

Figure 6.3 C

ACT 51/MASSTRANS FY2009 FORMULA COMPARISON FOR URBAN AGENCIES (WITHOUT DETROIT METRO AREA)

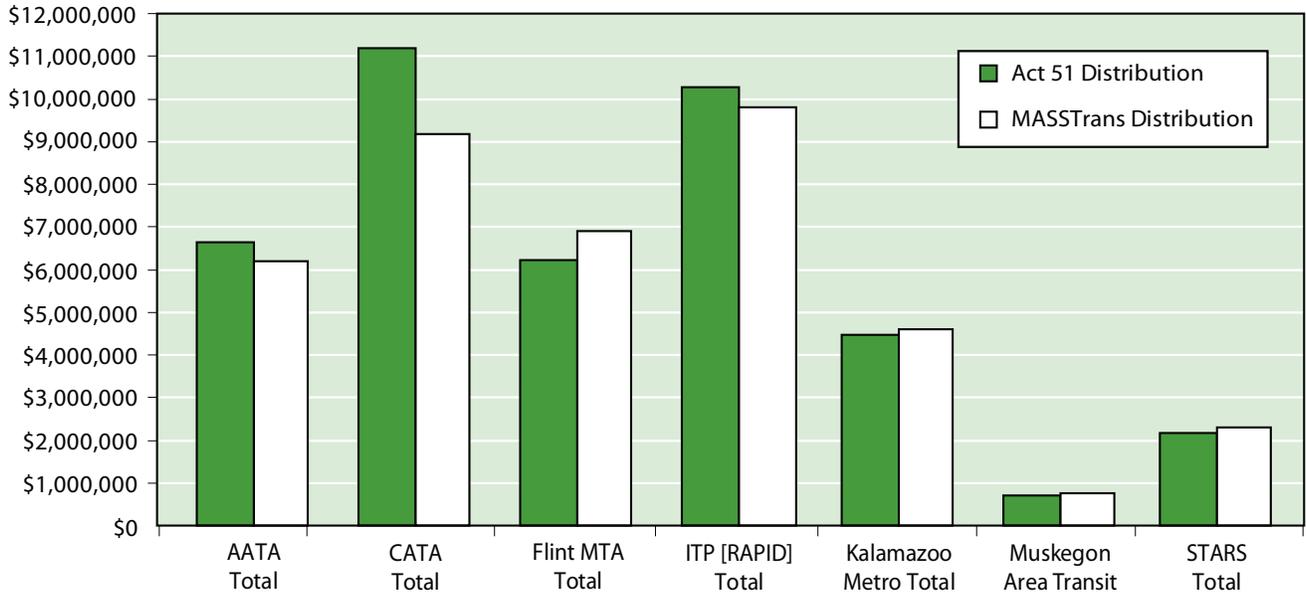
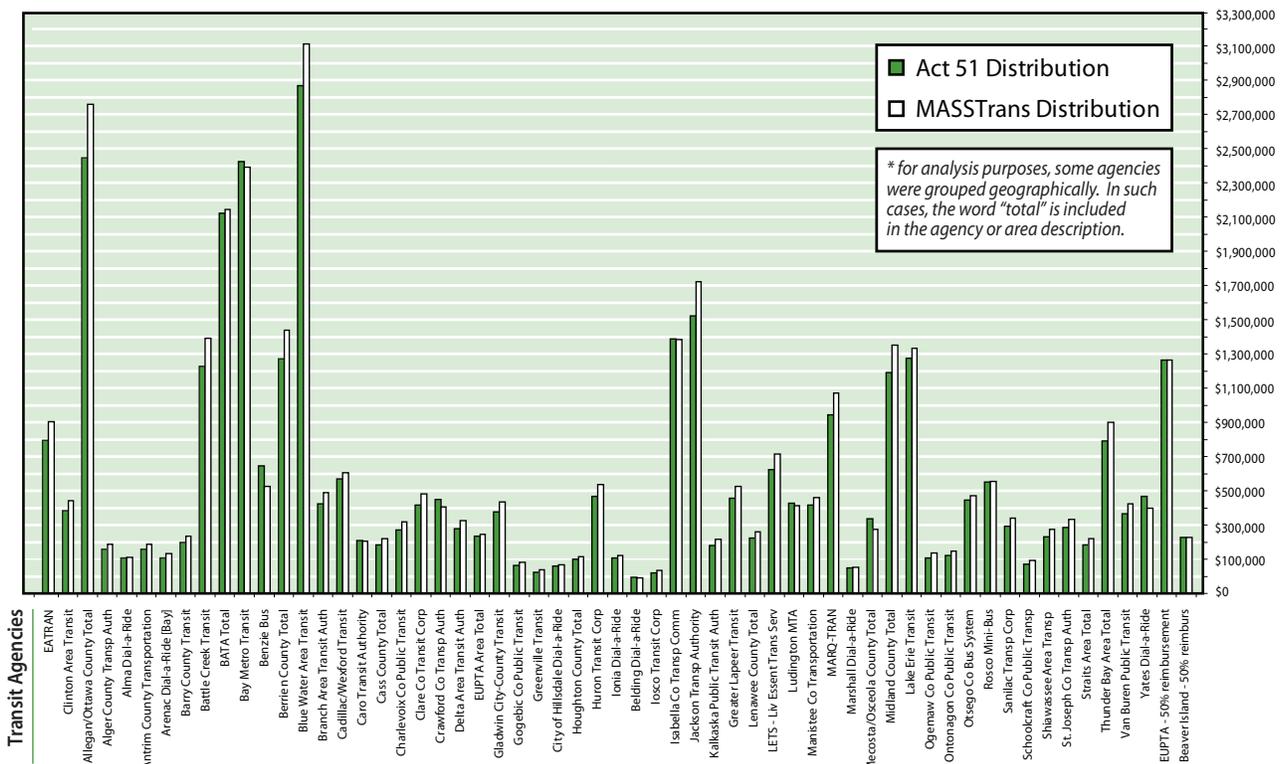


Figure 6.3 D

ACT 51/MASSTRANS FY2009 FORMULA COMPARISON FOR NON-URBAN AGENCIES



Distribution of funding impacts the ability of a road agency to meet transportation goals set by long range planning efforts and those determined by the State Transportation Commission.

STATE LONG RANGE PLAN

As required by the FHWA, the Michigan Department of Transportation periodically updates the State Long Range Transportation Plan document. This document sets the goals and direction of the Department. Due to extensive public involvement, the long range plan is also a reflection of how the public and transportation stakeholders want their transportation system to operate. Goals of the long range plan include the following:

- Stewardship
- System Improvement
- Efficient and Effective Operations
- Safety and Security

The long range plan focuses on the corridors of highest significance as a way to best utilize public resources. These corridors move the greatest amount of freight and passengers in the state and are the top priority for investment. These are multi-modal corridors, loosely based on existing highway corridors.

STATE TRANSPORTATION COMMISSION

The State Transportation Commission frames the long range plan goals with further details intended to guide the Department's decision-making process. The Commission has long emphasized the following aspects of Michigan's transportation policy:

- Ensure freedom of choice by making access to opportunities as efficient and safe as possible,
- Provide transportation infrastructure and services that strengthen the economy, and
- Provide transportation that keeps Michigan and its regions in a competitive position for the 21st century.

The Commission's goals focus on the need for access to transportation and strengthening or supporting the economy. These emphases reflect both the 'access' and 'mobility' functions of transportation described earlier in the "Rationale" section of this report, and the on-going balance between these dual purposes.

HOW GOALS COMPARE TO DISTRIBUTION SCENARIOS

Highways

The existing Act 51 formula was established to distribute money for the construction and maintenance of the transportation network across numerous transportation agencies and levels of jurisdiction. The process of setting goals for the transportation system is not linked to the Act 51 formula, nor does the formula respond as system-wide goals are established.

The current Act 51 formula supports stewardship and system improvement by ensuring that funds flow to all sectors of the transportation system. Other goals – Efficient and Effective Operations and Safety and Security – can be supported through the implementation of the current formula, but not across the entire system. Accomplishment of these goals would rely on the individual agencies aligning their priorities to the statewide priorities.

The AVMT scenario would support the existing goals of the transportation network by distributing a greater proportion of funds to the more traveled roads or the corridors of highest significance. This mobility-related scenario would also support system improvement, efficient and effective operations, and strengthen the economy, but only in limited locations. Under the AVMT scenario, distributions would decrease in locations with relatively low AVMT. Improved mobility in the few locations with higher funding would come at the expense of lowering mobility and access for the rest of the state.

On the other hand, the Lane Miles scenario, which does not distinguish the relative importance of any given segment in distributing funds, would support the stewardship (access) goal by widely distributing funding around the state. This scenario would weight distributions to the extent of the system managed by each agency without regard to the amount or type of traffic. By distributing funds in this manner there is potential to underfund key trade and commuter routes. As with the AVMT scenario, gains to any particular agency would come at the expense of others.

Transit

The Act 51 transit formula is not directly linked to transportation goals, but the results are supportive of the goals. Analysis of the existing transit formula demonstrates that the distribution results of existing Act 51 transit formula tracks closely with distribution results if funding were distributed by service indicators. Therefore, the existing formula could be said to support both the stewardship and access goals by ensuring that funding reaches public transportation agencies in all areas of the state and by providing a share of state funding that is consistent with each locality's share of service. The MassTrans proposal is not directly linked to the transportation goals. While it brings in several new distribution factors, it does not significantly shift the overall allocation of funding, so it cannot be viewed as being more or less reflective of transportation goals. Like both of the road distribution scenarios, the MassTrans alternative does shift funding from agency to agency, and as such, during a transition over to this formula, stewardship of and access to the transportation system could decline.

Alternative Factors to Consider in Distribution of Transportation Revenue

This report focuses on distribution alternatives based on two variables for roads: VMT and Lane Miles. There are many different kinds of variables that could be used to devise a formula for distribution of transportation revenue, however, depending on where investment is most desired. Not only the variety of variables, but the relative weight they are given could effect the outcome. Beyond the variables, changing other factors such as the number of eligible recipients or the relative size of the system in each jurisdiction would also impact the distribution of transportation revenue.

VARIABLES

Roads

What follows is a discussion of the variables that could be considered in development of an alternative funding distribution formula. It is important to bear in mind that reliable data for many of these variables is not currently available across the entire transportation system.

- Variables Related to System Use
- Roads and Bridges

The truest measure of system use is traffic on each segment of road. Vehicle traffic is discussed in detail in this report, along with the difficulties in measuring and accounting this variable. However, there are other possible variables that could serve as a proxy measure for usage of the road system:

- Fuel sales
- Registration fees
- Functional Classification
- Legal System
- Urban or rural designation
- Population
- Number of households

The current Act 51 formula includes a blend of several of these measures. Census-based population is a factor in distribution of revenue to cities and county road commissions, as is Legal System (County Primary and County Local roads, City Major and City Local streets) and urban and rural designations. The county internal formula also takes into account registration fees generated within the county.

Transit³

The most common indicators of system use within the local transit program are passengers, vehicle miles, and vehicle hours. Population of the service area is also a factor used for local transit but it plays a slightly different role than for roads and bridges. Population of the service area, specifically population density, is a factor in determining the type of transit service provided (rail, fixed route bus, demand response, etc.). They can also be used in determining need for financial assistance to operate the system (low density areas are more expensive – per passenger – to serve and therefore require more financial assistance).

The Act 51 transit formula uses population as a factor by establishing two “peer groups” based on population – agencies that serve urbanized areas with populations over 100,000 and agencies that serve non-urbanized areas and urbanized areas with populations under 100,000. While not specifically stated in Act 51, it is generally believed that larger urbanized areas have a greater capacity for generating local funds from property taxes due to land use density and from rider fares due to a greater density of passengers traveling shorter distances, which is why this group is eligible for a lesser share of state assistance.

Factors used in transit formulas in other states include operating budgets (i.e., expenses), passengers, vehicle hours, vehicle miles, locally derived revenue,

³ For Passenger Transportation, the discussion here is limited to local transit programs which account for over 90% of the annual investment of Act 51 funds for public transportation (i.e., the Comprehensive Transportation Fund) and includes the only formula based distribution of CTF appropriations. Act 51 does include some guidance for distribution of CTF revenues among the passenger transportation modes. For example, it requires not less than 10% of the CTF be distributed each fiscal year for intercity passenger and intercity freight transportation purposes. While the discussion here could also take into consideration alternative ways to determine how the CTF revenues should be distributed between local transit programs, intercity passenger programs, intercity freight programs, etc., those are policy decisions that MDOT believes are outside the stated objective of Section 394 for “a discussion of alternative methods of distributing state operating assistance for local bus transit programs, including an analysis of incentives for those agencies which demonstrate efficient use of resources and increasing ridership levels.”

farebox revenue, population, and historical state funding levels. In addition to population, the Act 51 transit formula uses operating budgets. Within the two population peer groups, funds are distributed as a percentage of each agency's operating budgets. MDOT data shows a very close correlation between service levels and operating budgets. A recent analysis shows a very strong relationship between the share of state operating assistance⁴ each agency received in 2008 as compared to the share of service each agency provided⁵ in 2008. This close correlation suggests that the current formula results in an equitable distribution of the "shared" pot of formula funds among the recipient agencies.

Variables Related to Condition

Road and Bridges

Ensuring good asset management is a goal of any distribution of transportation revenues. Maintaining transportation assets in good condition is also a measure of transportation agency performance. Currently there is much discussion about formalizing performance measurement, particularly at the federal level, but in general there is resistance to making performance measurement a part of funding distribution due to the difficulty and expense of collecting and interpreting system-condition data, especially for low-volume roads and small jurisdictions. In no case should funding distributions be based on the quantity of assets in poor condition, because such an approach rewards neglect, rather than provide an incentive for good stewardship.

Despite this concern, a formula could be designed to include variables that take asset condition into account, and this is one area where some data does currently exist, at least on the higher level systems. With 500+ agencies responsible for roads, getting consistent and reliable data is a huge challenge. Some variables that could be used to direct revenues to ensure good asset condition include:

- Bridge condition
- Pavement condition
- Weight-limited bridges
- Roads/bridges closed to trucks
- Travel speed; elimination of congestion

Act 51 does not currently contain any funding distribution variables explicitly intended to address condition or congestion issues. However, there have been changes to the formula that were intended to address known issues with condition, such as the special funding distribution to local bridges created in 2004, intended to address a backlog of local bridge investment needs.

Transit

Within bus-based local transit systems, vehicle condition is the most common indicator of system condition, based on vehicle age and/or miles. Facility condition is also used as an indicator of system condition. Neither vehicle condition nor facility condition are factors used in the Act 51 formula for transit operating assistance. However, vehicle condition (age and miles) is considered when MDOT allocates any federal capital funds it receives for the rural transit systems. MDOT uses an asset management approach to allocate federal capital funds amongst the rural transit agencies in an attempt to improve the overall system to a certain condition level. For urban transit agencies, use of federal capital funds is determined at the local level. MDOT provides CTF as match, but in accordance with Act 51, the amount of CTF capital match funds each agency receives each year is a direct function of the amount of federal grant assistance that requires match. While condition of the system is not a factor MDOT uses in allocating its capital funds, it is a factor each local agency uses in allocating the federal funds it receives. For example, transit agencies must follow federal guidelines regarding how often (based on age and miles) vehicles can be replaced.

⁴ Share of Operating Assistance = dollar amount of state operating assistance the agency received divided by the total amount of state operating assistance distributed to all agencies.

⁵ Share of Service expressed in three ways: Total passengers of the agency divided by total statewide passengers; total vehicle miles of the agency divided by statewide miles and total service hours of the agency divided by statewide miles.

The condition of a transit system can also be viewed as condition (performance) of the service provider, such as indicators of service efficiency, including cost per passenger or cost per mile. However, efficiency of the service is not necessarily an indicator of the condition of the service. A low-cost per passenger may indicate a high level of operating efficiency or it may indicate a low level of service. For a user of the passenger transportation system, condition of the system is less about the cost of providing a passenger trip as it is about whether the passenger trip was available. For this reason, there is a hesitation about any over-reliance on a standard set of strict quantitative measures and factors, owing to the uniqueness of each transit agency and service area. In addition, focusing solely on a few quantitative measures and factors might diminish transit's ability to fulfill societal needs that may have inherently low cost-effectiveness. As a result, of the states that use performance measures to distribute transit operating assistance, no state uses only performance measures. Their formulas include a mixture of variables to ensure each transit system has a guaranteed level of funding to provide service.

Variables Related to Economic Impact

Roads and Bridges

Another aspect that could be considered in the distribution of transportation revenue is the economic return on the investment. Classification of roads is only a rough, implicit proxy for the economic return from the traffic on the road. Roads with high truck volumes or commercially-oriented trips by any class of vehicle may make economic contributions out of proportion to the raw vehicle count.

Roads provide both access to individual productive properties and mobility between producers and markets, so both low and high-volume roads can make contributions to the state economy. Measures related to the economic impact of mobility could include:

- Commercial truck traffic or commercial ADT
- Commercial truck registration fees and taxes

However, many commercial vehicles are not registered at a shipper's address in the manner of a private automobile, so another proxy would have to be found to apportion these truck-user fees to commercially important roads. Roads that provide access add value to adjacent property, but typically carry lower traffic volumes. Some measures that could be used to consider the economic impact of access in distributing transportation revenue to various jurisdictions include:

- Commercial square footage
- Commercial assessed valuation
- Employment
- Truck loadings or logistics facilities

The current Act 51 distribution formula does not explicitly consider factors related to economic benefit in distributing transportation revenue to the various Act 51 agencies. Volume of truck traffic and value of shipments are not factors in the Michigan distribution formula. State aid is not reduced for any road closed to heavy trucks and local units incur no penalty for diverting truck traffic off their roads and onto circuitous routes through adjoining jurisdictions.

Transit

The economic impact of transit is often measured in terms of the jobs created by transit projects and transit operations. Economic benefits associated with increased development are used to evaluate individual project-level investments.

The value of transit is also measured in terms of the socioeconomic benefits. For example, the Wisconsin DOT undertook a study (The Socioeconomic Benefits of Transit in Wisconsin) to identify the social and economic benefits of public transportation services to particular economic sectors in the state. This study was developed to demonstrate both the qualitative and quantitative benefits of public transportation derived from services to the education, health care, service (i.e., recreation, retail and tourism), and work (welfare reform) sectors of the state's economy.

The current Act 51 transit formula does not use economic impacts as a factor in distributing state funds among local transit systems. However, based on the work done in Wisconsin, MDOT is working with a consultant to construct a Michigan-specific model for measuring the economic impacts of transit investment, at both the state and local level. While the model can be used to compare the overall benefits of transit services to the investment needed to sustain the services, the model is not geared toward distributing state funds among local systems based on each system's contribution to the economy.

Variables Related to Physical Characteristics

Roads and Bridges

It is sometimes necessary, in the distribution of transportation funding, to address differences in the physical characteristics present in one jurisdiction over another, as those features can impact the expense of building or maintaining an infrastructure asset. Some of the variables that might be part of such a formula include:

- Number of bridges
- Bridge deck area
- Number of watercourses
- Number of culverts of a given size
- Movable (lift) bridges over navigable waterways

Other physical characteristics of the infrastructure – or of the jurisdiction itself – might also be addressed in distributing revenue. For example:

- Acreage of publicly-owned land
- Urban or rural area designation
- Miles of paved shoulder or sidewalk
- Center line miles
- Lane miles

The natural environment influences the cost of building roads. Geologic and climatological variables that have been suggested as funding factors include:

- Unfavorable soil types in the area (affects construction cost)
- Annual snowfall (affects snow plowing cost)
- Number of ice storms (affects salt usage)

The existing Act 51 formula does provide a modest distribution of funds for counties with greater than average snowfall, and distributes funds for both counties and cities based on centerline miles, which tends to favor rural jurisdictions. The formula also provides some funds geared specifically to urban and rural designations.

Transit

Formulas for distributing transit operating assistance among all the transit systems in the state often include the establishment of peer groups. Urban versus rural – as used in Act 51 – is the simplest peer grouping; However, urban systems may be broken out further based on mode (rail versus bus), system size (usually measured in terms of the number of vehicles) or service type (fixed route bus versus demand response). Peer groupings represent the differing physical conditions of each system, which in turn, reflect a differing level of need for state financial assistance. For example, a fixed route bus service in a densely populated area may be able to cover a higher percentage of its costs with farebox revenues or local property taxes. However, a demand response service operating over a large rural area would have a much higher per-passenger cost which can be justification for a higher level of state assistance. Under the Act 51 formula, rural and small urban systems receive a higher level of state assistance in part due to the physical conditions of these areas that make the cost of service higher.

Variables Related to Safety

Safety is another factor that could merit consideration in a revenue distribution formula. A great deal of safety data, measuring all types of crash rates and crash severity, is available, particularly for the higher level systems. The Act 51 formula does not include any safety variable in funding distribution for roads and bridges, or for passenger transportation.

Variables that Provide Incentives

Funding distribution formulae can also provide incentives to encourage certain behavior by recipients. More local or private funding for transportation, for example, might be encouraged by considering the amount of local match or local revenue collection as a formula factor. More compact development,

and therefore a smaller infrastructure footprint to be maintained, could be encouraged by including population density as a formula factor. For transit, the Act 51 formula provides a direct incentive for local transit agencies to expand the level of services they provide to the public. When an expansion leads to increased operating expenses, the agency becomes eligible for additional state assistance.

As noted above, the level of local contribution is also commonly viewed as an incentive-based factor. Within the Act 51 transit formula there is an incentive to maintain local share in that an agency is only guaranteed their funding “floor” (no less than the funding they received in fiscal year 1997) if they maintain the same ratio between state and local share that was in place as of fiscal year 1989. In addition, MDOT guidelines allow a local transit agency to calculate their expenses in a way that acts as significant incentive to raise operating funds through local contracts and farebox revenues. Specifically, when a transit agency increases operating revenues through contracts or fare increases, it does not result in a reduction of the expenses used to calculate their state support.

Other incentive-based factors include cost efficiencies (such as cost per passenger or cost per mile). States that use these factors in their distribution formulas believe they do work as intended, but there is also concern that the formula could be a disincentive to provide transit services that are needed for mobility but have low cost-effectiveness.

CHANGING RELATIVE WEIGHT OF VARIABLES

As mentioned previously, the weighting of variables impacts the ultimate distribution of revenue. The funding distribution by Act 51 could be dramatically altered by changing the weight given to existing variables without changing the variables themselves.

For example, in the road program, a greater percentage of funds distributed based on population – a variable currently used to some degree in both internal formulae – could potentially achieve similar results to the substitution that is the subject of this study, i.e., substitution of lane miles or ADT for centerline miles. The census-based population factor currently included in the Act 51 formula has its advantages and disadvantages, however. Because the federal census is only conducted every ten years, it tends to lag behind real-time changes, particularly in the latter part of the decade. This has worked to the disadvantage of growing counties and cities in the past, but today may be working to the advantage of counties or cities that have seen a decline in population in recent years.

In the passenger transportation program the percentage of funds allocated to each peer group could be altered, to give more or less weight to each group. If a formula were adopted that included multiple factors, such as service area population and ridership, a determination of what weight to give each factor would have to be made.

CHANGING ELIGIBLE RECIPIENTS

Depending on the investment results deemed important, the distribution of funds could also be altered by changing who is eligible to receive funds.

On the road side, since Act 51 was first enacted in 1951 there has been periodic discussion about the merit of including the more than 1,200 townships in the distribution formula, or some subset of those townships that have achieved a certain population threshold. Populous townships and charter townships did not exist in 1951. These units of government function much like cities, but they are addressed only through the county formula. More recently there has been discussion of consolidating jurisdictions to reduce administrative costs and take a more regional approach to investment.

⁶ Section 10(d)... “Further, except for an eligible governmental agency or eligible authority in whose jurisdiction is located an eligible governmental agency which was providing public transportation service on January 3, 1973, a distribution may be made directly to an eligible governmental agency or eligible authority in whose jurisdiction is located an eligible governmental agency which is providing public transportation service on the date of the creation of the comprehensive transportation fund, only if approved by the eligible governmental agency located within the eligible governmental agency or eligible authority.”

For local transit, Act 51 has limited controls over the entrance of new recipients.⁷ However, it does not prevent systems from expanding nor does it prevent the introduction of new rapid transit systems from drawing down the funds available to existing recipients. In fact, annual boilerplate language in MDOT's appropriations bill encourages MDOT to expand transit services, and as such expand the number of recipients.⁸ The entrance of a new recipient or significant expansion of an existing eligible recipient, such as expansion of a community-based system to county-wide service, results in a reduction of funding to other recipients. There is considerable concern among existing transit providers that the development of rapid transit systems in Michigan urban areas (light rail, commuter rail, etc.) will increase the number of eligible recipients for operating assistance or greatly increase the eligible expenses of existing recipients.

Much of the ongoing debate about the current Act 51 formula for local transit operating assistance is a result of the diminishing state share of operating assistance. Increasing service levels and increasing costs to maintain existing service, combined with declining state revenues, means the state's share of operating assistance is decreasing for all recipients every year – from 58 percent in 1998 to 34 percent in 2010 and projected to be down to 27 percent in 2014. Recipients are looking for ways to redistribute the funding among existing recipients (i.e., alter the formula) in order to increase or stabilize their share of the pie and to limit the impact of new recipients. The real problem is not the formula, but the inability of state revenues to keep up with the cost of operating the existing system or meet the needs of system expansion.

Any change to the number of eligible recipients for Act 51 funding – road and bridge or transit – would have an impact on the amount of funding received by all existing recipients. Adding more recipients, without adding more money, would mean that all jurisdictions would have less revenue for investment. Reducing the number of recipients would mean the remaining eligible jurisdictions would have more revenue to invest, but the infrastructure to be maintained would still require the same level of investment and, again, without additional revenue, the benefit of reducing the number of recipients would be marginal.

SYSTEM JURISDICTION

For the county and city internal formulae, one way to change revenue distribution without changing the distribution formula would be to change the system size within a jurisdiction. Reassignment of any number of county roads to the jurisdiction of cities within the county, or vice versa, would impact the amount of revenue available for investment in those roads by the various jurisdictions. Likewise, reassignment of those roads to state jurisdiction, or of state roads to local jurisdiction, would also impact the amount of revenue available for investment in those roads.

Any change of this nature could have a positive or a negative impact on investment, depending on the roads and jurisdictions involved.

For transit, a shift in jurisdiction (such as two county systems joining to become a regional authority) does not in itself have an impact on the state share of funding. However, if the reduction or expansion of a transit agency results in a change in eligible expenses, it will impact state assistance under the current transit formula.

⁷ Section 10(d)... "Further, except for an eligible governmental agency or eligible authority in whose jurisdiction is located an eligible governmental agency which was providing public transportation service on January 3, 1973, a distribution may be made directly to an eligible governmental agency or eligible authority in whose jurisdiction is located an eligible governmental agency which is providing public transportation service on the date of the creation of the comprehensive transportation fund, only if approved by the eligible governmental agency located within the eligible governmental agency or eligible authority."

⁸ Sec. 714. (1) The department, in cooperation with local transit agencies, shall work to ensure that demand-response services are provided throughout Michigan. The department shall continue to work with local units of government to address the unmet transit needs in Michigan.

Toll systems are usually thought of as revenue collection mechanisms, but new technology – which could track how the system is used and by whom, could make these systems useful in the distribution of funding, as well.

TOLL ROADS

Although the state's largest bridges have tolls, tolls for roads have not been considered a viable alternative in Michigan since the creation of the Federal Interstate Highway Program. Concerns about traffic delay, continued easy freeway access, and the cost of collecting them make tolls unappealing, although they are widely used in other states. Michigan is now the largest state with no toll roads and with no toll road projects under study. In particular, electronic tolling offers the potential to revise the way highways are funded and revenue distributed.

ELECTRONIC TOLLING WITH TRANSPONDERS

Technology is changing the approach to tolling. The toll road of the future is already developed in many parts of the world and in the United States as well. These toll roads do not have the familiar elements one would expect. There are no long queues and idling trucks; no tourists frantically changing lanes at the last minute or commuters tossing their coins into a metal basket.

The toll roads of the future are almost indistinguishable to the driver from non-tolled roads, due to new electronic tolling systems. Electronic toll roads reduce the cost and inconvenience of collecting tolls, eliminating much of the inefficiency of cash tolls. On most toll roads, regular drivers obtain radio transponders that signal their passage past toll receivers, and tolls are charged to a prepaid account (such as the E-Z Pass system used in the Northeast). Toll road authorities are rebuilding their toll plazas to take advantage of the ability of transponders to record tolls at highway speeds. Where cash tolls are still collected from non-regular users, drivers paying in cash exit the freeway mainline so as not to delay all traffic.

"OPEN ROAD" TOLLING

A few toll roads collect tolls from non-regular users by recording the license plate number and send-

ing a bill to the vehicle registrant. Ontario's 407ETR (Electronic Toll Road) operates without cash or toll booths, but imposes a high surcharge for mailing a bill to non-account users. (Addresses of Michigan drivers using Ontario 407ETR are provided by the Michigan Department of State for bill mailing.) All toll roads in Colorado became cashless in 2010. These toll collection systems are often referred to as "open road" tolling because they do not impede the flow of traffic.

"Open road" tolling continues to evolve. For example, an application has been developed by a Texas company that will allow drivers to pay tolls by cell phone. Drivers would register vehicles by taking photographs of the license plates, or entering the plate numbers, and sending them to participating toll operators, who automatically deduct the tolls from the drivers' accounts as the vehicles passes through toll booths. A list of registered vehicles is sent to the toll operators allowing the driver to pass through electronic toll booths without stopping. This technology could be used at any toll facility that is equipped with cameras or other forms of license plate recognition.

Electronic tolling offers the potential to revise the way highways are funded and revenue distributed.

VARIABLE PRICING

Advancement of electronic toll collection technology can also be used to implement a variety of pricing options intended to ease traffic congestion. These efforts include High Occupancy Tolls (HOT); variable tolls, where the price depends on the time and distance of travel; and Cordon Tolls, where a flat fee is charged to enter a downtown urban area or entertainment district. For example, there could be a fee imposed for exiting the freeway network around a stadium district during certain time periods associated with sporting events. This money could then be used for infrastructure improvements in that district.

Modern toll technology can better determine not just the amount of traffic, but specific locations and times of travel; information which could be used to distribute revenue. Road pricing or congestion pricing systems are in practice around the world from London to Santiago, although recent efforts to establish a Cordon Toll for Manhattan were unsuccessful.

Technology of traditional fuel vehicles has improved to the point where less revenue is generated per mile driven.

MILEAGE-BASED TRANSPORTATION FEES

The technology infrastructure required for electronic tolling is similar to that required for collection of a mileage-based fee. The number of miles driven would be recorded using GPS units installed in each vehicle. The fee for using the road network would then be passed on to the vehicle owner. Those who support this new technology argue that it reflects the actual use of the network regardless of the vehicle type used for transportation. The concerns regarding privacy are the main argument against a mileage-based fee.

The argument for and against the mileage-based fee will continue as long as the traditional fuel tax revenue continues to decline. One of the main reasons for this decline is that the fuel tax does not account for alternative fuel or electric vehicles which are an increasing portion of America's vehicle fleet. As the number of these vehicles increase the fuel tax will no longer be a viable method for generating the revenue necessary to maintain our transportation system. Even the technology of traditional fuel vehicles has improved to the point where less revenue is generated per mile driven. The disconnect between the rate of growth in vehicle miles traveled and revenue growth highlights the need for a mileage-based tax.

While it is clear that transportation agencies need to begin actively developing and implementing new technologies to transition from the gas tax to mileage- and travel-based fees, this shift is still not likely to occur for many years, and federal direction for such an effort is necessary to ensure intrastate consistency.

Conclusion

A stable and predictable source of funding is essential for the long-term planning and implementation of transportation improvements. A thoughtfully constructed formula for distribution of transportation revenue can help ensure the long-term achievement of transportation goals.

Michigan's transportation funding formula, while complicated, is no more nor less complicated, on the whole, than those of other states. Most other states distribute revenue similarly, with isolated differences here and there, for both roads and transit systems.

The Act 51 formula has served adequately to distribute transportation revenue in Michigan for many years, with occasional adjustments to address new challenges as they arise. Unfortunately, the new challenge that has arisen over the past few years cannot be addressed with a change to the various distribution formulae. The fact is that because of increasing fuel efficiency and an increasing share of alternate fuel vehicles in the fleet, federal and state gas taxes are becoming a less reliable source of revenue than in the past. As a result, transportation agencies at all levels are struggling to maintain transportation service and infrastructure.

As demonstrated by analysis of the alternative scenarios examined in this report, and supported by other states' experiences, the real problem lies not with how the revenue is distributed, but with how much revenue is available for distribution. An alternative road funding distribution formula that allocates funds with a greater emphasis on lane miles or VMT would benefit a few jurisdictions at the expense of all other jurisdictions. The alternative transit formula makes minor shifts in funding distribution, but does not represent a fundamental change. The same would be true for changes in distribution of transit funds. Without additional revenue, any formula changes are likely to create winners and losers. Based on the well-documented transportation needs that exist, changing the distributions would worsen the service and condition of transportation assets in most of the state.

The conclusions of the Transportation Funding Task Force remain sound: Michigan needs to double its investment in transportation if it is to maintain the transportation assets it currently has and improve the economy. Increased investment at the state and federal level is even more vital if we are to build the transportation systems that will be necessary to preserve Michigan's place in the economy of tomorrow.