures are considered below.

Vehicle Miles Traveled Versus Lane Miles Added

One of the obvious indicators of investment need levels is based on growth in traffic levels vs. growth in the number of lane miles available to carry that traffic. Interestingly, in Michigan, between 1980 and 2000, vehicle miles traveled (VMT) grew 58 percent, yet the number of available lane miles grew just 3 percent.⁶³ Table 6 summarizes more recent data for both Michigan trunkline VMT and commercial vehicle miles traveled (CVMT).⁶⁴ Data for non-trunkline travel is not available. Between 1995 and 2004, VMT grew 18 percent, but miles grew just 1.4 percent. Going forward, MDOT estimates VMT will grow, from 2004 values, 14.6 percent by 2015, and by 37.9 percent by 2030. If no new miles are added we would have had a 62.8 percent increase in VMT between 1995 and 2030 with just a 1.4 percent increase in mileage.

Table 6
State Trunkline System
Vehicle Miles Traveled (VMT) and Commercial Vehicle Miles Traveled (CVMT) Traffic Levels
(Millions of Miles)

	Road Miles	VMT		CVMT	
		VMT	% Change	CVMT	% Change
1995	11,198	45,529	-	4,078	-
2004	12,087	53,741	18.0% (1995-2004)	4,927	20.8% (1995-2004)
2015	12,087	61,578	14.6% (2004-2015)	5,675	15.2% (2004-2015)
2030	12,087	74,117	37.9% (2004-2030)	6,870	39.4% (2004-2030)
-	-	-	62.8% (1995-2030)	-	68.5% (1995-2030)

Source: MDOT, Long Range Transportation Plan 2005-2030 - Conditions and Performance Technical Report, December 11, 2006

While this statistic does not tell the whole story, it is one indicator that suggests a need for future investment in new capacity. On the other hand, it is hard to say whether VMT continued growing between 2004 and 2007, and whether it will continue growing in the near future given the forces affecting the Michigan economy. The other problem with this measure is that it does not address peak hour traffic growth. Most regions have plenty of road capacity at non-peak hours, the question about the need for additional investment really relates to the growth in peak hour traffic, and peak hour traffic does not necessarily grow at the same rate as annual VMT.

Commercial Vehicle Miles Traveled versus Lane/Miles Added

Truck traffic has also grown very rapidly. Nationally, between 1980 and 2002, truck travel grew by more than 90 percent while lane miles increased just 3 percent.⁶⁵ Growth in traffic is expected to continue. Overall U.S. truck traffic is expected to grow 92 percent between 1998 and 2020,⁶⁶ with the percent of urban interstates carrying 10,000 or more trucks per day expected to grow from 27 percent in 1998 to 69 percent in 2020.⁶⁷

In 2003 Michigan's multi-modal transportation system moved approximately 670 million tons of freight with an estimated value exceeding \$1 trillion, with 70 percent of that weight moving by truck.⁶⁸ Looking just at the truck mode, 40 percent of that tonnage moves wholly internally within the state, with 53 percent moving into or out of the state, and just 7 percent moving through Michigan with no origin or destination in-state.

Table 6 discussed above also summarizes Michigan's state trunkline commercial vehicle miles traveled (CVMT). Data for non-trunkline travel is not available. Between 1995 and 2004, CVMT grew 20.8 percent, but miles grew just 1.4 percent. Going forward, MDOT estimates CVMT will grow, from 2004 values, 15.2 percent by 2015, and by 39.4 percent by 2030. If no new miles are added we would have had a 68.5 percent increase in CVMT between 1995 and 2030 with just a 1.4 percent increase in mileage.

Figures 12 and 13 visually portray the expected changes in truck average daily traffic between 1998 and 2020 in various areas of the state.⁶⁹

FIGURE 12

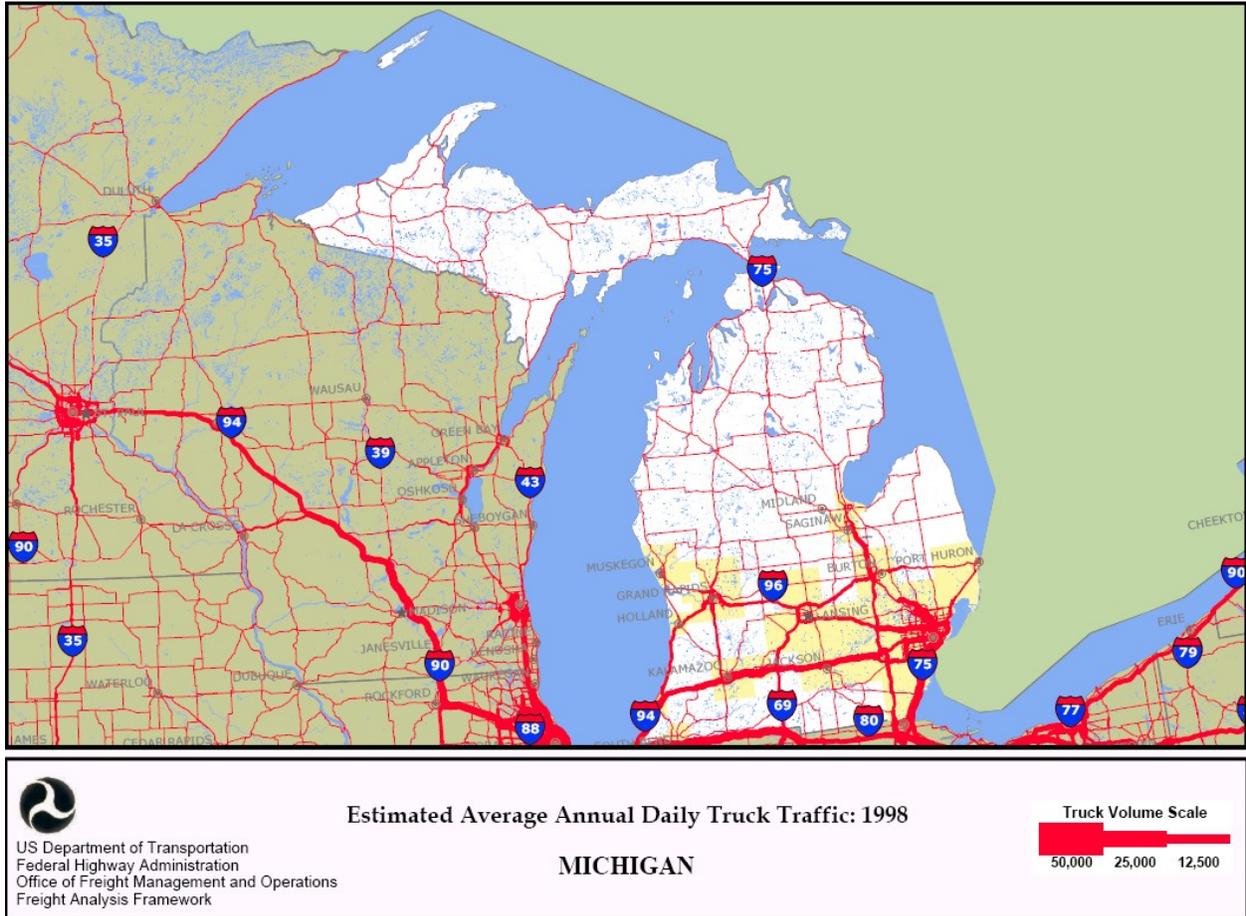
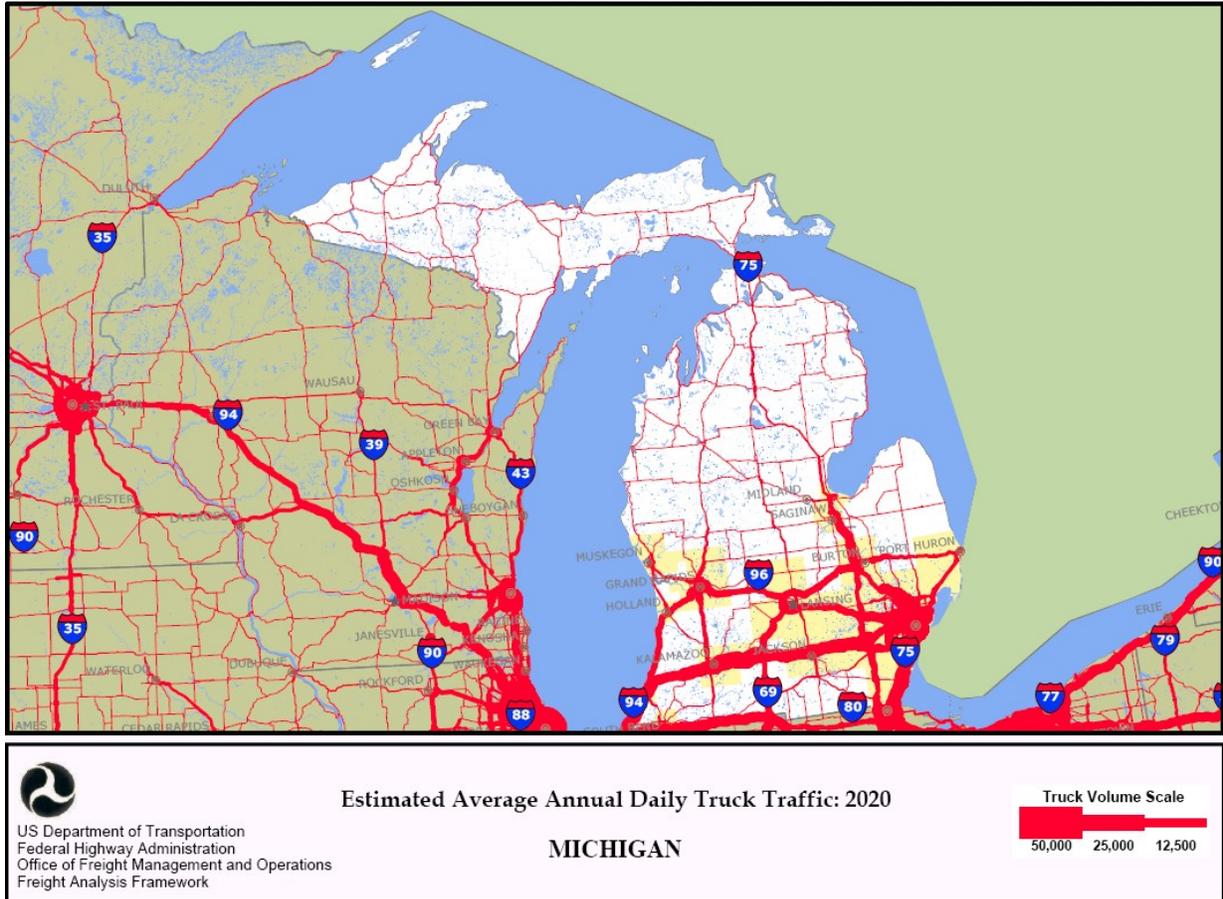


FIGURE 13



Pavement Condition

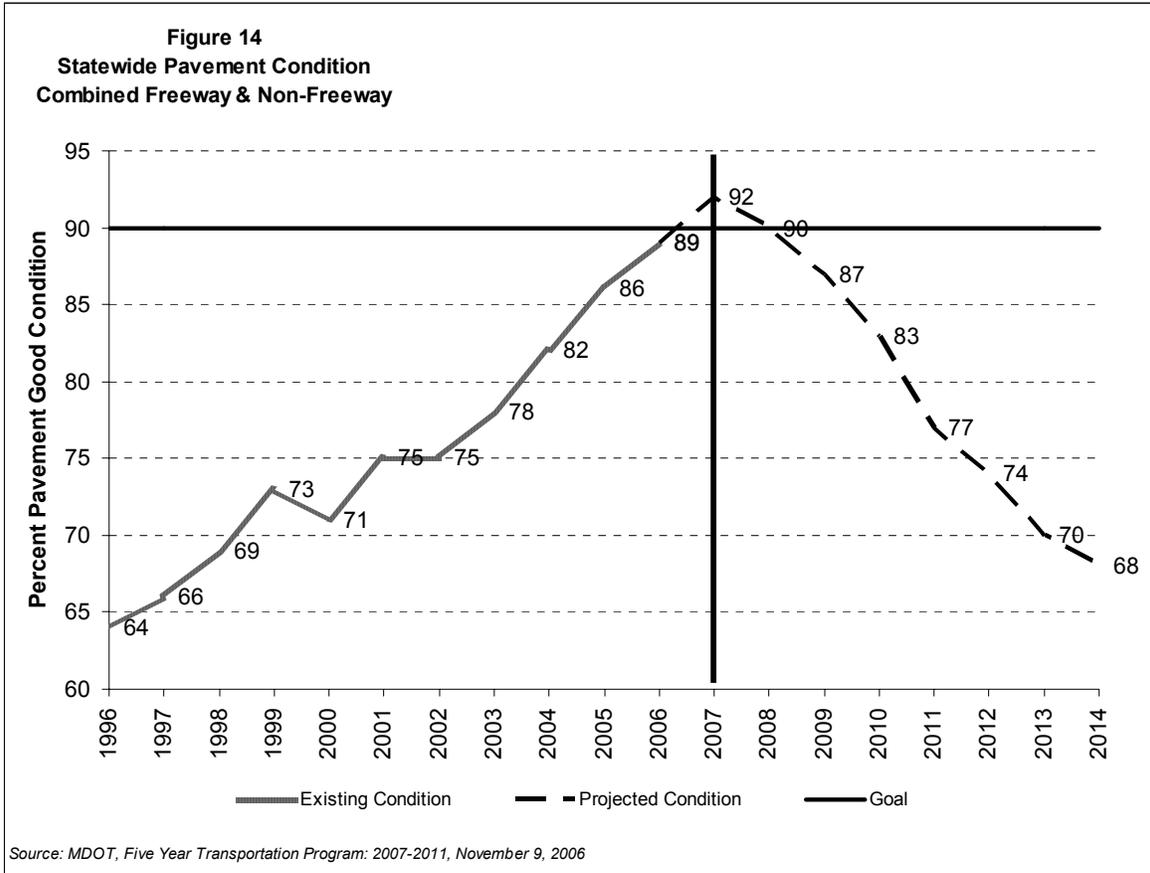
Several organizations have produced reports on the condition of Michigan pavement in recent years. These include MDOT, Anderson Economic Group and The Transportation Improvement Program (TRIP), a road-builder funded organization.

MDOT has said that the condition of the statewide trunkline system pavement has steadily improved over the last 10 years, from 64 percent “good,” to 86 percent good in 2005.⁷⁰ This evaluation system is based on MDOT’s Remaining Service Life (RSL) estimates. The system takes into account not only existing pavement condition but also the rate at which a given piece of pavement is expected to deteriorate. MDOT assumes that pavement sections with remaining service life of greater than 23 years are in “good” condition. However, while MDOT believes this system to be the best method to use for its internal purposes, they acknowledge that it may be hard for the public to relate to because it does not focus exclusively on existing pavement condition. MDOT also monitors International Roughness Index (IRI) data that is reported by TRIP and which is included in the FHWA Annual Highway Statistics reports. The IRI data indicates that pavement condition is in worse shape than what is determined from using MDOT’s RSL system. It is also important to note that most local governments use a completely different

system recommended by the Michigan Asset Management Council. This PASER (Pavement Surface Evaluation and Rating)system relies on a visual survey of pavement condition and a 1 to 10 rating with the rating relating to the type of roadwork that will be needed.

In essence, the RSL measures how good a shape the base is in, as well as the surface condition. This is a better measure of how much service life the road has left. While the IRI measures the surface roughness – a measure that makes more sense to the public. However, the IRI is not a good measure of the true condition of the road. For instance, MDOT could easily take the “easy way out” and get all the roads up to “good” IRI condition by putting a cheap two-inch cap on all roads. But in the meantime, the underlying life of the sub-surface and base could be rapidly deteriorating and require millions of dollars of reconstruction. So the IRI under-reports the true underlying road conditions and life, but the RSL under-reports the actual quality of the ride. Overall, MDOT’s RSL measure is the more appropriate one for studying future funding needs.

Using the RSL system and the Road Quality Forecasting System (RQFS) the data is entered into, MDOT’s goal, set in 1997, has been to have 95 percent of the freeway system in good condition, and 85 percent of the non-freeway trunkline system. As can be seen in Figure 14, the non-freeway RQFS/RSL goal of 85 percent good has been reached, and the freeway condition has improved to 88 percent good but is still seven points short of the goal. MDOT projects that freeway condition will improve to 91 percent good in 2007 but will not improve beyond that without the aid of additional funding. Over the long term, given a lack of new funding, MDOT projects that the freeway conditions will deteriorate to 80 percent good in 2014, while the non-freeway system will deteriorate to 60 percent good in 2014. For bridges, MDOT’s goal has been to reach 95 percent good condition on the state freeways, and 85 percent on the non-freeways. Overall, trunkline bridges have improved from 78 percent good in 1998 to 84 percent good in 2005. Conditions are expected to stay in this range until 2017 to 2021. It should be noted that the above MDOT data relates only to the state trunkline system and not to the county/city owned road system.



Anderson Economic Group was retained by the Speaker of the Michigan House of Representatives to evaluate various aspects of Michigan “infrastructure” and to compare our performance on those infrastructure elements to other states. Four key types of infrastructure were evaluated: Transportation, utilities, telecommunications, and natural resources or “green” infrastructure. Anderson used FHWA reported International Roughness Index data that is based on the “number of inches per mile that a laser jumps as it is driven across a road.”⁷¹ IRI scores of less than 95 were assumed to equate to “good” roads, between 95 and 170 equals “fair,” and anything over a 170 means the road is in “poor” condition. Both state trunkline and county/city roads were studied. A key advantage of using this data is that Michigan road condition can be compared to other states. The report compared Michigan roads to a Midwestern average including the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin.

The 2004 road surface conditions in Michigan and the average for Midwestern states are reported in Table 7. For urban roads, Michigan’s Other Principal Arterial roads were in the worst condition – with 40.8 percent in poor condition compared to a Midwestern state average of 26.4 percent poor. Thirteen percent of urban Interstates were in poor condition versus just 6.5 percent of the neighboring state interstates. For urban non- interstate freeways and expressways the percent in poor condition was just 6.6 percent in Michigan versus 5.9 percent in Midwestern states. Rural roads were in considerably better condition, with Interstates 7.7 percent poor, Other Principal arterials 3.0 percent poor, and Minor Arterials 0.2 percent poor. Michigan’s percent of

“poor” roads vs. other states is actually quite revealing and speaks volumes about the potential need for more money.

Table 7
2004
International Roughness Index (IRI) Pavement Condition
Michigan vs. Midwestern States Average (1)
(Percent Good and Poor)

	Urban						Rural					
	Interstate		Other Freeway		Other Principal Arterials		Interstate		Other Principal Arterials		Minor Arterials	
	Good	Poor	Good	Poor	Good	Poor	Good	Poor	Good	Poor	Good	Poor
Michigan	40.6%	13.0%	47.5%	6.6%	12.5%	40.8%	41.9%	7.7%	62.5%	3.0%	66.5%	0.2%
Midwestern States Average	50.4%	6.5%	40.1%	5.9%	23.7%	26.4%	63.4%	1.8%	56.5%	4.4%	49.2%	7.1%
U.S. Average	56.3%	7.5%	47.2%	9.8%	27.0%	26.4%	72.2%	2.0%	56.8%	5.4%	46.5%	7.3%

1. See text of report for notes. Reflects surface ride condition but not the more important issue of remaining surface life.

Source: Anderson Economic Group, *Benchmarking for Success: A Comparison of State Infrastructure*, December, 2006, based on FHWA, *Highway Statistics*, Table HM64, 2004

The Transportation Improvement Program (TRIP) issued a report on Michigan road conditions in February 2006.⁷² The TRIP report evaluated state, county and city road and bridge condition, along with congestion levels, using 2004 data. TRIP found that some 14 percent of Michigan’s major roads are poor vs. 13 percent nationally, with 24 percent fair in Michigan compared to 21 percent nationally. They also report that just 47 percent of Michigan’s major roads are in good condition, substantially below the 75 percent good standard that they say state and local organizations strive for. For bridges, they report that 16 percent are structurally deficient, meaning there are major system components with deficiencies. Nationwide 13 percent of bridges are considered structurally deficient. TRIP also reported road conditions for key urban areas of the state. They found that 36 percent of major roads in the Detroit area were in poor condition, with just 23 percent good. In the Grand Rapids area, they state that 28 percent of major roads are in poor condition.

Congestion Levels

Congestion levels and trends are another important indicator of highway funding needs. As with road pavement conditions, MDOT, Anderson Economic Group, and TRIP all have recent reports on the issue. In addition, SEMCOG has reported on congestion levels in Southeast Michigan.

MDOT has defined “congested” roads as those with a Level of Service (LOS) of “F” for freeways and “E” or “F” for none-freeways. LOS is determined using the guidelines in the Transportation Research Board’s Highway Capacity Manual 2000. Table 8 summarizes changes in congestion levels over time assuming no capacity is added in additional lane miles. MDOT’s analysis suggests that 15.3 percent of urban freeway VMT in the state was congested in 2004, with 39.9 percent of the urban freeway VMT approaching congestion status.⁷³ Urban non-freeway trunkline VMT was 20 percent congested, with 22.8 percent of VMT approaching congested. Under current funding, the level of congested VMT on urban freeways will increase to 42.6 percent by 2030, with 39 percent of nonfreeway urban VMT congested by 2030. For commercial vehicle miles traveled (CVMT), on freeways the congestion levels were at 9.5 percent in 2004, and reach 32.2 percent by 2030. For non-freeways 17.6 percent of CVMT was congested in 2004, with 36.2 percent by 2030. These congestion levels are unacceptable even by 2015, and will be unbearable by 2030. In order to avoid the 2015 congestion levels additional investment will be needed.

Table 8
1995-2030
Urban Vehicle Miles Traveled (VMT) and Commercial Vehicle Miles Traveled (CVMT) Percent
Congested and Approaching Congested

Year	Vehicle Miles Traveled				Commercial Vehicle Miles Traveled			
	Freeway		Non-Freeway		Freeway		Non-Freeway	
	Congested	Approaching	Congested	Approaching	Congested	Approaching	Congested	Approaching
1995	21.9%	42.9%	12.3%	7.4%	14.9%	37.5%	17.1%	6.7%
2004	15.3%	39.9%	20.0%	22.8%	9.5%	33.9%	17.6%	22.1%
2015	20.0%	39.8%	24.9%	25.1%	12.8%	33.4%	22.9%	24.6%
2030	42.6%	29.3%	39.0%	23.4%	32.2%	27.0%	36.2%	23.2%

Source: MDOT, State Long Range Transportation Plan 2005-2030 - Highway/Bridge Technical Report, October 31, 2006

SEMCOG has also analyzed current and likely future congestion in Southeast Michigan.⁷⁴ By 2030, if no capacity is added, there will be 96 miles of “bottleneck” (less than one-half mile) roads in southeast Michigan, and over 1400 miles congested. They estimate these congestion levels will impose a cost of \$3.96 billion by 2030.

Anderson Economic Group also has analyzed statewide congestion levels in comparison to other states.⁷⁵ Anderson uses FHWA Highway Statistics data from Table HM-61 for this analysis. This table reports the Volume Service Ratio (VSR) for roads and assumes that roads with a VSR above .80 are congested. The higher the ratio the worse the congestion. For 2005, Michigan’s urban interstates were 43.8 percent congested, compared to a Midwestern state average of 40.5 percent, and a U.S. average of 32.6 percent. Ohio’s urban interstates are more congested than Michigan’s, and Illinois has similar levels of congestion. For urban, non-interstate freeways,

Michigan congestion miles equal 29.6 percent, with Midwestern states averaging 19.4 percent, and the U.S. average at 19.5 percent. Ohio was at just 8.9 percent, and Illinois at 14.3 percent. For other principal arterials 14.6 percent of Michigan miles are congested, as compared to the national average of 10.9 percent. Similar Ohio roads are just 5.6 percent congested, and Illinois ones are 7.0 percent congested. What this indicates is that Michigan urban roads are more congested than neighboring states, the Midwestern state average, and the national average.

Anderson also reports on data from the Texas Transportation Institute's 2005 Urban Mobility Report. This data shows that Detroit has a travel time index (ratio of peak traffic flow times to free flow travel times) of 138 percent, meaning it takes 38 percent longer to make a trip at peak traffic times than it does at non-peak times. Detroit ranks 17th among large urban markets on this measure. By comparison, Chicago had a ratio of 158 percent, and the average ratio for 85 areas measured was 137 percent. Separate data from the Texas Transportation Institute, summarized in a Detroit News editorial in 2005, indicates that Detroit motorists spend 119 million hours/year in delays, and burn an extra 72 million gallons of fuel per year, with \$2 billion in lost time costs per year.⁷⁶

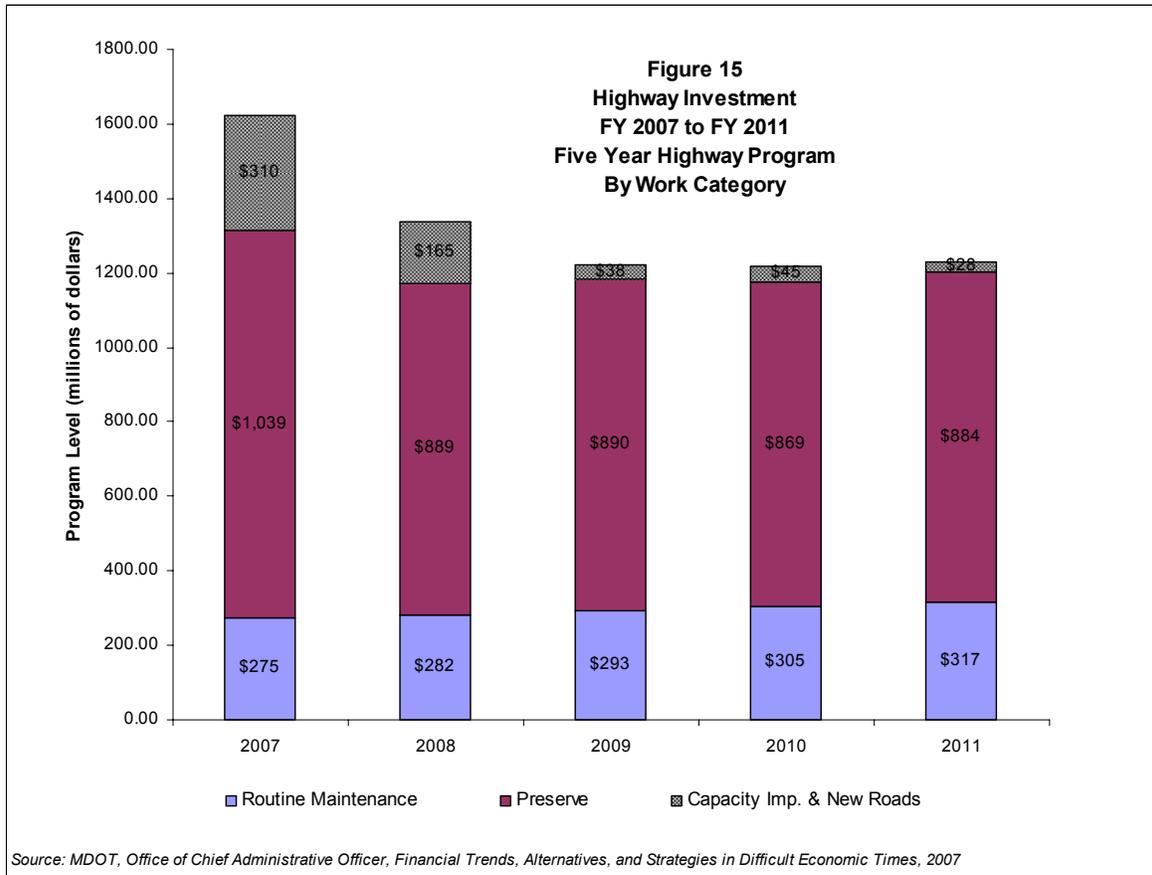
TRIP also reports on congestion levels in Michigan, but reports percent of miles congested rather than percent of VMT as MDOT does.⁷⁷ The MDOT approach does not show as great a level of congestion and would seem to be more reliable an indicator of the level of congestion. Using their approach, TRIP reports that 36 percent of urban interstate miles were congested in 2004. They also indicate that travel on Michigan interstates grew by 33 percent between 1990 and 2004 while lane miles increased by just 3 percent. TRIP forecasts that travel on Michigan urban interstates will grow 40 percent by 2026, and that absent lane additions 63 percent of miles will be considered congested at that time.

Car Damage Costs

Another indicator of potential need for additional funding relates to the level of car damage that Michigan motorists are experiencing. According to TRIP, Michigan residents in 2002 paid an average \$318 per motorist for car repair due to bad roads. These costs totaled \$2.2 billion Michigan-wide in 2002.⁷⁸ Another indication of the car damage cost issue comes from AAA Michigan. They report that in the first half of 2006 there were 18,000 windshield claims reported to them, and 5,000 pothole damage claims. These claims had an average cost of \$641.⁷⁹

State Trunk Line Funding and Spending Trends

The level of current and immediate future spending on roads with current resources, and trends in that funding, are another good indicator of the potential need for additional funding. Are we maintaining our recent past and current level of spending on roads? Michigan's latest five-year plan, depicted in Figure 15, shows a considerable drop-off in planned spending over the next five years.⁸⁰ For 2007, MDOT is scheduled to spend \$1.624 billion on the state owned trunkline highway capital improvement program including maintenance. However, by 2008, planned spending drops to \$1.336 billion, with spending falling further to \$1.229 billion by 2011.



However, while the planned spending fall-off is troubling enough, new data indicates that this five year spending plan is under-funded to the tune of \$300 million over the five years, partly because of an anticipated \$157 million reduction in estimated federal aid. That means that the planned spending will need to be cut back by that amount unless federal funding or bonding is increased.⁸¹ If the \$300 million has to be cut from the last four years of the plan, that will mean an average spending level of \$1.176 billion, or a 27.6 percent reduction from 2007. Even before the potential \$300 million reduction, the capital preservation and expansion part of the plan excluding maintenance, was down 32.4 percent in 2011 as compared to 2007. Spending is down by even more if one compares the capital program to 2006, when spending was boosted to \$1.523 billion with the aid of bond monies. Comparing 2006 to even 2008 levels indicates a 38 percent drop in true capital spending.

Perhaps even more ominous is the severe reduction in expansion money in the five year plan. Expansion money is used to add capacity. The capacity expansion money has the biggest, and perhaps even the only real productivity boosting economic impact in the program. While Michigan is spending a relatively small amount on expansion in 2007, just \$310 million, it is scheduled to decrease this to \$165 million in 2008, and then drop the expansion to between \$28 and \$45 million for each of the 2009 through 2011 years. And the \$300 million under-funding of the plan will have to be taken out of even these minimal amounts if federal funding is not restored and state MTF revenues do not increase. Such limits on expansion spending will have a

very detrimental impact on economic development and must not be allowed to stand. Michigan simply must find a way to begin building new highway lanes in congested areas. The lack of any significant highway expansion will place a cap on the state's ability to grow in high demand areas such as Oakland County and western Michigan.

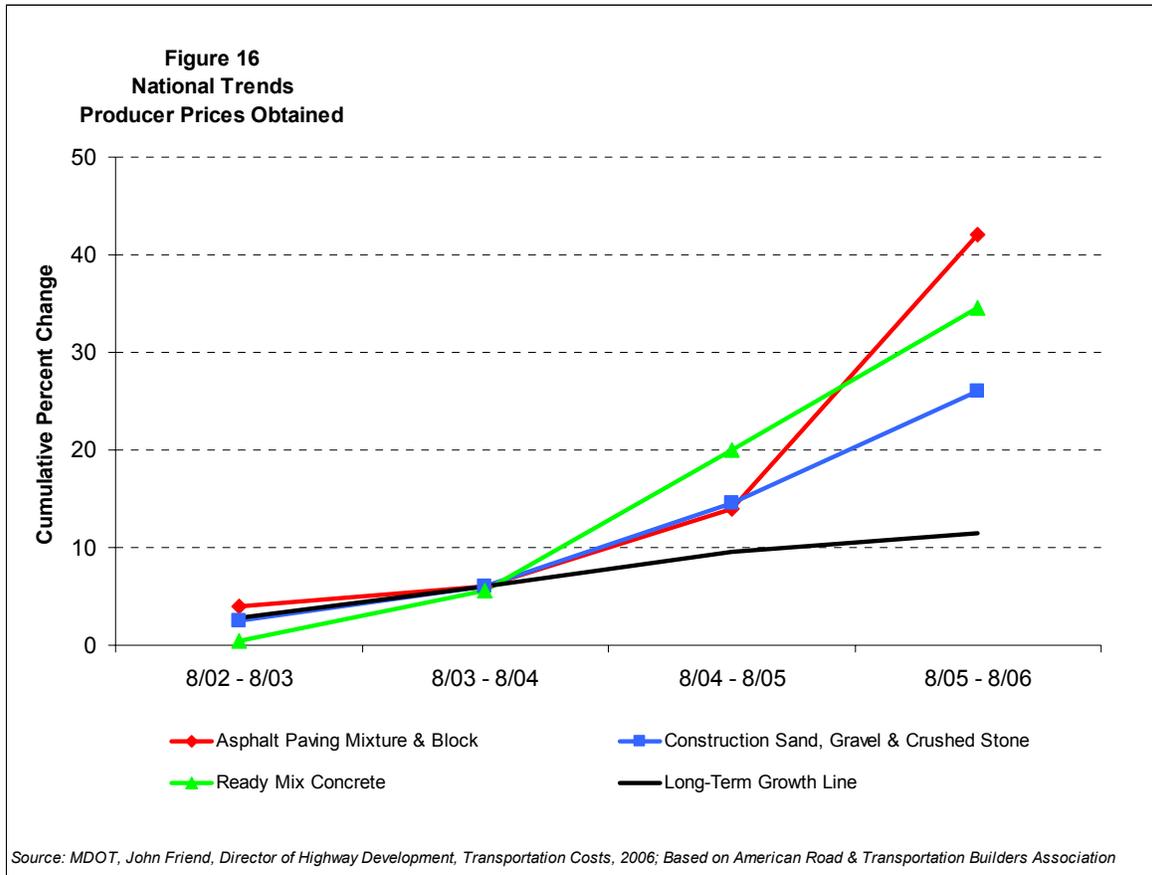
Major Project Funding Needs

Another indicator of need relates to the costs of major new projects and the amount of new money available. In Michigan, there are several key projects that are necessary to boost capacity and assure the appropriate business climate and quality of life for industry and individuals. These projects tend to be in the growing regions of the state around Oakland County, northern Detroit, Washtenaw County, and the west Michigan Grand Rapids-Holland-Grand Haven triangle.

Projects necessary to reduce congestion and improve mobility in these areas have tremendous costs. For instance, in the Detroit area, the costs of upgrading 6 miles of I-94 are in the range of \$1.3 billion.⁸² Likewise, adding lanes in Oakland County on I-75 will cost over \$1 billion. Adding lanes on U.S.-23 between I-96 and Ann Arbor will also cost in the \$100's of millions, as will capacity expansion in west Michigan. What money is available for these projects currently? Virtually nothing – given that MDOT's entire expansion budget for 2010, as noted earlier, is just \$28 million, and even that modest five year plan is short of funding. Are capacity improvements needed? Perhaps not if the state economy continues to implode – but any path to recovery will require roads that guarantee fast and reliable mobility for freight and personal/business travelers.

Highway Inflation Impact on Revenue

As discussed in earlier sections, national construction costs for materials have gone up at a fast pace. Figure 16 shows these increases over the last three years. Michigan has lost a good deal of the purchasing power of its MTF revenue base because of highway construction cost inflation. Just in the last four years Michigan construction costs for key system components are up substantially. For instance, the costs for HMA are up 32 percent over four years, concrete is up 21 percent, sub-base is up 20 percent, and aggregate is up 29 percent. While these costs are going up, about half of MTF revenues, related to fuel taxes, are fixed dollar amounts which are not indexed to inflation. As a result the gas tax alone has lost some 42 percent of its value since it was raised to 19 cents per gallon in 1997.⁸³ Going back further in time, the impact of Detroit CPI inflation alone is quite stunning.



Debt Service as a Percent of Spending

Another indicator of the state’s ability to spend money on actual road work relates to the level of debt service. Michigan has borrowed extensively since 1997 to boost road spending over and above what was possible given limitations in fuel tax and registration fee revenues. Total debt as of September 30, 2005 was \$1.575 billion, and additional bonding has been authorized since then to provide Jobs Today Program funding where the state provides money to locals to match federal funds available to them.

Table 9 summarizes debt service levels in absolute dollars during the current five year plan, and shows debt service as a percent of STF revenues, and as a percent of the capital expansion and preservation program.⁸⁴ Debt service for the STF ranges from \$160 million in 2007 to \$205 million plus beginning in 2009, before taking into account any debt added after September 30, 2005. As a percent of STF revenues, these debt service levels are in the range of 9.5 percent to 10.5 percent. However, as a percent of the money available to spend on the highway capital improvement expansion and preservation program, these debt service levels are quite high. In 2007, the debt service is equal to 11.9 percent of capital spending, by 2009 it equals 22.1 percent of capital spending, and by 2011 it equals 24.1 percent of the capital program.

Table 9
2007-2011
State Trunkline Fund
Debt Service As Percent Of Capital Spending
(Millions of Dollars)

	2007	2008	2009	2010	2011
Five Year Expansion and Preservation Program	\$1,349	\$1,054	\$928	\$914	\$912
State Trunkline Fund Debt Service	\$160	\$180	\$205	\$220	\$220
Debt Service as a Percent of Expansion and Preservation Program	11.9%	17.1%	22.1%	24.1%	24.1%

Source: MDOT, State Long Range Transportation Plan 2005-2030 - Finance Technical Report, October 31, 2006 and MDOT, 5-Year Transportation Program: 2007-2011, November 9, 2006

County/City Funding Pressure

While the above data mainly examined state trunkline conditions and spending trends, it is important to also look at local spending and how it is holding up. Unfortunately, there are numerous signs that county and city funding is beginning to fall in the face of stagnant MTF distributions.

Just one of many examples can be found in Ingham County which is having to temporarily end its improvements related (as opposed to routine maintenance) “local match” program for townships. Townships have to put up at least half of funding for “county local roads,” with the county road commissions limited to being able to put up no more than half of the cost of projects for these roads. However, because of a lack of funding and dramatically higher costs, the Ingham County Road Commission has had to end all contributions to local county roads, meaning townships will have to put up the full cost.⁸⁵ Another indication of funding pressure can be found in Meridian Township where they should be replacing six miles of county local road a year for a 25-year cycle but only have money for two miles per year. For county primary roads in Ingham the county should be resurfacing 20 miles per year but can only afford to do one mile per year with available funds.

Another example of austerity budgets at the local level can be found in Oakland County. The road commission there has to cut its budget for 2007 by 12 percent compared to 2006 due to a lack of funding. Oakland has eliminated its entire resurfacing program for 2007. However, some bigger projects have been able to be moved forward with bond money MDOT provided to counties for use in matching federal funds.⁸⁶ Ottawa County also could be used as an example of the kind of funding pressure local agencies are under.⁸⁷ They have had to lay off 25 percent of their staff this year in order to avoid deficits.

Conclusions on Need

After reviewing the above secondary sources and actual indicators of need it is quite apparent that Michigan cannot continue for long without additional investment in the transportation system. Key indicators related to VMT and CVMT growth, pavement condition trends, congestion trends, maintenance of spending levels for the state trunkline system, debt service levels, and local county/city spending levels all strongly suggest the need for sizeable investment in additional road funding.

The amount of need is very difficult to estimate. However, it would appear to be in the vicinity of \$1 to \$1.5 billion per year assuming the current backlog of state and local road needs can be worked off over a 15 year period.

ECONOMIC GROWTH BENEFITS OF TRANSPORTATION INFRASTRUCTURE INVESTMENT

Why do we raise taxes to invest in transportation? Because transportation investment boosts productivity and the wealth generating potential of the entire economy. It also increases personal mobility and quality of life. The key benefit, however, has nothing to do with “job creation” in the construction trades. In fact, we want to create as few jobs as possible in those sectors because we want to get as much road transportation mobility and reliability as possible for as little cost as possible in terms of investment and payroll for construction workers.

Nor is the key benefit related to personal income growth in a particular geographic area where the road is built. No, the key benefit and reason for transportation investment is from helping to make businesses and individuals more productive, across the geographic landscape. We rely on our transportation investments to increase the economy’s overall productivity – both in terms of making individual travel (business and personal) faster and more reliable, and in terms of the productivity benefits of making freight flows faster and more reliable. “Any congestion, or lack of capacity, must be viewed as a bottleneck not just to traffic, but to productivity and economic growth itself.”⁸⁸

Although private investment in transportation infrastructure is growing, transportation funding is still overwhelmingly public. So when one asks if investment in transportation crowds out more productive private investments, one is essentially asking if *public* investment in transportation crowds out more productive private investments. Some research suggests the answer is no. According to economist David Aschauer, publicly funded roads increase the profitability of private investment (higher rates of return) and lead to increases in private investment with the expected economic growth benefits.⁸⁹ Aschauer has suggested that every one percent increase in highway infrastructure investment will increase GNP by as much as 0.24 percent.⁹⁰

While the level of return is hard to estimate, the Congressional Budget Office in 1991 asserted “cost benefit analysis finds substantial returns to increases in federal funding for highways.”⁹¹ Further support for the benefits of highway investment came in the testimony of OMB Director Richard Darman who said, “it is apparent that some public investment – particularly for street

and highway infrastructure provides direct productive services that are complementary with private investment.”⁹²

But how does investment in transportation lead to benefits that are worth more than the negatives from crowding out other investments? The rest of this section attempts to explain this benefit, along with other benefits to personal travel and quality of life that also result from highway investment.

The Broad Rationale for Transportation Infrastructure Investment

In the business manufacturing and services sectors the investment in roads helps make transportation costs/mile lower. That helps economic development because it allows for increased manufacturing and services specialization, and the productivity benefits that come as a result. It does this by making both domestic and international “trade” in goods and services between specialist firms cheaper.⁹³ “Trade” is cheaper when the transportation costs are lower, thereby allowing specialists to obtain specialized inputs of physical and services components from even far away sources. Trade also lets them sell their specialized production and/or services at great distances thereby increasing their market area.

Even though specialist producers make very narrow focused lines of goods and services, they can develop large enough volumes to achieve economies of scale by being able to sell at great distances from home. They can also sell to far away markets because of the low transportation costs and speed/reliability of transportation times. So the specialist is able to focus on the narrowest of product lines and/or services and generate large gains in productivity. That specialist can also sell that specialized good or service worldwide with transportation costs of trade that are low and do not eat up the production productivity benefits that came from specialization. This helps maximize economic growth and wealth because specialization and the resulting productivity growth is the key to creating wealth.

From a freight perspective, trading specialized production back and forth domestically and internationally, with as little cost as possible, is about more than simply lowering transportation costs. Manufacturers trying to reduce the cost of their “trade” interactions strive to lower their overall supply chain logistics costs relating to everything from the costs of distribution center warehouses, to the costs of carrying inventory, to the costs of transportation.

The goal is to lower the total cost of trade logistics. From a supply chain logistics standpoint, lower transportation costs and improved transportation reliability, that results from transportation investments, allow manufacturers to substitute transportation for more expensive distribution centers and the inventory they hold.⁹⁴ We don’t need inventory stacked up in multiple warehouses near every customer if we can rely on good transportation to quickly deliver what customers order in a fast and reliable way from a far away production site. By making these substitutions of transportation for warehousing/inventory costs, manufacturers have found that they can often lower total logistics costs because the costs of warehousing and inventory go down by more than the extra aggregate transportation costs. This is true so long as we can get lots of good transportation (fast and reliable) at low unit transportation costs.

These principles have allowed U.S. companies to implement just-in-time (JIT) production and distribution techniques that lower the overall costs of trade and logistics domestically as well as internationally. At the same time these principles are allowing for transportation speed and reliability to increase responsiveness to changes in global demand. Because transportation costs less after proper transportation infrastructure investment companies can actually afford to buy more of it. So their transportation inputs and costs may actually go up because they can afford to use more of it, and they substitute that transportation for previous use of distribution centers and inventory. This allows them to lower their total costs of logistics.⁹⁵ But the key is reliable transportation systems and that takes investment in all modes of transportation, but especially highway transportation. Highways are key because trucking is the only mode that can offer the speed, reliability and low cost of unit transportation that is critical to the above supply chain logistics equation.

“Given the above points, in considering the return from transportation infrastructure investment, it is insufficient to simply estimate the savings in vehicle operating costs and the value of time savings as the principal investment benefits.”⁹⁶ Instead, it is important to consider the impact that major network improvements can have in allowing firms to substantially restructure their logistics and distribution networks. “Firms faced with reduced congestion throughout a network can improve the reliability of delivery schedules so that smaller and more frequent deliveries are made. This in turn allows for a reduction in inventory. Firms may also eliminate distribution centers, clustering fewer depots around key centralized points in the improved transportation network.”⁹⁷ Failure to account for these network economies can lead to a substantial understatement of the positive impacts of transportation infrastructure investment on productivity and economic growth. Coupled with the benefits of facilitating trade at lower costs, and therefore increasing specialization with resulting productivity gains, transportation investments can have major impacts on economic growth if they are targeted in a way that will maximize business benefits.

In the individual auto travel sector, transportation infrastructure investment helps personal mobility, and therefore quality of life and business productivity. It is critical in today’s service oriented economy that business specialists be able to travel wide distances to ply their specialized crafts. If they are limited to a narrow geographic area because it is too time consuming to travel greater distances then they will have to offer a broader less specialized range of services in their narrow geographic area in order to achieve the same level of sales. The result will be that they cannot specialize to the same degree, and they will not be able to offer the same level of benefits to customers because they have to be generalists.

Think about specialization in services. Technicians are traveling all the time — whether they are servicing robots in manufacturing plants, servicing personal computers or providing technical support to farmers. Also think about consultants that travel back and forth to clients. The number of individual specialist categories that drive our economy are stunning, and the number of specialists and the degree of their niche specialization is growing at a fast rate. Another category of business traveler critical to the economy and to individual businesses is salespeople, who are often highly specialized consultants/salespeople for highly technical services and goods companies. Consider such expeditors and courier delivery services as UPS and Fed Ex. Or

consider even more specialized same-day delivery services that often use autos and pickup trucks to deliver small quantities on a daily basis all over the world. All this requires superior transportation speed and reliability. All these specialists require fast and reliable highway and other transportation infrastructure to facilitate their activities.

The companies that employ these specialists are looking for regions where they can locate in which there is ready access to the kind of transportation services that make it possible for their suppliers' service/sales technicians to call on them quickly and reliably; and that in turn allows their own service worker technicians, salespeople/technicians, and courier services to call on their customers in a similar way. And, of course, these companies want access to as wide a pool of specialist and other labor talent as possible. In deciding where to locate their businesses, they in part consider where their potential workers will have the most travel mobility. The greater the travel mobility, the greater the pool of potential talent that is available to them because workers can effectively commute from greater distances. Companies also favor locating in areas where their workers will be happiest so they can draw more of the best-qualified specialists. Workers and their families need to have access to good mobility without congestion, unsafe roads, and poor road conditions. It takes transportation infrastructure investment and maintenance to make this happen.

National Transportation Investment and Economic Growth

The linkage between transportation investment and economic development is quite strong. The underlying macroeconomic rationale is clear, and individual companies understand the benefits of good transportation as noted below in several case studies. That is why many government and industry leaders are pointing out the need for a renewed focus on addressing a crisis in transportation infrastructure. We simply are not keeping up as a nation, from either a marine, air travel or highway standpoint. That is why national political and business organization leaders are saying it is time to come up with a solution to transportation investment problems.

For instance, while not calling for a federal tax increase, former Secretary of Transportation Norm Mineta said in July 2006 that America is losing \$200 billion per year, or \$900 per adult, due to freight bottlenecks. Mineta adds that consumers are losing 3.7 billion hours and 2.3 billion gallons of fuel per year sitting in traffic jams.⁹⁸ These are major economic losses that transportation investment can help eliminate.

Another leader who has addressed the infrastructure funding question is former Michigan Governor, and current President of the National Association of Manufacturers, John Engler. Governor Engler understands the potential economic benefit of transportation infrastructure investment. He was recently quoted as saying he was:

part of raising the fuel tax in Michigan (in 1997), and not once did I have to be apologetic about it or on the defensive, because the state's economic analysis demonstrated the improvements paid for by the tax increases were a good investment for Michigan.⁹⁹

Nationally, a number of business organizations have tried to point out the relationship between the transportation system and economic development.

National Case Studies on Highway Infrastructure Investment Benefits

At a macro level, it has been possible to measure how the costs of logistics have fallen for companies over time. For instance, between 1980 and 2002, the costs of logistics in the United States dropped from 16 percent to just 9 percent.¹⁰⁰ While these reductions are due to many factors, such as telecommunications technology and transportation economic deregulation, they are also due to improvements in transportation infrastructure. Following are several examples of how companies are positively or negatively affected by the level of transportation infrastructure available to them. Some have used superior transportation systems to remodel their supply chain logistics in a way that boosts productivity. Others have relied on quality transportation to help draw skilled employees to their area, and actively seek to locate facilities where such transportation infrastructure exists.

Dell is a great example of how companies have been able to restructure their production and supply chain systems because of the availability of superior transportation infrastructure and institutions. By using just-in-time deliveries, that would only be feasible with fast, reliable and relatively low-cost transportation, Dell has been able to centralize production in specialized plants. They have also been able to eliminate market area warehouses, cut inventory from 85 days supply to just 6.6, and provide a customized “make to order” product for their customers, with reasonable cost, next day delivery anywhere in the world. Such a response-based system would not be possible without access to quality transportation networks.¹⁰¹

Another example is Campbell Soup Company. “Campbell improved performance throughout its supply chain and reduced overall production costs using a good system of highways to achieve reliable transportation. This allows them to adopt just-in-time deliveries and strategic alliances with suppliers. The greater reliability and reduced transport time achieved with truck transportation have allowed Campbell’s plants to reduce inventory and handling costs.”¹⁰²

Hewlett-Packard (HP) has also been able to improve its production and supply chain logistics because of superior transportation infrastructure, but employee mobility and quality of life are also key considerations for them. On the production/distribution side, HP has been able to reduce order cycle times and reduce inventories by making more frequent shipments in small quantities. A good highway system and access to airports are key to implementing that strategy. HP also is in part able to attract and retain highly skilled, innovative employees by locating its facilities in areas where the highway network provides good labor access for short and long distance commuting.¹⁰³

The Limited brand retail chain provides another example of the value of good highways. They are able to stay in-stock with the latest fashions and cost efficiently distribute to a network of 4,425 stores in 48 states from a centralized distribution point in Columbus, Ohio, by having access to the interstate highway system. The reliability and short transport time achieved by long distance trucking over the nation’s highway system allows frequent and reliable restocking of

even the most remote locations from one centralized distribution point.¹⁰⁴ By centralizing inventory, the Limited is able to reduce warehouse and inventory costs in a way that maximizes service and actually lowers total logistics costs even though they pay more for freight.

General Motors, and other U.S. and foreign auto companies, also rely on the highway system to tie them to their network of suppliers around the world and around the country. Their integrated manufacturing processes depend on just-in-time delivery of production components from thousands of suppliers. The speed and reliability of truck transportation that is possible over a good highway network facilitates the receipt of more frequent, smaller shipments just-in-time, thereby allowing for far lower inventory levels of components.

Smaller companies also rely on congestion-free highways. Bueno Foods, a New Mexico producer of chilies, sauces, and salsas, says any type of congestion causes it serious problems in that it delivers to customers great distances away on both coasts. Bueno says congestion imposes costs on the supply chain, but that those costs are hard to see. That is especially true for smaller companies that don't have the resources or options of the bigger companies.¹⁰⁵

Finally, for Xerox Corporation, a good highway system provides essential support for on-time delivery of components to manufacturing facilities in even remote locations. The efficiency and reliability of truck transportation over the interstate system also makes it possible to ship finished products to customers all over the country. This can be done in a timely way despite long distances, and without the need for large inventories in market area warehouses.¹⁰⁶

On the other hand, when adequate transportation is not available, it is interesting to see what kinds of impacts there are. When the transportation system cannot guarantee speed and reliability over large distances, shippers change logistics strategies by adding distribution centers and filling them with more inventory — all at great cost. While the biggest problems are currently in ports, airports and rail yards; highways are also a problem, especially in urban areas.¹⁰⁷

Wal-Mart's experience with their private fleets in urban areas further clarifies the costs of poor transportation systems and resulting congestion. Wal-Mart averages 21.3 percent fewer miles per tractor per week in urban areas than in rural markets. This would seem to be a good indicator of the impact of congestion. As a result, Wal-Mart needs more tractors, consumes more fuel and generates more pollution than would otherwise be the case. And of course it is consumers that in the end pay the higher costs.¹⁰⁸

Michigan Transportation Investment and Economic Growth

As can be seen above, a compelling case can be made for the value of investment in our transportation system. If Michigan wants to be a player in the global economy, it must assure that our road network allows for reliable low-cost transportation that helps companies be more competitive. The bottom line is that transportation investment increases productivity and helps generate economic growth. A continuation of policies that underfund transportation investment will hurt Michigan companies and the state's residents.

Michigan business executives participating in a state transportation summit in 2003 noted the economic importance of transportation and developed a list of many of the state's transportation shortcomings. Key issues included poor road conditions, unexpected delays from congestion and access to key transportation and industrial facilities. Many of the issues were captured and summarized in the state's long-range transportation plan for freight. The report quotes a particularly relevant part of a FHWA report on the impact of freight bottlenecks that says:

The effects of growing demand and limited capacity are felt as congestion, upward pressure on freight transportation prices, and less reliable trip times as freight carriers struggle to meet delivery windows. Higher transportation prices and lower reliability can mean increased supply costs for manufacturers, higher import prices, and a need for businesses to hold more expensive inventory to prevent stock outs. The effect on individual shipments and transactions is usually modest, but over time the costs can add up to a higher cost of doing business for firms, a higher cost of living for consumers, and a less productive and competitive economy.¹⁰⁹

No other statement could do a better job of summing up the critical importance of transportation infrastructure to the nation's manufacturers and, more important, to the auto manufacturers headquartered right here in Michigan. The Michigan auto industry is highly dependent on good transportation services in order to keep production running with low inventory levels and the right mix of product. Given the importance of congestion-free on-time deliveries in the auto industry, Michigan should be at the forefront of investing in transportation infrastructure. Yet we are not – and the absolute and comparative advantage we built up in transportation beginning in the 1940s, with our leading role in development of the interstate system, has been frittered away. Today, despite years of stagnant population growth and an economy stuck with low employment and personal income growth, we are faced with Detroit having the 17th worst congestion levels amongst the top 85 urban areas in the country. Transportation investment can help make Michigan the preferred location for the auto industry of the future, and it is a critical factor in assuring the state's economic development.

However, poor interstate access and congestion was an issue Ford considered in evaluating its Wixom Assembly Plant's future status in 2006.¹¹⁰ The site had been plagued by poor interchange access to I-96 and a low capacity two-lane road for years. The poor access made just in time (JIT) component resupply more difficult and led to production disruptions over the years. Eventually Ford decided to close the plant and a spokesman confirmed that inadequate infrastructure was a significant factor that was considered in determining the plant's future.¹¹¹ While the state eventually came up with the money to improve the Wixom Road interchange, it was not in time to impact views about the plant's efficiency.

It is also important to note that it is not just the auto industry that is reliant on congestion-free highways. In fact, some of the other industries that Michigan is trying to attract may be even more dependent on a superior highway system than the auto companies. Take recent proposals to turn Willow Run and Detroit Metro Airports into a mega air freight hub connecting the Canadian and U.S. mid-continent to Asia and other freight markets.¹¹² Given our geographic location, we have an absolute advantage in providing such services, but we need to build

additional comparative advantages by providing a superior highway network that will quickly and reliably connect the hundreds of supply chain partners that make the air freight system work. If Michigan can provide the necessary transportation infrastructure, including airport and highway facilities that will allow for just in time transportation on the ground, this concept could prove to be one of the strongest economic development projects to ever be proposed in Michigan.

In a similar vein, Michigan sits at the geographic center of the world's greatest trade partnership between Canada and the United States. As NAFTA matures, there will be increasing opportunities for Michigan to host a variety of manufacturing plants, distribution centers and carrier terminals that capitalize on our geographic location. However, for Michigan to fully capitalize on that economic development potential, we will need to offer world-class transportation facilities, with an emphasis on a reliable highway system, but also including rail, rail-truck and other intermodal facilities. The highway and rail system will also need to include delay-free U.S.-Canada border crossings and that means assuring we have sufficient customs processing and roadbed capacity. This is another example of how transportation infrastructure investment can help Michigan's economy grow.

Michigan is also trying to attract a number of other industries and specific companies that will want access to world class transportation – both for business reasons and for the sake of their employees commuting times and overall quality of life. Think about Google investing in Ann Arbor and what Google wants, and what its workers want in personal transportation mobility. While Google has announced it will locate in Ann Arbor, the ultimate number of employees that are actually located in Ann Arbor may well be dependent on how they perceive the Ann Arbor environment. And inadequate highway capacity on US23, where there already are major unplanned delays and congestion problems, will not contribute to positive perceptions.

Many other companies, from Neogen in the microbiology field, to Energy Conversion Devices in the alternative energy field, to Stryker Medical and other high-tech firms, need to be able to draw talent to their Michigan locations. They will want reasonable commuting times for their employees and a transportation system that contributes to their overall quality of life in Michigan. In addition, all of these companies are highly dependent on the ability of multitudes of specialist technicians, lab workers, consultants, salespeople and other personnel to travel back and forth to partner suppliers and customers. They will demand fast and reliable transportation.

*Michigan Transportation Investment:
Contributions to the Economy and Individuals*

The key contribution to economic growth from transportation investment comes from improvements to business productivity rather than the employment or personal income impact of the construction activity. Nonetheless, the productivity impact is hard to measure and see while the direct employment impact of construction spending is much easier to estimate. As such, most past analyses of the impact of transportation investment have focused on the direct employment and personal income impact, along with multiplier effects.

The Michigan Department of Transportation has retained the University of Michigan and Regional Economic Models, Inc. (REMI) to estimate the employment and personal income impacts of Michigan's transportation infrastructure expenditures.¹¹³ The findings of the 2006 study show that "MDOT's highway and bridge investments will support \$1.83 billion of economic activity (2004 dollars), measured in terms of Gross State Product, generate \$1.2 billion in personal income, and will support 30,824 jobs." According to the Michigan Infrastructure and Transportation Association (MITA), every \$100 million investment in transportation generates 4,750 jobs, \$200 million in family income and \$60 million in federal, state and local income taxes.¹¹⁴

However, it is important to note again that from a macroeconomic standpoint, this is not the real purpose or benefit of transportation investment. In fact, we really want to make these costs and "job benefits" in transportation construction as small as possible by achieving very efficient construction activity and assuring we get the maximum productivity benefits from the investment with as little construction cost as possible.

At an individual and more personal level, transportation investment helps improve mobility, a key quality of life indicator. It helps save time, reduces accidents and helps residents save money. For instance, the investment in Michigan's interstate system is estimated to have saved every Michigander \$2,728 per year in safety, time, fuel and lower finished goods costs, or about \$27.6 billion per year.¹¹⁵ On the other hand, the lack of sufficient investment is costing Michigan drivers a lot. The Texas Transportation Institute estimates that congestion is costing drivers \$2 billion a year in lost productivity, or \$955 per driver.¹¹⁶

POLICY RECOMMENDATIONS

In order to achieve the economic benefits discussed above, we need a bold new strategy that will give Michigan the highway network it will need for competing in the 21st Century. And it is clear that we are not investing sufficient funds to maintain the current system in Michigan, let alone provide for expansion to support economic development. In fact, Michigan spending on the overall capital program is dropping over the next five years, and only \$28 million dollars is available for expansion projects that are critical to economic development. The need is especially clear to drivers in congested areas of southeast Michigan and the west Michigan coastal communities around Grand Rapids.

However, Michigan simply does not have the transportation fund money needed to address critical economic expansion issues. Historically, Michigan has led the nation in the quality of its highway network, and we should have a "transportation reliability" advantage over other large Midwest cities given our relatively weak growth in recent years. However, we have significant levels of congestion, and a number of other problems, because we have not invested enough in the transportation system. A major advantage we had over cities such as Chicago, Toronto and Cleveland has been reduced to the point where our highway network no longer provides an edge when competing for major corporate offices and factories.

In order to compete in both old manufacturing and new service economies of the future, we will need a first-rate transportation system that is anchored by a well-maintained and reliable highway network. We can and must “build our way” out of congestion and other capacity constraints.¹¹⁷ There is a real value to business and commuters in ending gridlock – in reducing congestion and providing more certainty in transportation times. Mass transit can play a role in alleviating highway demand, but the old “saws” about it “not being possible to build our way out of congestion” must be thrown aside.

Other states are starting aggressive programs to expand highway capacity in their growth markets, and Michigan must do the same. For instance, I-10 in Phoenix is being expanded from 14 lanes to 24, parts of I-5 and 405 in Orange County already have 26 lanes, and Atlanta is likely to begin work in 2008 on a widening of I-75 to 23 lanes.¹¹⁸ Many of the cities Michigan competes with for corporate location decisions have major traffic congestion problems. To some degree we still have a traffic congestion advantage, but it is nowhere near as big an advantage as it should be. Going forward we need to increase our transportation funding to make sure we have a clear-cut, competitive advantage in the reliability of our road network from both a freight and individual travel standpoint.

However more road taxes with “business as usual” approaches to spending the money is not good enough. Instead, we need a new strategy for how and from whom the money is raised; where and how it is spent to achieve maximum economic impact; and an increased role for automated toll lanes. As noted above, we must begin to build our way out of the looming road crisis — contrary to the popular mantra that says new roads simply beget more traffic. Well-operated bus systems, and some commuter rail services on existing rail lines, can play a role in providing mobility. But mass transit cannot make much of an impact on highway traffic levels. As such, we need a clear strategy for raising the money we need for highways and assuring that the money is spent for the purposes the public expects the money to be used for. We also must be careful not to increase the overall tax burden in the state, and we must be able to assure the public that the money is being spent efficiently and wisely.

Offsets to Increased Transportation Taxes

Before discussing specific transportation reforms and tax increases, we must consider how the increased tax burden for transportation can be paid for. Offsets can come from cost savings and from reductions in spending in other parts of state government. One place to start looking for cost saving opportunities is on a list of proposed spending reforms proposed by the Mackinac Center. The Center has a list of proposals that could save the state \$1.8 billion per year, ranging from privatization of prisons, to Medicaid reform, to competitive bidding for K12 health care insurance.¹¹⁹ While many of the spending reforms would require major changes in the way the state operates, and most would not be possible with a “business as usual” mentality, implementing just one-third of them would offset all of the state tax increases that are being proposed to cover investments in the transportation system.

One especially interesting opportunity for spending offsets relates to Michigan’s 21st Century Jobs Fund – a \$2 billion dollar, 10-year program to provide grants to business startups and jobs

related to nonprofit organizations.¹²⁰ Press releases on the Fund suggest that \$800 million is for “competitive technologies in targeted sectors of the economy.” The Fund is largely financed through use of the state’s tobacco settlement money. Is this money better spent trying to pick private sector “winners and losers” along with funding of state non-profit organizations, or would it be better spent on transportation infrastructure expansion projects that could help establish a better climate for private sector investment. Elimination of this program could result in a spending offset of at least \$50 million per year in proposed new transportation investment.

Transportation Funding Proposal

The funding being proposed here calls for a combination of new gasoline and diesel fuel taxes. It also calls for a phased increase in these user fees over several years with indexing of the fuel taxes, but with sunset provisions. The proposal also calls for spending the bulk of the new money on a network of high priority state and local roads to assure maximum impact, rather than directing all the money into the current 50-year-old formula for distributing money around the state. New capacity on southeast Michigan roads such as I-75, I-94 and U.S. 23 would be provided using express lanes requiring user vehicles to be equipped with transponders that allow for automated time-of-day variable toll levels. No toll booths would be needed.

Our proposal also calls for raising more local funds for local roads, and providing incentive pools of matching money for local raised funds, private local funds, and local road efficiencies obtained through consolidation of road agencies and/or cost saving initiatives. The proposal also calls for changing some provisions that drain money from the Michigan Transportation Fund (MTF), enacting some cost saving reforms, and enacting a series of other general recommendations. The key is tying the new money to reforms regarding where and how the money is spent, and assuring accountability to the public.

The core of the revenue proposal revolves around generation of a 6-cent-per-gallon gasoline tax increase, and bringing diesel taxes into full parity with the gasoline tax with a 10 cent per gallon increase. These user fees would be increased over a three-year phase-in time period with the gasoline tax increasing 2 cents per year, and the diesel tax increasing by 3 cents, 3 cents, and then 4 cents in the final year. In order to assure accountability, these fuel tax increases would sunset after six years from enactment and would require a vote of the legislature to make them permanent. Should the fuel tax increases be sunsetted, we would recommend requiring a phase-in of the tax reduction over three years and that this provision be written into the original sunset language. This would allow for appropriate project planning.

We would also recommend that both gasoline and diesel taxes be indexed to Consumer Price Index inflation as was previously the case in 1984 in Michigan.¹²¹ The index should be capped at 5 cents per gallon of increase, but any increases in the cents per gallon from indexing should not be subject to any of the sunset provisions. Indexing is critical to maintaining the purchasing power of these funds and is consistent with the fact that all of Michigan’s other major taxes are in effect indexed. All funds raised through the index process would be divided 50/50 between the current formula and the new dedicated program funds described below.

After the full phase-in, the end result of these user fee increases will be \$291.0 million in incremental gasoline tax revenues and \$97.0 million in incremental diesel tax revenue. The total revenue increase would equal \$388.0 million per year after three years and would represent a 19.4 percent increase on base 2004 registration and motor fuel taxes. The indexing provision, at a 3 percent CPI, would increase both the gasoline and diesel taxes by approximately .75 cents per gallon per year. The new gasoline rates would put us in the middle of neighboring state tax rates, while the new diesel tax rates would be below all neighboring state's motor carrier diesel rates. However, including sales taxes, we would continue to have quite high levels of total taxation on fuel. The diesel increase would also help bring motor carriers driving typical 5-axle 80,000 pound GVW tractor trailers closer to paying the national average of 80 percent of the costs they impose on the road system.

We would further augment available MTF funds with several revenue enhancements. First, we would propose eliminating the motor carrier fuel tax collection fee for suppliers which equals 1.5 percent of motor carrier taxes – generating \$14 million per year in revenue.¹²² There really is no strong rationale for providing a fee for fuel wholesalers to collect these excise taxes. There are very few other excise taxes that reserve a percentage of the fees to be paid to the collecting agencies, although retailers do receive some relief for collecting sales taxes.

We would also change the registration fee system so that registration fees would increase from the date plates were transferred to a new vehicle, rather than waiting until the owners birthday to assess the new fees. Registration fees are approximately 0.5 percent of the price of a vehicle the first year, and depreciate by fixed percentages for each of the next three years. The current system allows someone to take the fully depreciated plates from a low value vehicle acquired the day after their birthday, and then transfer those plates to a high value luxury vehicle, without having to pay the higher registration fees that would apply until their next birthday. This change would generate \$24 million per year.¹²³

Current state law also provides for reductions in registration fees for a variety of industries. For instance, loggers pay lower registration fees than other for-hire carriers for their trucks.¹²⁴ Milk trucks pay a discounted truck registration fee. Farm trucks in general pay discounted truck registration fees. Hearses have lower fees, as do nonprofits. While it will not be popular, these trucks and cars do just as much damage to the roads as any other vehicle of the same weight and type. There is no rationale for these kinds of exemptions other than a political one. Elimination of these discounts would generate a minimum \$10 million per year for the Michigan Transportation Fund.

Finally, we would recommend significantly reducing the practice of using traditional transportation money to pay for the operations of the Secretary of State (SOS). The evolution of the system for funding the SOS with transportation monies is reviewed earlier in the report. By FY 2006, a total of some \$98 million of MTF or TACF (funded with former MTF money) funds were transferred to the SOS, thereby allowing for a like reduction in what the SOS would have had to receive from the General Fund. SOS funding from existing and former MTF money should be reduced by \$50 million per year, returning total MTF funding of other departments closer to the levels of MTF funding for all other departments in the 1998 to 2002 time period.

Nor is there any real logic in allowing this practice – after all – the K-12 Education Fund is not charged for the Treasury Department’s costs of collecting sales taxes that go into the K-12 Fund. Once before, in 1997, the Legislature reduced, by about half, the amount of money being diverted to the SOS from the MTF. While we have much deeper budget problems now, we would recommend that \$50 million of the monies going to the TACF be redirected back to the MTF where it traditionally went, and that the General Fund contribution to the SOS be increased by a like amount. This will result in a \$50 million increase in funding. Gov. Granholm, in 2002, supported the notion that the SOS should be reimbursed for “only their direct costs of collecting license and registration fees.”¹²⁵ Some of the SOS costs being charged are “indirect.”

Overall these proposals would generate an additional \$98 million per year that could remain in the MTF, bringing total proposed revenue enhancements to \$486 million prior to any future indexing.

Transportation Spending Proposal

Our spending proposal is an integral part of the overall recommendations and we would not support the fuel tax increases without the following spending program priorities and funds being tie-barred to any legislation increasing the fuel taxes. This proposal calls for three key changes in policy. The first change would involve dedicating the incremental revenue raised above to three specific purposes, rather than placing it all in the existing formulas. The second policy change will relate to focusing a good deal of the incremental revenue to a new high priority, economic development network of state/county/city roads. The third policy change will involve creation of three distinct sub-funds that some of the above tax increase revenues would be deposited into.

Perhaps the most important part of our proposal involves the way in which we propose the base fuel tax and registration fee enhancements be spent in the future. The current formulas would distribute these new monies between state, county and municipal roads, and by geographic area of the state. The formulas do not take into account more recent changes in growth patterns and economic activity. In order to maximize the economic development benefit of these expenditures, it is critical to channel the new monies into the roads most needing the investment, where VMT, average daily traffic, road condition improvement requirements and economic need are greatest. In order to accomplish this objective, and to provide some funding growth for basic preservation and maintenance needs, we propose dividing the new monies into three key categories.

First, 1 cent of the gasoline tax increase and all registration fee revenue enhancements, or \$146.5 million per year before indexing, should go into a fund for distribution using the existing jurisdictional and geographic formulas. This money will help with preservation and maintenance of the current system. Another 4 cents of gasoline tax and all the diesel tax, worth some \$291 million per year, should go into a fund for distribution only to a new high priority economic development highway network. The third category of money would include the final 1 cent of the gasoline tax increase and would result in some \$48.5 million per year being put into three incentive match funds. These match funds would be designed to incentivize and encourage

consolidation/cost savings, local private funding and local public funding. The programs related to the high priority network and the three match funds are described more fully in the following section on spending program details.

Spending Program Details

New monies would be deposited into the following three funds for further distribution. Table 10 summarizes how the new money would be spent. State roads would receive 53.1 percent of the new funds, counties would receive 30.8 percent, and city/villages would receive 16.1 percent.

Table 10
Allocation of New Revenue (1)
(Millions of Dollars)

	Formula 1 Cent Per Gallon Gasoline (2)	Formula Fees Augmen- tation (2)	Total Formul a Fund Dollars	Percen t	High Priority Network Fund (3,4) Dollars	Percen t	Local Incentive Fund 1 Cent per Gallon Gasoline (5) Dollars	Percen t	Total Fundin g Dollars	Percen t
State	\$18.90	\$38.20	\$57.10	39.0%	\$201.10	69.1%	-	-	\$258.20	53.1%
County	\$18.90	\$38.20	\$57.10	39.0%	\$61.70	21.2%	\$31.00	63.9%	\$149.80	30.8%
City/Village	\$10.70	\$21.60	\$32.30	22.0%	\$28.20	9.7%	\$17.50	36.1%	\$78.00	16.1%
Total	\$48.50	\$98.00	\$146.50	100.0%	\$291.00	100.0%	\$48.50	100.0%	\$486.00	100.0%

1. Assumes \$48.5 million of revenue per 1 cent of gasoline tax, and \$9.7 million per 1 cent of diesel tax.
2. Allocated based on current Act 51 formula - \$ amount would actually be lower to reflect initial allocations to comprehensive transportation fund and other programs.
3. Allocated by jurisdiction based on Table 11 - Jurisdiction Shares of High Priority Network.
4. Includes 4 cents of new gasoline tax and 10 cents of diesel tax per gallon.
5. Allocated between counties and cities based on their relative share of roads.

Regular Formula Allocation Fund

The first penny of our proposed fuel tax increase, and all of the registration fee augmentation revenue, would go into the existing formulas. This would total \$146.5 million per year. We would also propose that half of all future index revenues go into the existing formulas. The existing formulas, after collection expenses, allocate monies to a variety of sub funds, including the comprehensive transportation fund. After these allocations, approximately 39 percent of money goes the state system, 39 percent to the counties, and 22 percent to cities and villages. Within the counties and city funds, revenues are distributed geographically based on population,

road miles and several other factors. These monies would be used for routine capital expansion, preservation and maintenance programs.

Priority Network Fund

Four cents per gallon of the increase, plus all 10 cents of the diesel increase, would go to a new high priority highway network, for a total of \$291 million. Half of all future index revenue increases would also go into the high priority network fund. The high priority network would consist of National Highway System (NHS) eligible roads (4,761 miles) plus another 10,000 miles of other principal and minor arterial roads, for a total of 14,761 miles. The additional 10,000 miles would be selected by a committee of state, county and city officials. Each of the three jurisdictional levels would be apportioned a percentage of the 10,000 additional miles based on their jurisdiction’s percentage of total principal and minor arterials in the state. Based on Table 11, 57.5 percent of major and minor arterials are state owned, 29.1 percent are county owned, and 13.4 percent are city owned. Using these percentages the 10,000 miles would be assigned to each jurisdictional level. The end result would be a priority network consisting of 10,200 (69.1 percent) miles of state roads, 3,129 (21.2 percent) miles of county roads, and 1,432 (9.7 percent) of city/village roads, for a total of 14,761 miles. Table 11 summarizes these calculations. Representation on the above committee would be based on the percentage of priority network roads that each jurisdictional level has in that system.

**Table 11
High Priority Road Network
Mileage by Jurisdiction**

	NHS		Principal and Minor Arterials (for calculations)		10,000 Arterial Miles (1)		High Priority Network Miles (2)	
	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent
State	4,450	93.5%	9,218	57.5%	5,750	57.5%	10,200	69.1%
County	219	4.6%	4,668	29.1%	2,910	29.1%	3,129	21.2%
City/Village	92	1.9%	2,148	13.4%	1,340	13.4%	1,432	9.7%
Total	4,761	100.0%	16,034	100.0%	10,000	100.0%	14,761	100.0%

1. Based on percent of principal and minor arterials owned by each jurisdiction times 10,000 miles

2. NHS miles plus each jurisdiction's share of 10,000 arterial miles

The new funds would be allocated to specific projects on the state and local roads within the network based on the above broad jurisdictional percentage mix. The committee established above would also pick the actual projects to be funded each year, based on applications from various road agencies. Projects would have to be in any necessary five-year plans to be eligible.

Should an insufficient number of local applications for funds be received to meet the above percentage mix, county and city monies would be available for use on state roads. The committee described above could vote annually to add up to 3 percent of new miles to the network, but would have to offset the new miles by eliminating a like percentage from the system.

For a given county or city road to be eligible for funding, recipient agencies would also have to adopt the asset management program recommendations of the existing state/local agency Michigan Asset Management Council.¹²⁶ These recommendations relate to pavement condition reporting, traffic counts, etc. County and city jurisdictions would also have to accept state guidelines for truck access, and not place additional limits on truck weight, size, etc. for any road under their jurisdiction, to be eligible for priority network funds to be spent on any of their eligible roads. Finally, recipients should be required to agree to MDOT and/or auditor general performance and financial audits of all their Act 51 expenditures in order to be eligible for these funds.

This high priority network will allow for highway funding to be focused on a new network of key roads that are most important for promoting economic development in the state. Such a network would represent the key commercial network roads as well. While the state has the primary responsibility for economic development, and is perceived to be responsible for all Michigan roads, only 8 percent of route miles in the state are actually owned by the state. A large percentage of the key roads that should be on a priority network is state owned, but a significant percentage is also on the county and city system.

In the past, there have been several efforts to make major changes in jurisdiction of roads so that the state could take over and be directly responsible for the most important roads in each county. Efforts have also been made to change the geographic formulas to target more road monies to counties and cities where there is significant traffic growth. However, past efforts to change jurisdictions and formulas have been unsuccessful. The high priority network will allow both state and local road officials to focus their efforts on the key roads, without any changes in jurisdiction or formulas being required. In fact, such a network was one of several recommendations made by the 1998 Funding Study Team appointed by the Legislature – although they described the network as a “Commercial Priority Network.”¹²⁷

Incentive Match Fund

One cent per gallon of the new gas tax money, or \$48.5 million per year, would go into an incentive match fund. This fund would be used to provide incentive match funds to encourage several reforms or actions that would be beneficial to the overall highway system. Counties would be eligible for 64 percent of the money, with cities eligible for 36 percent, based on their respective shares of total county/city route miles in the state. The three activity areas that are to be incentivized under this proposal relate to raising additional local public revenue for local roads, raising additional local private revenue for local roads, and increasing the level of consolidation/cost saving measures at the local level. Each of the sub-funds would be further augmented by the transfer of some existing county/city formula money to the sub-funds. A

state/county/city committee would be appointed to oversee spending decisions from the three sub funds. Each of these activities and their related sub-funds are described further below.

One third of the money, or \$16 million, would go into a local funding incentive sub-fund. In order to further encourage raising new local monies, we would recommend the fund be further augmented with \$10 million of monies currently allocated through the formula to counties and cities. A total of \$26 million per year would then be available. This fund would partially match any net new funds raised by local governments with matching funds from the state. The amount of funding would depend on the number of applicants for the money with each eligible application receiving a partial match based on the amount of local funding increases. This will incentivize local sources of funding for local needs and will help address Michigan's relatively low reliance on local fund sources when compared to neighboring states. Locally raised monies should be available for use on county-, city- or state-owned roads, depending on local needs.

In order to assist with local funding options our proposal also calls on the Legislature to reenact a sunsetted provision that allowed counties to levy a local auto registration fee. The fee, which would require a countywide vote, would be \$50 per vehicle. Such a fee could generate as much as \$500 million per year for local roads if all counties adopted the fee however it is likely to generate a much smaller sum. We would also spell out and clarify, to the extent necessary, other options for raising local funds for roads. One option would include specifically authorizing in Act 51 and other appropriate acts, the option of using Tax Increment Financing Authority and Downtown Development Authority District revenues to back bonds used for county/city/village roads.

A second local match incentive fund would be established for matching private source funds on local or state projects, where private funding for roads would be partially matched based on a prorated share of the available private match fund monies available each year. This fund would also include one-third of the 1 cent gasoline tax increase, or \$16 million. Local governments would apply for the funds on an annual basis. The goal is to increase the role of private developers in funding Michigan local roads. While private developers often contribute to local road projects in order to get their developments off the ground, more private money should be encouraged. In several other states, such as Florida, developers are actually charged impact fees of as high as \$10,000 per home in new subdivisions.¹²⁸ While this option should be considered as well, it seems less appropriate in a state fighting to secure both business and residential development. Nonetheless, Michigan should have legislation allowing for and governing the assessment of impact fees on developers.

A third fund would be established to incentivize local road agency cost savings through demonstrated efficiencies resulting from consolidations, contracting, pooled services and/or other cost saving programs. This program would be designed to follow the lead on local government consolidation and services pooling suggested by Gov. Granholm's recent Revenue Commission, and endorsed in her 2007 budget proposals.¹²⁹ Similar recommendations on consolidation were recently made by a panel of Michigan State University researchers reporting to the House Committee on Local Government Affairs on the findings of their 15 month study.¹³⁰ Interestingly, a recent newspaper editorial made this point. The 2006 Lansing State Journal editorial questioned why "Ingham and Eaton counties have their own road commissions, and

why each city in the area has its own road departments – all to maintain a road net that’s interdependent.”¹³¹

The above program would be aimed at promoting consolidation and/or contracting between agencies for some of the 616 county and city road agencies currently doing road work and would hopefully promote joint operations of contiguous counties and city agencies. Consolidation or operations sharing proposals, or other cost-saving proposals, could be made by local governments, with an appointed committee picking qualifying proposals and making partially matching grants based on the amount of savings documented.

The size of matching grants for the consolidation/cost saving fund would depend on the number of applicants. The fund would include one-third of the 1 cent of new gasoline tax revenue, or \$16.5 million, and should be augmented with an additional \$30 million of existing county/city formula funds. This would provide a total of \$46.5 million per year for encouraging local consolidation and other cost cutting measures. We would suggest that at least half the money be reserved for specific consolidation proposals, with the other half available for innovative cost cutting proposals. The latter option is necessary because not all local road agencies are in a position to consolidate given their geographic area, and because consolidation may not always make the most sense. Funding would be made after projects demonstrated one year of actual savings experience. Savings would have to be documented, and locals would have to agree to potential Auditor General or MDOT audits to qualify for funding.

Additional Public/Private Funding Options

Generally, Michigan has not used toll roads in the past because we pretty much would be tolling ourselves. That is because most Michigan road users are state citizens, unlike in Indiana and Ohio, where there is a high percentage of through users that are simply passing through the state. A similar situation exists in Florida, where many of the road users are from out of state. Given Michigan’s geography we simply don’t have that kind of out-of-state traffic. Tolls are also not a very efficient means of collecting road taxes, a cents/gallon fuel tax is in fact a very efficient means of collecting fees for road use. The more a person drives, the more they pay, and the more fuel efficient a car they use, the less they pay, therefore promoting fuel conservation.

After considerable study of the potential for selling some of our roads and/or allowing private firms to build new roads, and using the proceeds for investment in other key roads, we have concluded that this option is not viable for Michigan. Neighboring states and cities like Indiana and Chicago have however been pursuing this option. For instance, Indiana received \$3.8 billion for a 75-year lease and Chicago has just received \$1.83 billion for 99 years for the Chicago Skyway’s 7.8 miles.¹³² A number of other states have also pursued this option or are considering it. But they either are building brand new roads, or had existing public toll roads they could sell. This is a critical difference because they don’t then have to pay back federal funds since there were no federal funds used.

In Michigan’s case, were we to sell existing roads, we would have to pay back the federal government because it paid up to 80 percent of the costs to begin with. In addition, if we were to

convert entire existing roads to tolls, we would have to add actual toll booths at exits since there would be no way to require all users to have automated technology. Installing such toll booths would be very difficult given the space available at many exits. The changes in driving behavior and use or non-use of exits that would result, would also be extremely disruptive to businesses located at the exits and would likely bankrupt many such businesses.

The one possible opening in Michigan for selling or leasing an existing public road would be the Mackinac Bridge. While federal aid would have to be paid back to the feds – it would have to be paid back in 1950s value dollars so that cost might be manageable. However, the price that could be obtained would be limited by the modest traffic levels. The new lease holder or owner would also have to raise tolls by enough to pay back the cost of the bonding incurred to pay the state an upfront price. Another issue would be the fact that the bridge is the only connection between the two peninsulas of Michigan, and there is no other route. There would likely be a considerable outcry in the Upper Peninsula about the higher tolls, and placing the bridge in private hands. Two other possible options involve sale or lease of the Michigan-owned half of the Blue Water Bridge and/or the Detroit-owned half of the Detroit Windsor Auto Tunnel.

Should the sale of existing roads ever be considered, the level of tolls would of course have to be considered. Quite high toll levels can be necessary to cover the debt costs that private firms incur. For instance, in Indiana, the consortium that is leasing the Indiana tollway is paying the state \$4.3 billion that they will have to recoup in tolls. And those tolls will be over and above the current toll rates that the state has charged to recoup construction and maintenance costs. Concerns about the level of the tolls that would be charged are not going unnoticed. For instance a 2005 Wall Street Journal article discussed the pros and cons of private toll roads, and the increases in tolls that would be necessary in the future.¹³³

Sale of existing Michigan interstates is probably not a good idea. However, should there be a need to construct major new road segments, such as for a U.S. 23 expressway extension to the north, then private toll roads could be considered. Private toll roads are one more option for raising money to expand our road system. But generally speaking, Michigan is not in need of major new roadways. Instead, from an expansion standpoint, we are more in need of new interchanges and lane additions to address congestion.

And that is where one extremely viable toll option comes into play for Michigan. That option involves the possibility of adding additional lanes to existing southeast Michigan interstates under federal tolled “express” or “hot” lane programs. The fuel tax increases proposed above will make a significant contribution to bringing a number of our existing roads up to good condition. However the above funds cannot begin to make a dent in the need for major new lane capacity in southeast Michigan. With urban congestion in southeast Michigan forecast to rise by large percentages over the next 30 years, there is a critical need to address funding for additional lanes that will relieve congestion. These funding requirements are very large. For instance, six miles of reconstruction on I-94 has an estimated cost of \$1.4 billion, with I-75 in Oakland County costing \$1 billion. Coupled with the need for additional lanes on these and other roads such as U.S. 23 north of Ann Arbor, it is clear that existing funding sources cannot begin to meet the need.

The new federal tolling option allows for up to 15 demonstration projects where the public or private sector can add a lane to an existing Interstate and charge tolls to fund the investment.¹³⁴ Previously, tolls were not allowed on federal aid funded interstates unless all previous public investment was paid back to the federal government. These toll lanes are not allowed to use traditional toll booths and must instead use new transponder technology to automatically invoice customers for the tolls. Tolls can be fixed or variable for express lanes that do not require high occupancy vehicles but we would recommend that these tolls be variable and based on congestion levels at different times of the day. The new lanes do not have to require high occupancy vehicles and we would not suggest their use.

Overall, the automated tolling program is a tremendous opportunity for Michigan to address major congestion problems developing on these key routes, and could generate at least a billion dollars of additional highway revenue over time. Michigan needs to strongly consider this kind of tolling program. Minneapolis has already implemented a similar program on I-394. In fact, new federal grants may be available to support these kinds of programs. This year, the Bush Administration is proposing \$130 million in grants for the FY 08 budget to help states pursue this option.¹³⁵ They will make 10 grants to states in FY 08 under this program, and are proposing an additional \$175 million in FY 09 funding.

Using a somewhat different program, the U.S. DOT announced a new “Corridors of the Future” congestion reduction program, which will make available new financing options, and expedited permitting.¹³⁶ *Michigan should seek to have the interstates around Detroit designated in the next round of this program’s projects in the summer of 2007. The Chicago area, with portions of I-80, I-90, and I-94 (including portions in Michigan), was just selected for this program.* Michigan needs to be next, and such a designation might help Michigan’s odds of being picked for one of the express lane designations and grants.

It is time for Michigan to move forward with planning for southeast Michigan lane expansion – and these express/hot lane options with automated congestion tolling should be a key funding source. As part of this effort, Michigan should also enact comprehensive legislation outlining the way these toll programs would work in the state. This legislation should also address private toll roads. A number of other states have enacted such statutes.

Reform Recommendations

The other way to make more money available for actual capital spending is to become more efficient. There are several opportunities and we would recommend that a number of the following reform proposals be tie barred to any increase in highway funding.

Consolidation of Local Units and Pooled Services

As noted earlier, Gov. Granholm and several state think tanks and/or commissions have suggested the need to increase consolidation of service delivery at the local level. In order to promote the bipartisan calls for consolidation of some local units, and/or cost sharing, we would

make several recommendations. The following recommendations are over and above the consolidation incentive fund discussed earlier. First, current law does not allow for counties to merge county road commissions into general county government, except for in the case of a county the size of Wayne. While there are great people running the county road commissions, the system may not make as much sense as it did in the early 20th century. At that time there was a need for an organization to build and maintain roads between urban areas, and the county governments were not financially strong enough to issue bonds. We would recommend that Act 51 be changed to permit counties to merge their road commissions into the operations of the rest of county government. This could eliminate extensive duplication between county public works departments and road commissions. Act 51 revisions may have to be made to allow for joint road and public works use of equipment, staff and other resources.

While the Constitution and Act 51 include extensive language allowing for joint activities and contracting between various units of government, we would also propose Act 51 be amended to make specific provisions allowing for contiguous county and city road organizations to form regional road agencies consisting of both county and city/village units. We would also recommend studying whether local units receiving very small annual allotments of MTF money (many receive well less than \$150,000 per year) be required to contract with neighboring cities, or if there are no contiguous cities, contract with the county.¹³⁷ Also, the regional authorities described above should be required to incorporate all road activities of local units that join, rather than allowing the regional authorities to operate as another level of government over and above existing agencies. Language providing for contracting of services between local road agencies should also be strengthened.

Again, while the county road commissions have excellent management and staff, it has become counterproductive in these budget times for road commissions to remain as autonomous as they are in many counties. A number of years ago the Attorney General ruled that county boards have no control over road commissions (AG 1957-1958 No. 2945). Act 51 should be amended to specifically change this opinion and allow county boards more control over the operations of road commissions.

State Trunk Line Road Maintenance

State trunk line maintenance offers another area of opportunity for cost savings. The 1998 transportation funding committee created by the Legislature recommended putting all maintenance above a financial threshold level on trunk line roads out for bid by private and public bidders.¹³⁸ They made a similar recommendation for county and city roads.

Currently, MDOT does its own maintenance in some 21 counties, with its own buildings, equipment and state employees.¹³⁹ Often times the state garages are almost next door to county garages used to maintain county roads – and there is extensive duplication of garages, equipment and personnel. If the state is looking for “consolidation” opportunities as discussed above, this is a leading candidate for combining state and county operations. In the other 62 counties MDOT contracts with the road commission to have work done. In order to gauge private and county costs, MDOT should put all maintenance work in the 21 counties out for bid, and allow bids for

individual counties, groups of counties, or the entire set of counties where MDOT does its own work. Private contractors, county road commissions and local municipalities should be allowed to bid. Millions of dollars in savings should be possible. While more recent data is not available, MDOT spent \$33 million on its own garages and staff in these 21 counties in 1997.

In order to judge costs and decide whether to accept bids, MDOT will need detailed information on its own costs – as noted in a 1999 Senate Fiscal Agency analysis of MDOT’s 1992 efforts to have a private contractor do a few miles of maintenance on state roads in Ingham County.¹⁴⁰ This analysis found that road commissions had the lowest costs, followed by MDOT, with the private contractors having the highest costs. However the main reason the private costs were so high was the limited number of miles offered to them, which did not provide economies of scale. By requiring bids on the wider system cost savings should be possible from private providers. Generally speaking, where MDOT does its own work, the counties have not wanted to do the work for a variety of reasons that go back years. However, the possibility of having private contractors or other local government units doing this work may lead the local county road commissions to show increased interest.

MDOT should also end the practice of simply renewing contracts with the other 62 counties where it uses the local road commission for work on the state roads. Past practice has been to simply roll over contracts each year, with the counties latest hourly labor rates inserted into the new contract. Instead, to the extent that these changes are not yet in place, these maintenance contracts should be extended to three to five years. The contracts should be put out to bid by the home county, other counties, cities and private operators on a closed competitive bid system.

Prevailing Wage Laws

The state’s Prevailing Wage law, modeled after the federal Davis-Bacon Act, should be statutorily repealed, and the Legislature should place limits on the ability of local governments to impose such rules. Prior studies have suggested that repeal of the state law could save 35 percent of the wage component of many construction projects, although significant savings in actual construction projects would be limited to those not using federal funds. Any projects using federal funds are subject to the federal Davis-Bacon Act. Savings would be most likely on local capital outlay projects using private contractors, where federal dollars are not involved, but would require local agencies to aggressively pursue savings.

In 2004, construction on local capital outlay projects alone totaled \$697 million. If one assumed half was actually contracted out and not subject to Davis-Bacon, and that wages represented 20.6 percent of the costs, and the 35 percent wage savings noted above, then, potential savings are in the range of \$25 million per year at a minimum.¹⁴¹

Design and Build with Warranty

Public Act 79 of 1997 requires MDOT to use full replacement cost warranties of not less than five years on construction projects when appropriate. More recent appropriation acts have

required MDOT to work with the construction industry to develop “performance warranties” whereby the contractor’s responsibility is limited to those aspects of the work that they had design control over. Michigan joins some 11 other states with warranty requirements of some type. However, a recent state audit found that between 2002 and 2005 only about one-third of projects, worth about \$1 billion, included warranties.¹⁴²

Warranties, along with designs that are based on higher performance specifications, are a key tool for making sure Michigan taxpayers get their money’s worth on projects. As such, it is critical that MDOT develop specifications that assure a longer road life, and that they have appropriate monitoring of work, and follow-up, to assure that repairs are completed under any warranties. However a broader issue has to do with the type of warranties that are used, and the 1998 Transportation Study Committee recommended legislation permitting and encouraging design and build warranties, but not imposing restrictions that impeded experimentation.¹⁴³ It is difficult for contractors to warrant the full costs of replacement for work they did not design, or for which they were not responsible for material specifications. As such, MDOT should consider using more “design, build, warrant” projects where it establishes the desired road life performance levels at a higher level, and the contractor is responsible for at least the design dimensions that impact the roads life and condition, does all construction for the project, and then is responsible for warranty costs of keeping the road in the required condition.

Scorecard

All state and local entities of government should be maintaining performance standards and actual measures of performance against those standards, according to the recent recommendations of the Center for Michigan.¹⁴⁴ The Center further suggests that agencies should be funded at least in part on the basis of their results in achieving those standards.

In the transportation field, the Legislature and/or MDOT should work towards developing more comprehensive performance standards and measures of performance for all aspects of their operations. Such data is critical for many decisions, including determinations about in-house vs. outsourced design and maintenance work. Results should also be a factor in the level of funding provided to the department. For instance, some percentage of compensation for department employees should be based on achievement of departmentwide goals.

The Legislature and/or MDOT should also establish a system of performance standards and measures that would be required of local road agencies. These performance measurement requirements would include a number of ones recommended by the Michigan Asset Management Council. The Council’s and other performance standards and measures decided on by the Legislature and/or MDOT should be made mandatory for those agencies receiving MTF money. Local agency funding should then at least in part be based on the degree to which progress is made towards achieving goals. Goals might relate to topics such as pavement condition, accident levels, construction costs, and maintenance costs. Agencies with strong performance on key performance measures could receive bonus funding from a special fund of money within the county and the city MTF distribution funds.

Performance Audit

Consistent with a number of recommendations contained herein, it is important that the state have the ability to audit local road agency work and spending. This is especially true when one considers that a large percentage, often over 50 percent of the funds for county and city road agencies, come from the state.¹⁴⁵ There often is limited local funding of local road agencies. As such it is important that the state have an effective means of auditing local expenditures of MTF distributions. This is not because local agencies are mistrusted. It is simply standard operating procedure that entities providing large sums of monies to other organizations be allowed to audit that spending.

Act 51 should be amended to provide explicit authority for the Auditor General and/or MDOT to conduct financial and performance audits of all aspects of local road and/or transit agency use of MTF monies. Audits should also be allowed of all reports required to be submitted to the department, and of all rules and regulations that local road and/or transit agencies are to follow in performing their road and/or transit duties. Act 51 does not currently contain such a requirement and in 1976 the Michigan courts issued an injunction prohibiting MDOT from conducting any such audits because Act 51 did not provide any explicit authority for such audits.¹⁴⁶ This injunction was the subject of a case in the early 2000s when Wayne County refused to allow the Auditor General to audit its road agency, before eventually agreeing to the audit.

Control Over Environmental Impact and Project Planning Studies

One facet of the highway construction process can and often does take more time than the actual design and construction process – environmental impact statement (EIS) and project planning. Department planning staff often has discretion to decide what level of EIS should be performed, or at least argue that a lower level EIS should be required in discussions with FHWA. However, there is little incentive for project management staff to argue for a non-major EIS. MDOT has some environmental impact statements that have been underway for at least three years — often at great cost to the department. Often times these studies are performed by outside consultants. Because there are extensive federal regulations, it can be difficult to bring these to a conclusion.

In order to get projects planned and built in a more reasonable timeframe the Legislature should require MDOT's Director and Commission to justify in writing, sign off and approve all decisions requiring a "major" EIS, as opposed to non-major ones. The Legislature should also consider imposing a time limit of say 2 years for the completion of statements, with waivers only granted by the Transportation Commission, with a requirement for reporting such waivers to the House and Senate Appropriations Subcommittees on Transportation as part of current environmental regulation reporting requirements. Such a requirement might help Michigan to bring these planning projects under control and reduce their eventual costs. Finally, there should be a maximum dollar funding amount established for several types of environmental impact statements – and budgets should not be allowed to exceed those amounts without Commission approval and notification of the Appropriations Committees.

Mass Transit Funding

The focus of this report has been on the state's highway system. However, the state also spent some \$259.2 million on bus, marine and rail programs in 2005, with \$172.1 million of that money being spent on local bus system operating assistance grants. Most of the bus money is directed at two systems in Southeast Michigan – SMART and DDOT. For years, there has been discussion of merging these two duplicative organizations into one comprehensive system. However, there has been no action.

There is no better example of the need for consolidation in the number of local units of government and governmental agencies. As noted above, several high powered study groups commissioned by state government have called for consolidation in the number of local units, and/or for joint provision of local services. Governor Granholm has also called for such action.

For the sake of southeast Michigan's bus riders, we recommend that no further funding increases be provided to these two organizations until they are merged in a way that will assure better customer service and lower costs. A new agency to oversee these two existing agencies is not the answer – a truly merged system is needed. However, union agreements in the new organization will have to be renegotiated under terms that are more in line with other large city regional bus systems. Otherwise the merged organization will not be able to improve service and bring costs into line.

As with highway agencies, we would recommend that performance standard goals be established for all local bus agencies in the state, including these. Local bus agencies should be required to measure performance against these goals, and to report performance against the goals. The performance standards and reporting should include benchmarking to other similar size systems around the country. Funding should at least in part be dependent on meeting goals. A portion of funding should also be tied specifically to ridership levels. The Legislature's 1998 Transportation Funding Committee recommended tying 50 percent of transit operating funding to a combination of efficiency and effectiveness factors and this should be further considered.¹⁴⁷

As an incentive to a merged southeast Michigan system, we would recommend that the legislature appropriate a fixed amount of money, perhaps as much as \$20 million dollars, that would be available to be released in increments should the two systems merge and achieve progress towards the established performance goals. One other condition should be required before the merged system has access to any of this incentive money. That condition is for the city of Detroit and the merged agency to adopt legislation and/or rules that would allow for competition from private van services/jitneys on reasonable terms. Current Detroit ordinances require use of 12-passenger vans only, and require fares to be set by a rate commission instead of by market forces. Current Detroit ordinances are overly restrictive, and are designed to protect cab services from competition. Providing for private dial-a-ride and other forms of licensed van services could go a long way to allowing citizens access to the kinds of transportation services they need and deserve.

Finally, while a long shot, we would ask the Michigan congressional delegation to work on converting the ISTEA-LU \$100 million Detroit-Ann Arbor rail “study” earmark to funds that would be available for bus operating and capital costs, and/or for Detroit-Ann Arbor Amtrak-based commuter rail operating and capital costs. Otherwise, this money will all be used on “planning” and is unlikely to ever be used on anything that actually materializes. If the money were available for Amtrak commuter service on the Ann Arbor to Detroit line we could obtain the best possible service and frequencies possible on the existing freight line, and get a good test of the feasibility of rail transit in southeast Michigan. In addition, if the money could also be used for a merged DDOT/SMART, for instance to support the merger, it would also be put to very good use. Again, we realize it would be very difficult to get Congress to approve such changes, but given Michigan’s economic condition and recent changes in the Congressional leadership, perhaps something could be worked out.

Other Recommendations

Following are a number of other recommendations that require further research, but that should be considered for implementation:

- Appoint a legislative transportation committee sub-committee, or expert panel, to re-evaluate the many recommendations of the Legislature’s 1998 Transportation Funding Study Committee, created under P.A. 308 of 1998. The committee made many excellent recommendations, some of which have been enacted, some of which are in the process of being implemented, and some of which should be considered again for enactment.¹⁴⁸
- Create a study committee to consider long term financing of roads. This committee should review the concept of replacing all registration fees with fuel taxes – thereby avoiding the problem of fees being diverted from the MTF to the Secretary of State’s office. The committee should also study the need to eventually add to gasoline and diesel taxes, and/or replace them with other user fees and/or taxes. At some point we may need to begin taxing electric, hybrid and alternative fuel vehicle road usage, rather than giving them preferential discounts as recent law does.
- Consider enacting legislation to provide for and regulate developer impact fees, as discussed in the section on Incentive Funds – Private Match Sub-fund.
- Consider whether county road commissions, or alternative county road organizations, should have authority to request a county millage vote for roads, or whether each commission should include a representative of county and township governments as a liaison – given that these organizations have the authority to ask voters for local taxes for local roads, but road commissions have no such authority. The 2000 Road Funding Committee made the latter recommendation.¹⁴⁹
- Review, via an Auditor General performance audit, and a study committee, the extent to which private bidding is being required on state and local construction and maintenance projects, the effectiveness of the existing requirements in law, and the potential need for more guidance on bid requirements for work using any state funds.
- Study the costs and results that have been achieved, or not achieved, from Michigan’s southeast Michigan expressway message board system. While millions of dollars have been spent, the signs often don’t work, and often provide meaningless information when

they are working.¹⁵⁰ A well designed system could help reduce congestion but the current system does not work very well.

- Require additional electronic signage and/or local site FM radio stations that drivers can tune to during construction projects on state, county and city roads – with information advising the public of completion dates and estimated delay times. This will help make the public more tolerant of construction projects and improve quality of life for everybody.
- Require signage on high VMT state, county and city roads that tells the public what road agency owns the road and provides a phone number for them to report potholes and other issues. This could be tested on a demo project basis.
- Require local agencies to remove any remaining “paper” road mileage from their systems. These often are subdivision roads that were platted but never built.
- Investigate further, and consider allowing recycled materials on Michigan roads. Recycled materials that are mandated in Ohio are banned here.
- Consider requirements for planning coordination between local road agencies and local public works (sewer, water) agencies to avoid reworking the same road segments for multiple projects.
- Consider the use of variable direction lanes on some congested roads as many other states do.
- Reevaluate the need for a new Detroit-Windsor bridge in the near future given that auto traffic has fallen by more than 20 percent since Sept. 11, 2001, and truck traffic growth has been flat since then. This project could easily top \$1 billion with land acquisition and may not be necessary for a number of years given the drop-off in traffic since initial planning began over five years ago. While a lot of the planning money is federal, millions could be saved and MDOT’s attention focused on other issues.
- Implement truck and auto electronic tolling at the Blue Water Bridge, and urge the Ambassador Bridge owners to do so as well.
- Pass legislation to provide for heavy truck “one stop shopping” for all truck licenses, registrations and fees. Currently truck owners must deal with five separate agencies. A number of other states have moved to one stop shopping.
- Repeal the \$100-per-truck registration fee for economic regulation provided for in P.A. 254 of 1933 since the Public Service Commission is federally preempted from regulating virtually all aspects of intrastate trucking that they previously regulated under state law.

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