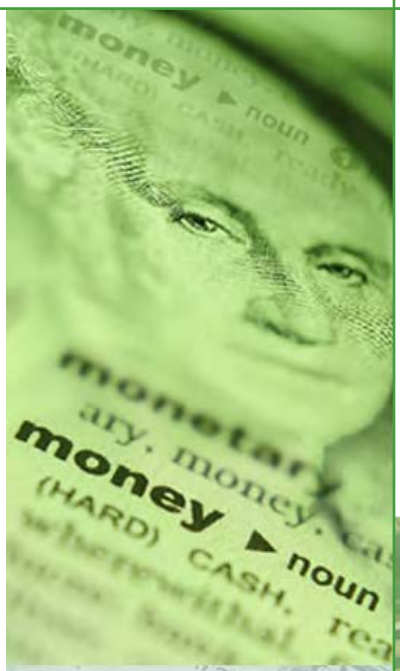

Section 394 Report

Analysis of Transportation Funding Distribution Formula

MARCH 1, 2010

MDOT
Michigan Department of Transportation

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In accordance with Section 394 of the Michigan Department of Transportation's 2010 budget, this report examines the distribution formula for state transportation funding, compares it with methods used by other states, and with suggested alternatives.

Funding Formula Rationale

The primary goals of any transportation funding distribution formulae are to:

- Balance investment in assets that provide *mobility* for people and goods, and assets that provide *access* to natural resources and property.
- Provide for a variety of transportation options, so that all potential travelers can be served.
- Ensure stability and predictability, to allow for appropriate long-term planning and investment to maintain assets that will be used for decades.
- Ensure good stewardship of public assets, by encouraging the right investment at the right time.

Current Formula

Michigan's Act 51 transportation funding formula apportions $3 billion per year in state and federal user fees to cover the cost to build and maintain Michigan's 120,000-mile road system and much of the cost of operating and maintaining transit systems.

Although the world has changed significantly since Act 51 became law in 1951, the sources of transportation revenue, and the method of their distribution, are largely unchanged. The Act 51 funding formula distributes state transportation revenue for use on transportation systems. It distributes road funding on a percentage basis – through what is called the "external" formula - to state, county and city jurisdictions for use on roads and bridges. It also provides for distribution of public transportation funding among local transit providers. For roads, an "internal" formula then allocates funds to cities, villages and county road commissions based on a variables relying largely on population and route miles.

A detailed description of Act 51 formulae and a brief history of transportation funding in Michigan - are included in this report.

Comparison to Other States

User fees – fuel taxes and registration fees – are the chief source of revenue for highways and transit in other states, as they are in Michigan. Tolls are also a significant source of revenue in many states. Factors for distribution of revenue in other states include road performance indicators, functional classification, motor vehicle registrations, population, urban or rural designation, safety, congestion, and economic development.

The most common problem cited by the other states is an overall lack of transportation funding, not a flaw in the distribution formula.

Alternative Distribution Scenarios

The funding distribution scenarios for roads and bridges analyzed for this report, compare the current route-mile driven road and bridge formula with alternatives that rely on Vehicle Miles Traveled (VMT) and Lane Miles. Since the "external" formula distributes funds on a percentage basis, the analysis was limited to the county and city "internal" funding distribution formulas, which distribute funds among county and city jurisdictions based on several different variables. Lane Miles and VMT were substituted for the variable of Route Miles in the current formula.

In both of these scenarios, a handful of mostly urbanized jurisdictions would benefit by the suggested change, while the majority of other road agencies would see a reduction in funding, in some cases by more than 40%.

The maps at the following links show the change in transportation revenue distribution to cities, villages and county commissions under the alternative formulas. The maps are also included on pages 32 – 36 of the report as Figure 6.2 B, Figure 6.2 C, Figure 6.2 E, and Figure 6.2 F.

The conclusions of the Transportation Funding Task Force remain sound: Michigan needs to double its investment in transportation.

For the transit formula, the language of Section 394 suggested an emphasis on service performance. The analysis conducted for this report estimated the results of a formula based on levels of ridership, service hours, and service miles – the most common measures of transit performance – and compared that to the results of the current transit formula. The comparison indicated that such a formula would not significantly shift the funding results. Analysis of a formula proposed by one of Michigan's transit associations was also reviewed and while it would alter the amount of funding most agencies would receive, the overall results were not fundamentally different from the current transit formula.

Relationship to State Goals

Michigan's State Long Range Transportation Plan, required by federal law, and the State Transportation Commission, set goals for the transportation system.

STATE LONG RANGE PLAN GOALS	STATE TRANSPORTATION COMMISSION GOALS
Stewardship	Strengthening the economy
System Improvement	Access to opportunity
Efficient and effective operations	Efficiency
Safety and Security	Safety

While the Act 51 road funding distribution formulae are not explicitly linked to specific system-wide goals, Act 51 does support stewardship , access, and system improvement through the broad distribution of funds and the eligible uses of funding it stipulates. The suggested highway funding alternatives, by directing funding to high-traffic jurisdictions, could be said to support efficiency in the transportation system, by providing funds for investment where capacity is most needed. The existing method of distributing state funding to transit agencies tracks closely with several service indicators, and supports both stewardship and access by ensuring that funding reaches public transportation agencies in all areas of the state.

Alternative Variables

Lane Miles, VMT, and performance are just a few of the many different variables that could be used to develop a formula for distribution of transportation revenue, 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.

The Impact of New Technologies

While tolls are often thought of as a revenue collection mechanism, new technology offers the ability to track how the road system is being used and thus assist in funding distribution, without impeding traffic. Clearly, in the years to come, both at the state and national level, more thought will need to be given to mileage-based user fees that treat transportation more like a utility, to ensure that all users pay their fair share to maintain and expand the transportation system sufficiently to meet a growing demand.

Conclusion

Michigan's transportation funding distribution formula, while complicated, is no more nor less complicated than those of other states. As indicated by other states and demonstrated by the two alternative scenarios, the real problem lies not with how the revenue is distributed, but with how much revenue is available for distribution. Changing the distribution formula would redistribute revenue to a handful of largely urbanized jurisdictions at the expense of all others. Doing so would certainly undermine 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.

Every state government collects revenue for transportation and distributes the funds over some or all of its transportation system. This report examines Michigan's system for distributing transportation funds, compares it with other states' systems, and compares it with some suggested alternatives.

In this chapter we will examine the necessary functions of a transportation funding formula. These primarily include the need to:

- Balance funding for mobility and access
- Provide for various transportation options
- Ensure stability and predictability
- Ensure good stewardship of public assets

BALANCE FUNDING FOR MOBILITY AND ACCESS

Transportation has two functions: to provide *mobility* and *access*.

Access: to each usable piece of property in the state, allowing land to be used productively, and letting people reach their homes and other places.

Mobility: for people and goods, giving people greater economic opportunity, moving goods to broader and better markets, and enabling the delivery of services.

Roads, in particular, form a hierarchy based on their contribution to one or the other of these functions. This hierarchy is the primary basis of the funding formula. Figure 2.1 A on the next page illustrates the various functional classes one might encounter on a typical trip.

Road Functional Classification

The Federal Highway Administration imposes a standard classification on the nation's road system, called National Function Classification (NFC). The logic of functional classification is key to understanding basic road finance. Here is how Michigan's roads are divided among the various levels of importance in the NFC:

BROAD N.F.C. CATEGORIES AND JURISDICTION

Broad NFC Categories and Jurisdiction: Route Miles

National Functional Classification	Jurisdiction			
	State	County	City	Total
Interstate and Other Freeways	1,945	0	0	1,945
All Other Arterials	7,269	4,827	2,172	14,268
All Collectors	428	21,854	2,144	24,426
Local-Access Roads & Streets	14	62,568	16,714	79,296
Total	9,656	89,249	21,030	119,935

Sources: Michigan Geographic Framework, Version 2009 and Preliminary

MDOT Sufficiency Report of 2009

Arterial roads contribute the most to statewide or regional mobility. This includes Interstate and other freeways, principal, and minor arterials. Arterial roads may be urban or rural, depending on location (within or outside urban boundaries developed cooperatively between MDOT and local agencies, subject to FHWA approval.)

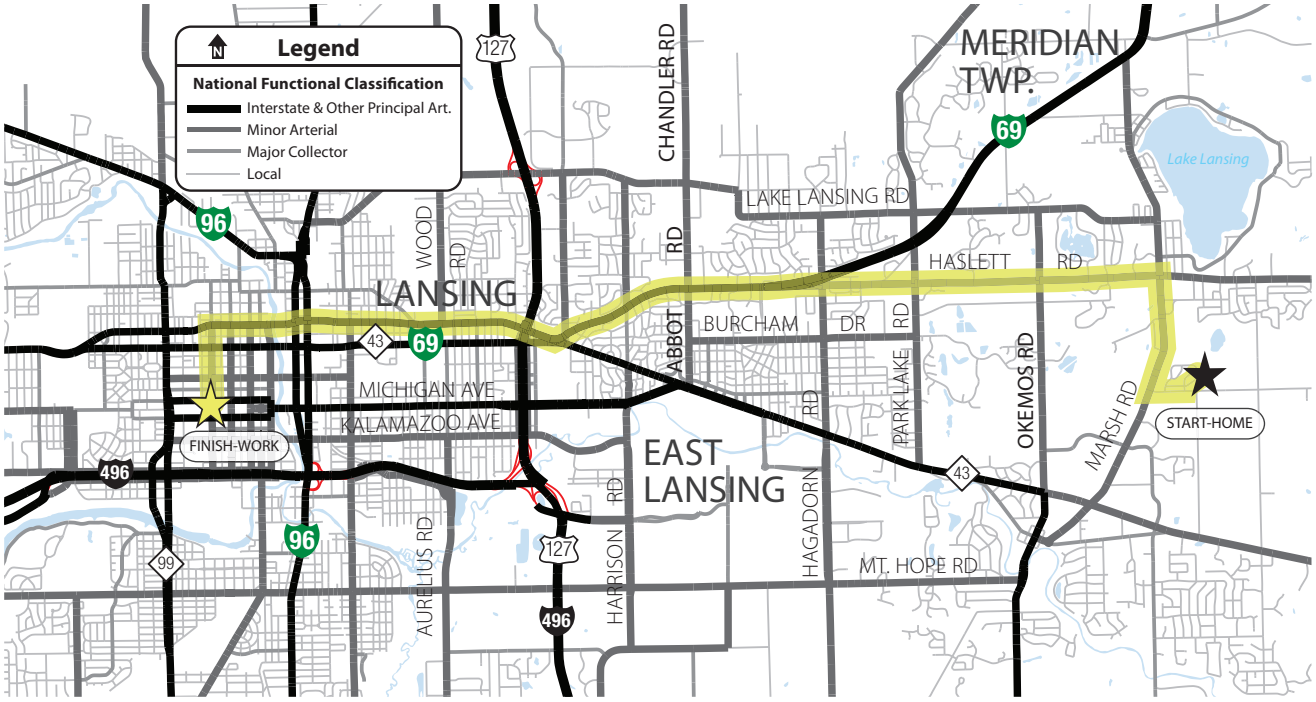
Collector roads accumulate the traffic generated on local roads and distribute it on to arterial roads. Collectors perform a mixed mobility and property-access role. Sub-classifications are *urban collectors, rural major collectors*, and *rural minor collectors*.

Local-access roads and streets give access to individual parcels of property, almost exclusively. They contribute little to statewide or regional mobility. Most trips originate or end on local-access roads, but most road users do most of their traveling on collectors and arterials. As with other roads, local-access roads may be rural or urban.

TYPICAL TRIP BY FUNCTIONAL CLASS

Figure 2.1 A

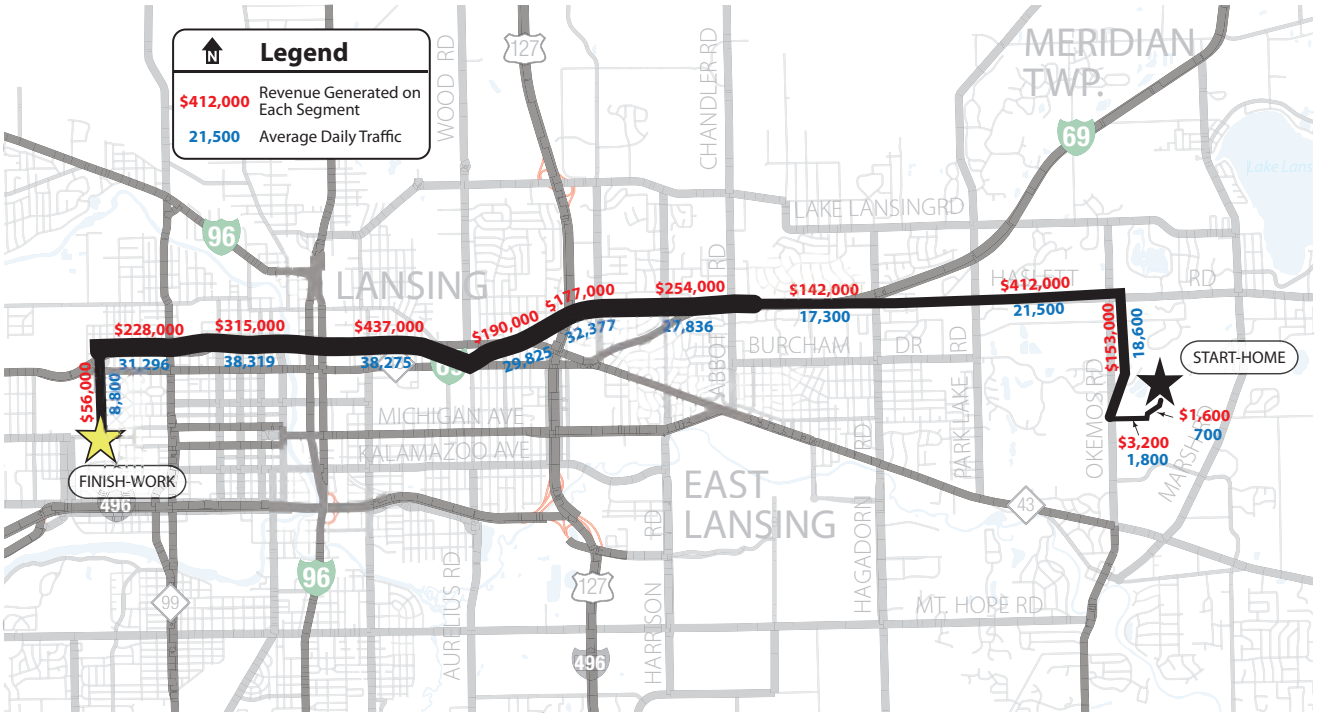
For a 10-Mile Journey From Home to Work



REVENUE GENERATED BY ROAD SEGMENTS ANNUALLY

Figure 2.1 B

(Daily Traffic Volume x 0.025 x length x 365)



User-fee Generation

Michigan's Act 51 distributes road-user fees over the 120,000 miles of Michigan's road system. Road users pay user fees at a steady rate regardless of which road they're on, and regardless of whether the road is empty or congested; paved or unpaved; rough, smooth, or covered with snow.

The funding formula must apportion roughly $3 billion/year in state and federal user fees. From this revenue must come the entire cost to build and maintain Michigan's 120,000-mile road system and a portion of the cost of operating and maintaining transit systems across the state. While transportation revenue collection is driven by use, distribution of that revenue to roads is based not just on system use but on other considerations as well.

Necessary Cross-subsidy

One goal of a transportation funding formula should be to balance investment for mobility and investment for access appropriately. Some cross-subsidy is inevitable – and even desirable – in striking that balance.

A mile of rural local road with 400 cars and a few trucks a day will generate about $11 in user fees per day. A mile of residential streets with 600 cars a day and almost no trucks might yield $16/day in revenue. A mile of big-city freeway carrying 100,000 cars and 10,000 trucks will generate some $3,200/day in transportation revenue. Other roads fall between these extremes.

If road funding distribution exactly matched revenue collection, local roads would receive almost no investment. Instead, the Act 51 road and bridge formula balances distribution so that transportation revenue generated by use of the high-volume main

Revenue Collection

This report focuses on revenue distribution, but we will make brief mention of where this revenue comes from: road-user fees and some other taxes, at both the state and federal levels. Here's what Michigan road users pay:

ROAD-USER FEE RATES		
	Michigan	Federal
Gasoline tax per gallon	18.7 cents	18.4 cents
Diesel-fuel tax per gallon	15.0 cents	24.4 cents
Typical auto registration per year	$99.67	—
Standard 80,000-lb. truck registration	$1,660.00	$550

These fees are like tolls for the use of Michigan's roads. Michigan has no toll roads, but road users still pay for each mile traveled. A typical Michigan driver with a car of average value, driving 15,000 miles per year, pays user fees that are the equivalent of 2.4 cents per mile. (For comparison, cash tolls on other states' toll roads are usually between 3 and 6 cents per mile, and can be as high as 35 cents. Drivers in these states also typically pay registration fees and state gas tax in addition to tolls). A typical 5-axle truck in Michigan, weighing 80,000 lbs. pays the equivalent of 8.3 cents per mile. For the typical Michigan auto driver, these "tolls" come to roughly a dollar a day, and include all Michigan fuel and vehicle taxes.

MICHIGAN ROAD USER FEES PER MILE	
Typical auto user	2.4 cents/mile
Standard heavy truck	8.3 cents/mile

These road user fees pay for almost all the cost of Michigan's road and transit systems, with the rest coming from sales taxes on auto-related purchases, local property taxes, and transit fares.

One goal of a transportation funding formula should be to balance investment for mobility and investment for access appropriately. Some cross-subsidy is inevitable – and even desirable – in striking that balance.

roads that provide the most mobility help pay for low-volume roads that provide the greatest access, but do not carry enough traffic to cover their costs. Figure 2.1 B on page 5 illustrates revenue "generated" by vehicles traveling each road segment of a typical trip.

A similar situation exists for different regions of the state. Inevitably, the more populous parts of the state help fund road improvements in areas that are less highly traveled.

The main function of the formula is to properly apportion the rates of spending on through-roads and local roads to provide an acceptable level of service on local roads without under-investing in arterials. This requires a balance between the access and mobility functions of roads, which may include cross subsidy to achieve that balance.

The local street system is so huge – 79,000 miles – that it could easily absorb all the road user fees paid on all roads, leaving none for arterial roads. The existing Act 51 formula recognizes this by favoring state highways, county primary roads, and city major streets. In addition, federal funding is almost entirely directed to the higher volume systems, which serve statewide and regional needs. Local roads are funded at a lower rate, and are currently expected to be funded partially by local users and local communities, typically through township, city, and county property taxes, or from direct assessments on properties adjoining the roads.

Just as local cities, villages and townships are not expected to bear the full cost of the main roads that pass through them, a key policy question is how much higher-volume road users should pay to maintain local roads used primarily by local residents.

TRANSPORTATION OPTIONS

Roads and transit systems are interrelated components of the transportation system. Bus systems depend on the road network, and transit systems - bus and rail - can help reduce road congestion. Because of this, in most states, and at the federal level, the decision has been made to use auto and truck user fees to help support transit systems.

Michigan supports public transit and certain other transportation programs from road-user fees. Over the past several decades, a portion of road-user fees has been set aside to contribute to the capital and operating costs of public transit and other transportation services. The remainder of transit funding comes from a portion of sales tax revenue on auto-related sales, local property taxes, and riders' fares.

Other modes are also provided for in Act 51, although with expenditure provisions rather than specific distributions. These provisions encourage expenditure to ensure all modes remain safe and viable, specifically freight and passenger rail, intercity bus, and non-motorized transportation.

STABILITY AND PREDICTABILITY

Most states and the federal government treat transportation expenditures differently from other government spending. Transportation revenue is usually separate from general government appropriations.

Transportation funding is designed to be stable from year to year to provide predictable amounts of funding for projects that can span several years from proposal through construction. Agencies must also be able to maintain very long-lived assets (frequently 12 years for transit buses, 20 years or more for pavements, and 50 years for bridges) and funds for preventive maintenance cannot be raided for short-term needs if the system is to remain viable.

Dedicated User Fees

Most states restrict road-user fees to road, or road and transit, use. Article IX, Section 9 of Michigan's Constitution of 1963 restricts all taxes specifically on vehicles and vehicle fuel to road and public-transportation use (except for the costs of collection, and regulatory fees applied to the fuel and trucking industries).

Registration and fuel taxes are not taxes at all, but *fees* within the meaning of the Michigan Constitution. Road-user fees meet the three tests that distinguish fees and taxes:

- They are not levied on the population generally, but only on persons using vehicles.
- They are not used for general expenditures, but only for roads and transit.
- They are in proportion to the use that is made of the service (very closely for the fuel tax, less so for the registration tax).

Michigan's Constitution also gives authority to set transportation policy and authority over the MDOT program to the State Transportation Commission (STC) in Article V, Section 28. These two features of the Constitution of 1963 – the protection of road user fees and the authority given to the STC – help ensure a consistent and predictable approach for transportation funding.

Act 51's statutory formula ensures funding predictability for Michigan's transit agencies, cities, villages, and county road commissions, by providing consistency from one appropriations process to the next. Although the formula may be changed by the Legislature, it has typically done so by adjusting the shares of all recipients in one or more categories simultaneously, not by appropriating money to or from individual agencies.

While the transportation funding distribution formula is relatively stable, it is beginning to provide less stability. First, it is at a fixed rate per gallon, which puts transportation budgets at risk in times of inflating costs; and second, the number of gallons is dependent on the fuel efficiency of vehicles, which is rising, further eroding the amount of revenue available for transportation investment.

For transit, there are further cracks in stability and predictability. The portion of transit funding that derives from sales taxes does not enjoy the same constitutional protection as the portion that derives from fuel taxes, and as a result has repeatedly been "unallotted" or withheld altogether, and used to fund other needs as the economic crisis continues to strain state government resources.

ASSET STEWARDSHIP

It is impossible to know the true value of Michigan's transportation assets. The expenditure over more than 150 years totals several hundreds of billion dollars for right of way, pavements, vehicles, rail lines, and facilities. Pavements, bridges, and vehicles must be replaced more or less frequently. Road real estate lasts forever, but its value can't be compared with adjacent land, because all the land in the state derives its value from its relation to the road system. The value of the road system as a whole is literally incalculable, and underlies all the wealth of the state.

The value of the "working parts" of the road system – pavements, structures, signals, signs and more – is almost as hard to know. But the cost of maintaining and replacing it is well known, and very large. This is where the bulk of transportation spending goes. The funding formula is only the first stop in providing for the road system. The remaining disposition of some $3 billion in annual investment is managed by Michigan road agencies.

Michigan's Act 51 mandates the use of asset management by Michigan road agencies for all roads eligible for federal aid. Michigan's public transportation agencies also practice asset management using MDOT's Public Transportation Management System (PTMS) to establish vehicle, equipment, and facility inventories, forecast needs, and develop investment strategies. In the future, asset management could be expanded to all roads and other classes of assets (to the extent that detailed analysis is warranted).

Registration and fuel taxes are not taxes at all, but fees within the meaning of the Michigan Constitution.

Avoiding Perverse Incentives

Michigan's road funding distribution formula is largely based on road mileage and proxies of use (road class, population, and vehicles). Michigan has generally avoided awarding funds based on the need to replace deteriorated assets. Funding based on poor pavement quality or closed bridges actually encourages road agencies to let marginal assets deteriorate to the point they become eligible for increased funding. Strict adherence to asset management principles will avoid creating perverse incentives for neglect.

Asset Management

Road and transit agencies manage their assets by knowing the condition of each lane or each capital asset, forecasting its rate of deterioration and remaining service life, and assigning the appropriate strategy of maintenance, preventive maintenance, or replacement.

The goals of asset management are to:

- Reduce the overall level of expenditure
- Improve the overall condition of the system
- Smooth the rate of expenditure from year to year, and
- Prevent too much of the system from coming due for renewal at once.

Careful asset management can prolong the life of an asset through preventive maintenance, delaying the date when very expensive total reconstruction or replacement is needed. But the system is utterly dependent on having enough revenue to apply the needed solutions. Failure to adhere to asset management amounts to disinvestment in the system, when salvageable assets are lost for lack of ongoing expenditure, resulting in a much greater total expenditure in future years.

Careful asset management can prolong the life of an asset through preventive maintenance, delaying the date when very expensive total reconstruction or replacement is needed.

Act 51 of 1951 was not the first system for financing roads in Michigan. Roughly four other systems were tried between statehood and 1951: there were township roads, state-reward roads, and two formulas for apportioning revenue among state highways and local roads.

When the need for automobile roads became obvious before World War I, new institutions were developed to meet a new need, but there was no guidance on the best way to do the job. Between 1905 and 1951 there was considerable experimentation with revenue sources and road administration in every state and at all levels of government. In the 1920's, every state settled on fuel and vehicle taxes as the appropriate way to finance automobile roads.

By 1931, Nineteenth-century township road administration had been abandoned, but it took another twenty years to find a workable way to divide user fees among state, county, and municipal road agencies. Here is a chronology of the most important events.

Township Roads, c. 1850–1893

Roads were administered by townships in the decades before and after statehood. On the expectation that roads would principally benefit adjoining landowners, property owners were required to physically work on roads a number of days per year in proportion to property valuation, or to commute the labor requirement with a cash payment or the use of a team of animals. Non-property-owning residents were also required to contribute a day's work per year, or the equivalent tax.

County Road Act, 1893

Recognizing that township roads, chiefly connecting farms with trading centers, did not provide good town-to-town and county-to-county transportation, the Legislature permitted any county to appoint or elect a county road commission to organize township roads into a system. Counties were authorized to levy road taxes of up to three mills on property, and to submit bond issues to voter approval. By 1905, five counties had road commissions, all in the northern part of the state.

Advisory Highway Commission, 1903

Under pressure from bicyclists, the Legislature appointed a committee to advise it on highway improvement. State Senator and bicyclist Horatio S. Earle, the principal voice of the Good Roads movement in Michigan, was appointed chairman. The committee recommended a Constitutional amendment permitting state aid to wagon roads. Earle was appointed Commissioner of Highways and hired the first state highway engineer, but his appointment was declared unconstitutional. He continued to serve without pay while lobbying for roads.

State Reward Road Law, State Highway Department, 1905

With demand for roads beginning to be heard from automobile owners, and over intense opposition from farmers who feared high property taxes, in 1905 the Legislature created the State Highway Department and instituted a state-reward-road system, and enacted a motor-vehicle registration law. Horatio Earle became the first Chairman of the Michigan Highway Commission. Under this system, the state reimbursed counties building gravel roads up to a state standard. The number of counties with road commissions gradually increased. A $2.00 registration fee was charged for each car.

In 1909 the office of State Highway Commissioner was made elective.

In 1913 the legislature established the first 3,000-mile trunkline system, subject to concurrence of local authorities. This gave local governments power to determine route locations.

Horsepower Tax, 1915

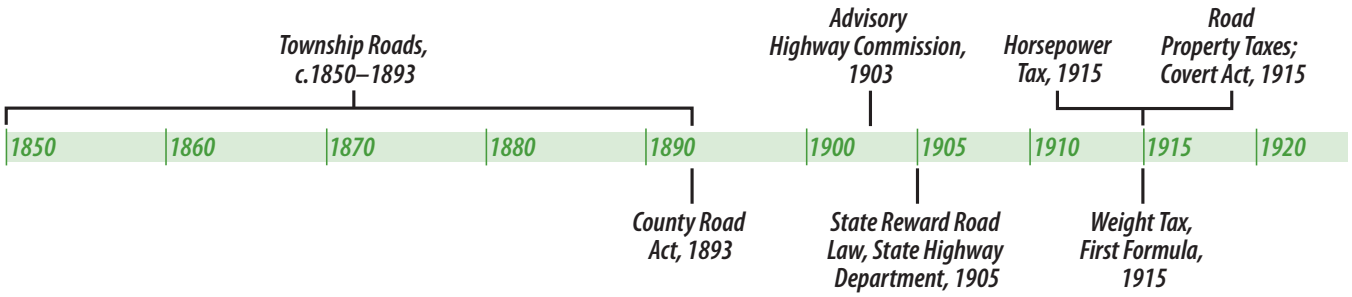
In 1915 (some sources say 1913) a tax was imposed on vehicle engine size, the revenue to be used for highway purposes: $0.25 per horsepower for gas or steam cars, and $1.00 for electric cars. (Early vehicle taxes in Europe and this country were based on "horsepower," actually engine displacement.)

Weight Tax, First Formula, 1915

In 1915 a weight tax was imposed at $0.25 per hundredweight. Half of the total revenue went to the state, and half to counties and townships. The basis for this fee was traditional toll-road pricing, which reflected the effect of heavy wagons on unpaved roads.

Road Property Taxes; Covert Act, 1915

This act treated local roads as the responsibility of owners of benefited property. It authorized property owners to initiate road construction by petition, but required land owners to pay at least half of the cost through special assessments.



Federal-aid Road Act of 1916

Federal law provided grants in aid of up to 50 percent of the cost of rural roads, with funds allocated among the states on the basis of area, population, and road mileage. It established minimum design standards and required proper maintenance.

In 1917 the Michigan Legislature authorized an annual appropriation to match federal aid, and allowed counties and local governments to issue bonds to finance their share of the cost. This law established local participation in state road projects, requiring counties to pay a share ranging from 25 to 50 percent of the total cost, according to assessed valuation.

Trunkline Bond Issue, 1919

A $50,000,000 bond issue was approved by voters. The Highway Commissioner was granted powers to initiate trunkline construction and take charge of construction costs to be shared by local and state government. Driver's license fees were instituted, and credited to the General Fund. The authorized size of the trunkline system was gradually increased in the early 1920's, with some routes specified in law.

Federal-aid System, 1921

In 1921 the State Highway Department began to designate a federal-aid road system, as required by federal law of that year. Federal-aid mileage could not exceed seven percent of total rural mileage.

Gasoline Tax, 1925

A tax on gasoline of 2 cents per gallon was levied, with all revenue to the State Highway Department except for $2,000,000 per year for counties. Most states imposed gasoline taxes around this time. Motorists were badly divided over the issue, with fierce opinions on both sides.

Another 1925 law relieved counties and townships of the obligation to contribute a share of the cost of federal-aid roads, with state government required to assume the entire responsibility of state match of 50 percent against federal aid.

The tax on engine size was repealed. Weight was made the sole determinant of license fees.

First Three-way Formula; First Gasoline-tax Increase, 1927

A formula was instituted dividing state road revenues:

- Cities: $2,000 per mile of trunkline
- Counties: An amount equaling one half of weight taxes
- State: The remainder

The gasoline tax was raised to 3 cents per gallon.

End of Township Roads: McNitt Act, 1931

This act consolidated 68,000 miles of township roads into the 83 county road commissions, at the rate of one fifth of total mileage per year for five years.

Weight taxes were apportioned to counties on a pro-rata basis according to county road mileage. A share of gasoline taxes was apportioned to counties: $2,000,000 in 1932 rising to $4,000,000 in 1936. It was gradually realized this formula weighed lightly-traveled rural mileage the same as heavily-used urban mileage.

Dykstra Act, 1931

The state was permitted to pay up to 50 percent of the cost of trunklines in cities of over 50,000 and 100 percent in cities of less than 20,000.

End of Local Property Taxes for Roads; Second Formula: Horton Act, 1932

This act drastically revised the distribution of state motor-vehicle-tax revenues, cutting the State Highway Department share in half.

All proceeds from the weight tax were given to counties, plus $6,500,000 of the gasoline tax. Seven-eighths of the weight tax was apportioned to counties in proportion to vehicle registrations, and one-eighth distributed equally to all 83 counties.

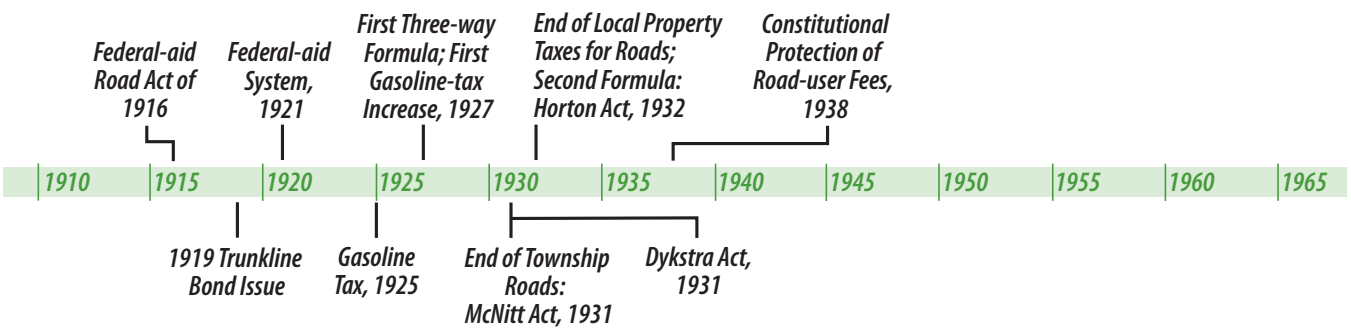
The remainder of the fuel tax was given to the State Highway Department and apportioned for construction this way, after certain other obligations:

- Upper Peninsula: 25 percent
- Lower Peninsula north of Town Line 12: 25 percent
- Lower Peninsula south of Town Line 12: 50 percent

(Town Line 12 is at the latitude of Saginaw.) This formula was intended to meet emergency conditions in the worst of the Depression, but became a more or less permanent allocation system in use until Act 51 of 1951.

Constitutional Protection of Road-user Fees, 1938

In 1938 a Constitutional amendment was approved restricting motor-vehicle-tax revenues to highway use. (This provision was included in the Constitution of 1963 as Article IX, Section 9, and amended to "transportation purposes" in 1978 upon creation of the Comprehensive Transportation Fund.)



Institutional Road Program, 1941

State highway funds were made usable on roads on state-owned institutions such as universities, hospitals, and parks, as appropriated by the legislature.

Limited-access Highways, 1941

In response to worsening traffic accidents and diminishing road capacity, this law empowered state, county and municipal authorities to build roads not giving access to adjoining properties. The first freeways were constructed under this law, beginning with the Detroit Industrial Expressway from Dearborn to Willow Run.

Interstate Highway System, 1944

A 1944 federal act authorized a 38,000-mile system of Interstate highways. The Michigan Highway Department selected 978 miles in Michigan. No funds were appropriated for this system, which remained dormant until 1956.

Diesel Fuel Tax, 1947

The growth of Diesel power for trucks required a state 5-cent-per-gallon tax on Diesel fuel. All revenue, plus a $1.00 special operator's license fee, was credited to the State Highway Fund.

Michigan Turnpike Act, 1951

This law authorized construction of toll freeways in Michigan, on the pattern of turnpikes in Pennsylvania, Ohio, and Indiana. This act was later repealed in response to creation of the Federal Highway Trust Fund and the federal fuel tax of 1956, and later repealed.

The state gasoline tax rose to 4½ cents per gallon, and the Diesel tax to 6 cents. The federal gasoline tax rose from 1½ cents to 2 cents per gallon.

Act 51, 1951

The present system of Michigan road finance was enacted in 1951. Originally, Act 51 divided weight- and fuel-tax revenue this way:

State Trunkline Fund	44%
County road commissions	37%
Cities and villages	19%

Act 51 also provides formulas for apportioning the county and city-and-village shares among individual units. These formulas are described in the next section, but in brief, they direct state aid toward county primary roads and city major streets, guaranteeing that the state's roads form a logical network for efficient long-distance travel. Local roads are also eligible for state aid, but at a greatly reduced level.

Federal Highway Trust Fund, 1956

Creation of the Federal Highway Trust Fund was a major change to federal road finance. The federal fuel tax was increased from 2 to 3 cents per gallon, and the revenue applied to building the toll-free Interstate Highway System that had been authorized in 1944.

First Act 51 Formula Change, 1957

Act 51 of 1951 was not intended to finance freeways. In 1951, it was expected that Michigan's freeways would be toll roads. The Federal Highway Trust Fund changed this. The Michigan Turnpike Act was repealed, the state fuel tax was increased, and the State Trunkline Fund share was increased to provide the 10 percent matching funds for Interstate construction. In 1959, the federal fuel tax was raised to 4 cents per gallon.

First State Transit Aid from Fuel Tax, 1972

When the state gasoline tax was raised to 9 cents, half a cent was dedicated to transit aid. The program was continued and modified in 1975.

Comprehensive Transportation Fund, 1978

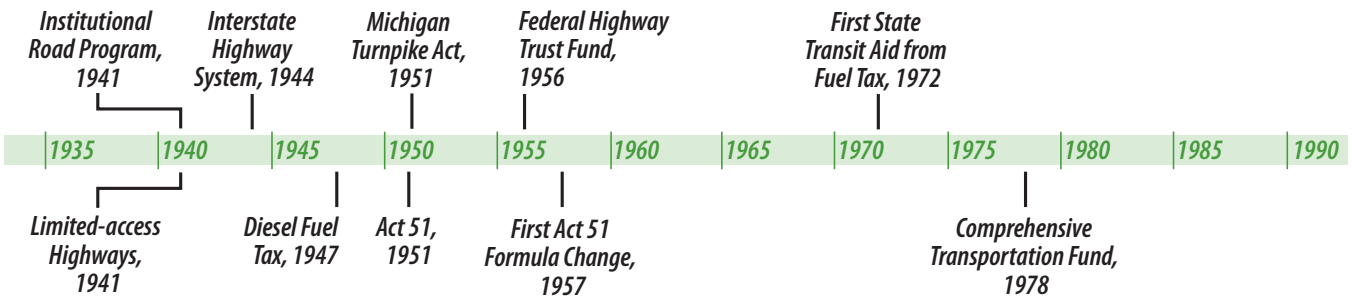
A fourth distribution from the Michigan Transportation Fund was begun in 1978 when Act 51 was amended to provide state funding to public transportation, and to match the growing amount of federal aid available for transit.

The state trunkline share of the MTF was reduced from 44.5 percent to 38.4, reflecting the reduced need for expenditures as Interstate construction was completed. Smaller reductions were made to the county and city and village shares. The new Comprehensive Transportation Fund was initially awarded 8.3 percent of the MTF. In 1983, the CTF share was increased to its Constitutional maximum of 10 percent.

The state Constitution was changed to allow road-user fees to be used for purposes other than roads. A limit of 10 percent was imposed on the amount usable for public transportation.

The Federal Highway Trust Fund was divided into a Highway Account and a Mass Transit Account.

General Fund appropriations to transit were replaced by 4.65 percent of sales tax revenue from auto-related retailers.



State Transportation Commission and Director, 1978

The position of the elected Highway Commissioner was replaced by the appointed State Transportation Commission in another constitutional amendment. The Commission has constitutional power to establish policy for MDOT, to be carried out by the appointed Director.

Transportation Economic Development Fund, 1982

The Transportation Economic Development Fund (TEDF) emulated programs in other states that awarded funds for "economic development" projects. It created three new sub-formulas and two grant programs that award roughly $40 million/year, largely to local road agencies.

1997 Fuel-tax Increase, 4 cents Sub-formula

Simultaneous with increases in the gasoline and Diesel-fuel taxes to the 2010 amounts of 18.7 and 15 cents, two more sub-formulas were enacted that awarded the equivalent of 4 cents gasoline-tax revenue to the STF and the three-way road-agency formula. This appropriation is made before the CTF appropriation, so it has the effect of reducing transit spending to about 8.8 percent of road-user fees.

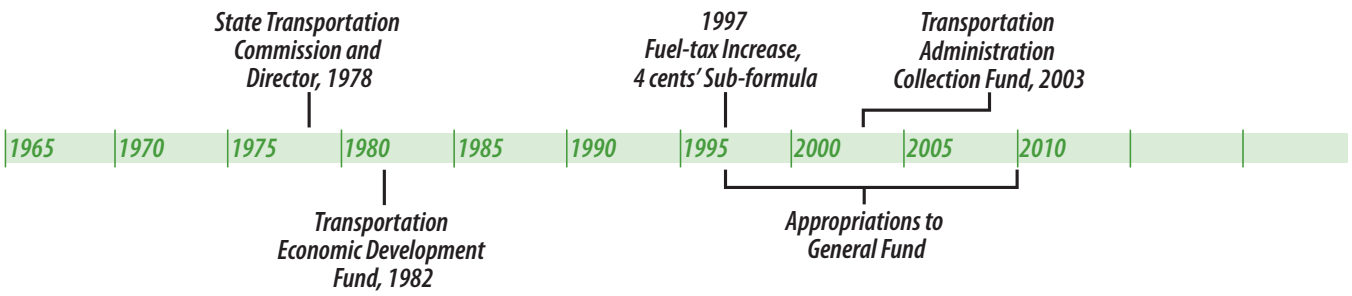
In 2004, the one cent gasoline-tax revenue flowing to the STF was reduced to half a cent, and the other half cent revenue awarded to the Local Bridge Program.

Appropriations to General Fund

In most years since 1997, various amounts of non-dedicated transportation revenue have been appropriated to the General Fund. This includes sales-tax revenue from the CTF, and driver-license fees from the TEDF. (Constitutionally-dedicated road-user fees cannot be appropriated except to transportation.)

Transportation Administration Collection Fund, 2003

Before 2003, the cost of administering the Secretary of State's license-plate program and the cost of collecting fuel taxes by the Department of Treasury were appropriated from the STF in "interdepartmental grants" in the amount requested by those agencies. Since 2003, the size of this transfer is limited to $20,000,000/year, and roughly $53 million/year is deducted directly from vehicle registration taxes at $5.75 per car. Any shortfall is covered from the General Fund. Another $2.25 per car is appropriated to the State Police.



OVERVIEW OF MICHIGAN'S FEDERAL TRANSPORTATION FUNDING

State revenue appropriated by Act 51 provides about two-thirds of the total revenue appropriated by the Legislature for transportation in Michigan. The remainder is roughly a billion dollars a year of federal aid.

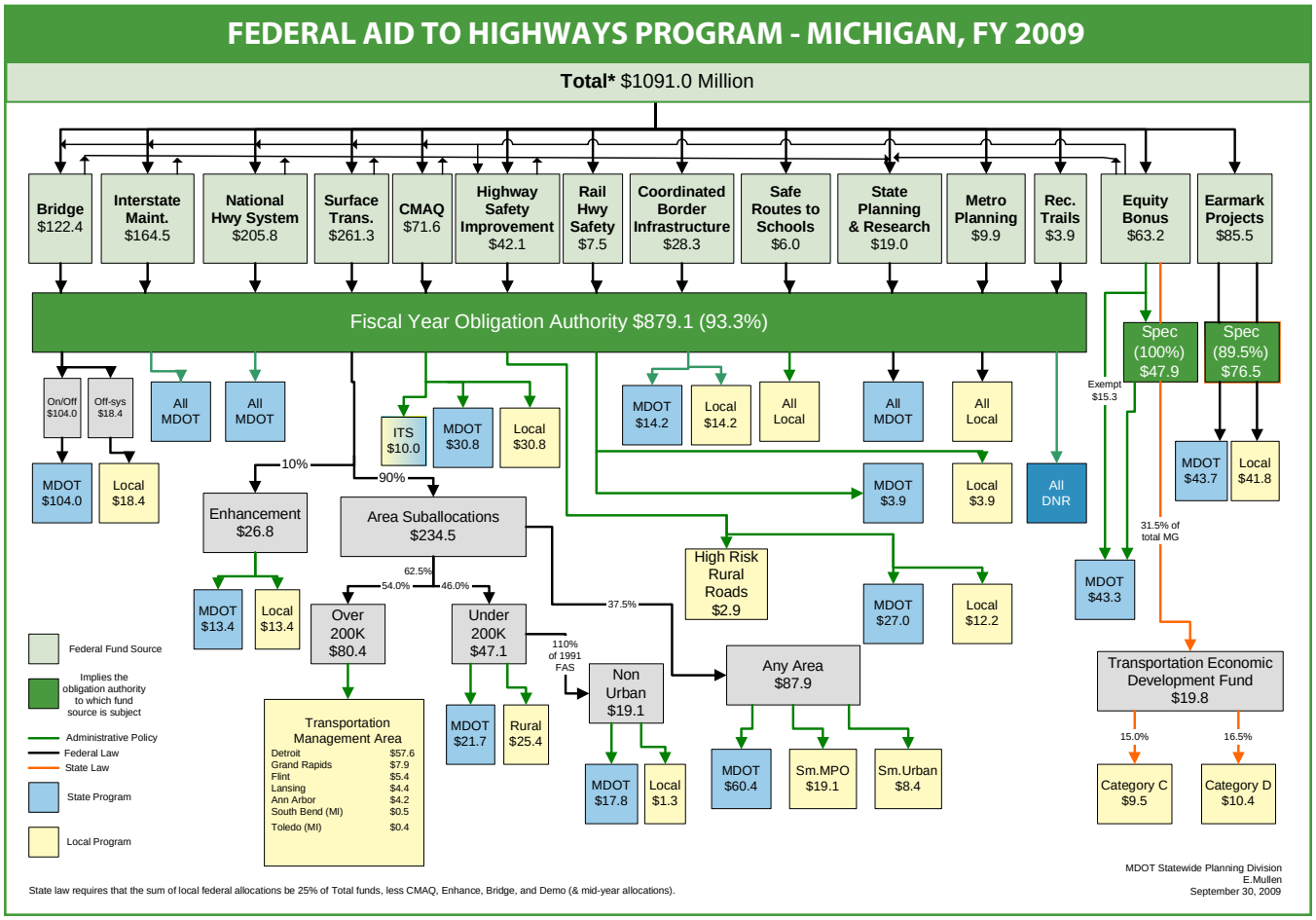
This report is devoted mainly to the formula for dividing state funds and will not cover federal aid in detail, except to the extent that it is apportioned among Michigan agencies by state law, as the uses of federal aid are fixed in federal law. Here is a summary of the peculiar characteristics of federal aid.

Federal-aid Highway Basics

The federal-aid highway program currently consists of over 60 separate and distinct programs. However, only 13 of these programs provide funding to states by formula (see Figure 4.1 A). Each of these 13 programs has its own formula based on its own factors, which determines Michigan's share of any given federal road or bridge program. The formulas apportion a certain amount of aid each year, and it remains available for 4 years.

Federal aid is not cash. What the formulas distribute are called apportionments, and apportionments are totals of aid that the states are allowed to use in each program category. However, the totals of apportionments do not equal the total of federal aid that is available to Michigan. The usable total is less, and that is governed by another amount, called obligation authority. In 2009, the obligation limit equaled 93.3 percent of apportionments. Obligation authority is metered out annually by Congress as part of the federal budget process. Actual cash is distributed on a reimbursement basis, as projects are completed, and federal aid is generally only allowed to cover 80 percent of project costs.

Figure 4.1 A



Earmarks

Some highway federal aid is appropriated by Congressional earmarks for particular programs or projects. These earmarks usually come at the expense of Michigan's share of the Equity Bonus program, and all other programs. When a member of Congress "wins" an earmark for a highway or bridge project in his or her district, in most cases it does not increase the amount of federal aid for Michigan; it only restricts a portion of Michigan's federal aid to use on the earmarked project or program.

This is not the case for transit, however, where a sizable portion of Michigan's federal transit funding comes from transit earmarks and does not impact other federal transit funding allocation.

Federal-aid and Act 51

The current statutory Act 51 formula for distribution of federal revenue – known as the "75/25 split" – appears to be much simpler to understand and follow than the formulae for distributing state revenue. However, there are a number of important considerations and constraints that greatly complicate the operation of the relatively simple formula. First, there are over 60 transportation programs currently authorized in federal law. Many of these programs provide funding to states through either a statutory formula or through a competitive process. Each program has its own unique set of eligibilities and requirements. For example, federal law limits investment of federal Congestion Mitigation and Air Quality funds to only areas that are classified as non-attainment or maintenance for certain air pollutants. In Michigan, 25 of our 83 counties meet this eligibility criterion, which limits the choice of locations for investing these funds.

Second, the federal-aid highway program is organized around road usage, referred to as functional classification, and location (urban or rural), rather than by road jurisdiction. Some federal highway programs provide funds that can only be invested in roads of a certain functional classification. A good example of this is a federal highway program called the National Highway System. In fiscal year 2009, Michigan received $205.8 million for this program, which can only be invested in the Interstate System and other designated urban and rural principal arterial roads. As a result, only 4,764 miles of Michigan's 119,935 miles of public roads are eligible for these funds, and MDOT has jurisdiction over 4,473 of these miles. Federal highway funds can generally only be invested in projects on the Interstate System, other expressways, arterials, and collectors. As a result, Michigan's 79,296 miles of local road are not eligible for federal aid under federal law.

Third, Congress enacts legislation to re-authorize the federal-aid highway program every 4-8 years. Each new authorization bill typically includes a wide range of structural changes to the federal program through the creation of new programs or eligibilities, or through the shifting of funding between programs to align with the shifting priorities of Congress. Changes to the federal program often complicate the operation of the requirements of Act 51 and its application to federal funds.

Act 51 provides some of the flexibility necessary to properly allocate federal revenue given the constraints mentioned above. As required by state statute, each year MDOT determines the amount of federal aid which must be split between local agencies and the state, and then allocates it accordingly. The federal aid which is subject to the split is allocated 25 percent to local agency programs and 75 percent to state trunkline highways. Some federal-aid programs are not subject to the 75/25 requirement. These include:

- Congestion Mitigation Air Quality (CMAQ)
- Transportation Enhancements
- Funds earmarked by Congress for specific projects
- Funds awarded competitively by the US DOT
- Highway Bridge Program

Some local funding allocations are prescribed by federal or state law. The total funding in these categories is subtracted from the 25 percent, and the remainder is distributed proportionately to the remaining applicable local programs, based on factors such as county area, census populations, and Act 51 certified mileage. Table 4.1A illustrates these allocations based on 2009 funding.

Federal-aid Transit Programs

There are eight annual federal programs through which transit funds are apportioned to Michigan. The size of the programs range from about $650,000 a year to about $82 million a year. In FY 2009, there was $158.9 million in federal aid apportioned to Michigan. The method for distribution differs from program to program. Some funds are distributed by formula, others are earmarks designated by Congress, and still others are awarded based on a competitive grant process. Unlike highway earmarks, transit earmarks are desirable, as they do not come at the expense of other Michigan recipients. Some federal funds are apportioned to the State, but most are apportioned directly to urban transit providers. For those funds that are apportioned directly to the State, there are no state laws or state formulas that dictate how federal transit funds are distributed or allocated, however, there is a State or MDOT role in distribution for some of the programs. For example, for non-urban systems, MDOT provides assistance as a percentage of each agency's eligible operating expenses. Also, state law requires the Comprehensive Transportation Fund (CTF) to match federal transit capital grants awarded to local agencies.

"The formula" is the result of about 10 major standing appropriations from the MTF, and some other adjustments and restrictions.

DESCRIPTION OF CURRENT ACT 51 FORMULA

The Michigan Transprotation Fund (MTF) as created in Public Act 51 of 1951, as amended (Act 51), is the distribution fund for transportation revenues. Act 51 mandates how these funds are distributed and spent. The two main sources of state funding are vehicle registration taxes and motor fuel taxes. Act 51 directs the distribution of MTF funds to other state transportation funds to special program accounts and local units of government. The distribution formulas allocate restricted transportation revenue between highway programs and public transit programs. Act 51 also allocates highway funds between MDOT and local road agencies. The allocation among state, county and local roads and bridges is the most commonly referred to "formula" within Act 51. This formula is often described as a 3-way division among the three classes of road agencies in these proportions:

State Trunkline Fund	39.1%
County road commissions	39.1%
Cities and villages	21.8%

However, this formula distribution is made after a number of statutory deductions are made, including distributions to the Recreation Fund, Local Program, debt service, critical state bridge programs, grants to other departments for transportation-related functions, the Transportation Economic Development Fund and other statutory grants. The Comprehensive Transportation Fund (CTF) receives 10 percent of the MTF, but only after other statutory deductions are made.

Taking into consideration all of the statutory distributions called for in Act 51, the effective distribution is:

EFFECTIVE MICHIGAN TRANSPORTATION FUND DISTRIBUTION	
Roads and Bridges	
State Trunkline Fund	35.8%
County road commissions	35.3%
Cities and villages	20.0%
Public Transportation	
Comprehensive Transportation Fund	8.8%

The exact outcome changes slightly each year, because awards from grant programs are usable by all three classes of road agencies.

New revenue added to the MTF will be distributed in these percentages unless appropriated otherwise. However, existing revenue distribution is slightly different, because of past distribution adjustments still in the law. These are described later in this section.

Figure 4.2 A

COLLECTION and DISTRIBUTION of MICHIGAN ROAD-USER FEES

Under Act 51 of 1951 as amended, and related acts. State funds only, federal aid not shown. Edition of 2008.
Showing amounts for Fiscal 2008, as appropriated, based on ERFD estimates of December 20, 2007, Fiscal 2008 budgets, license-plate revenues for Fiscal 2007, and other sources.

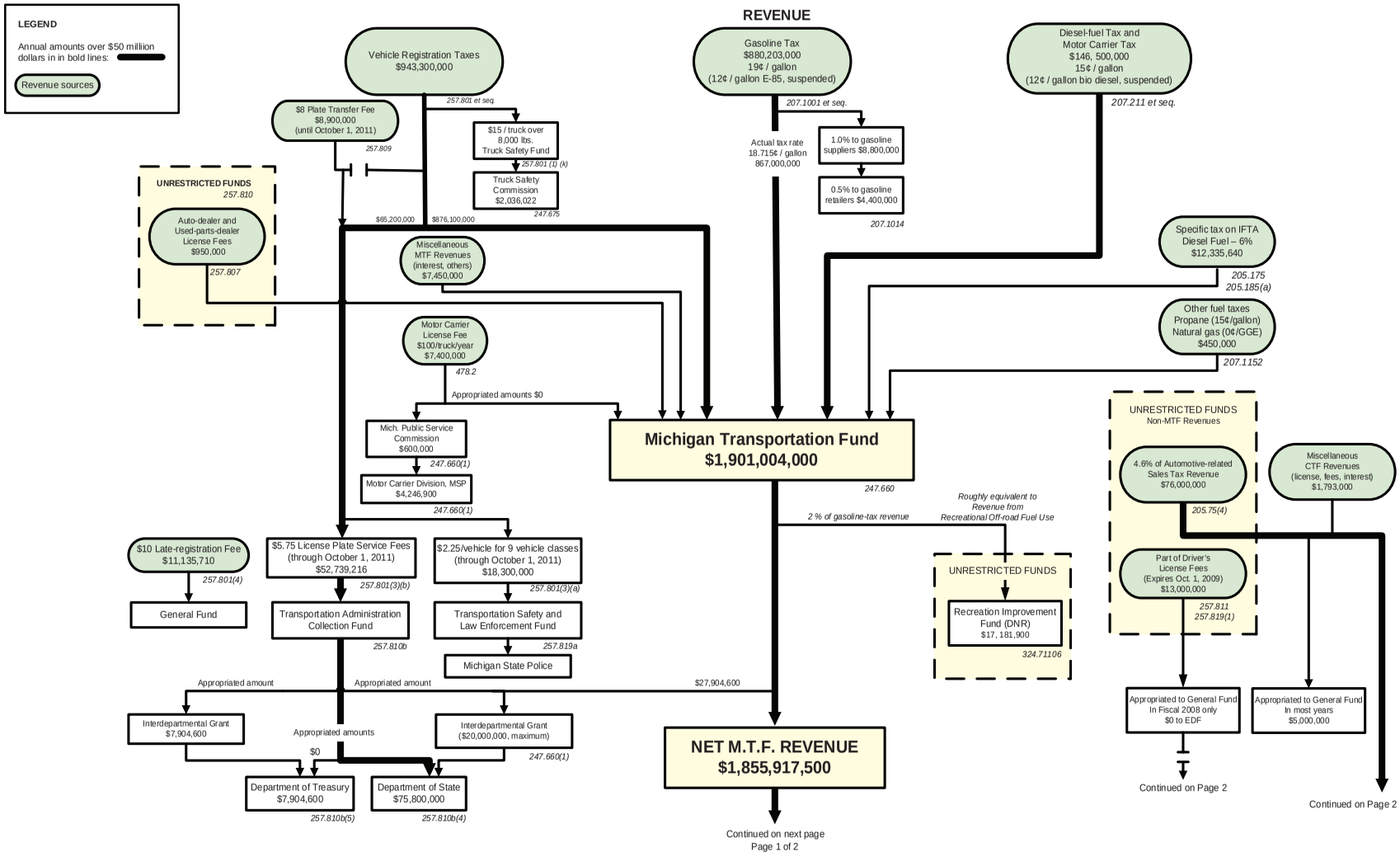
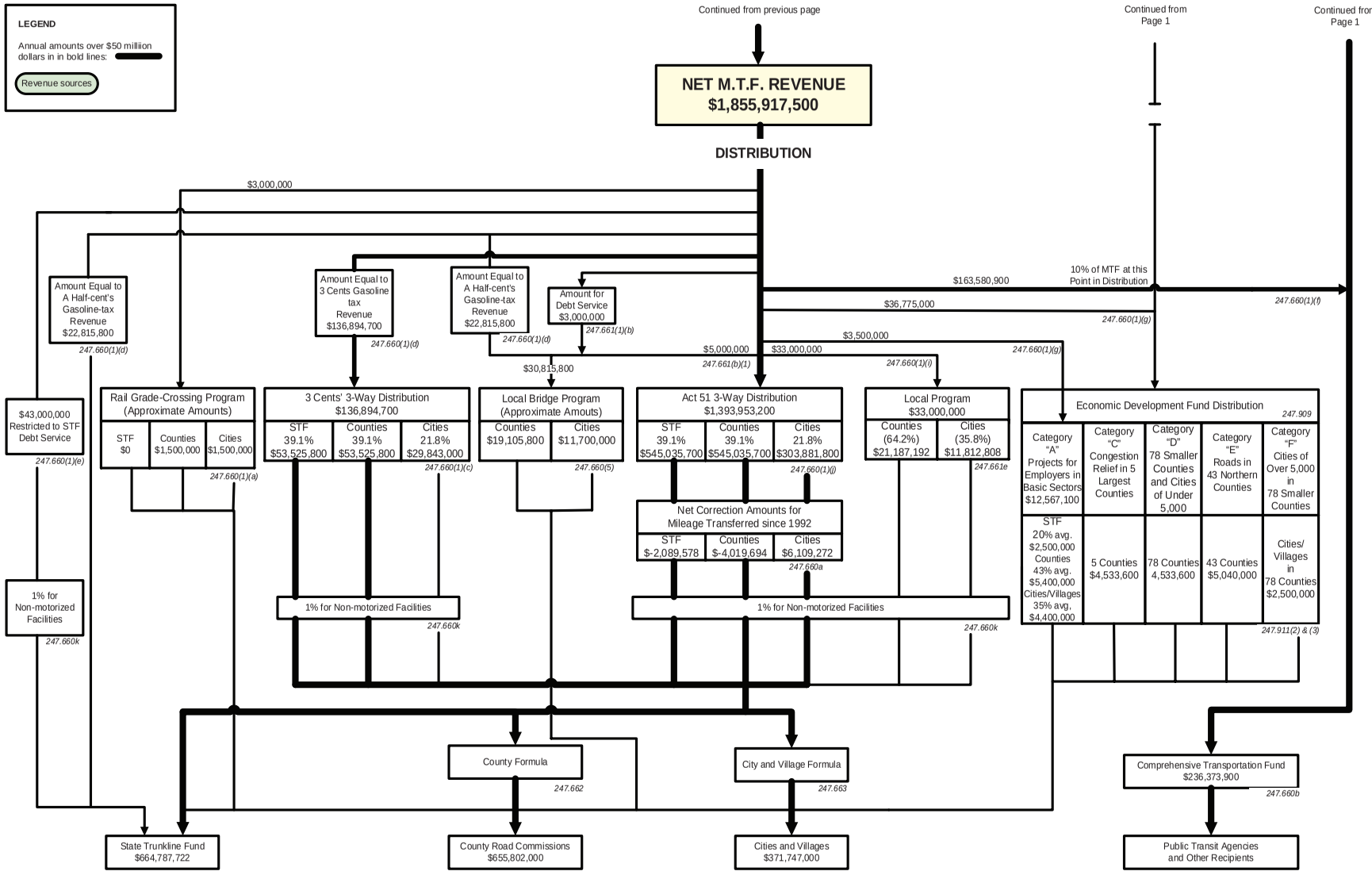
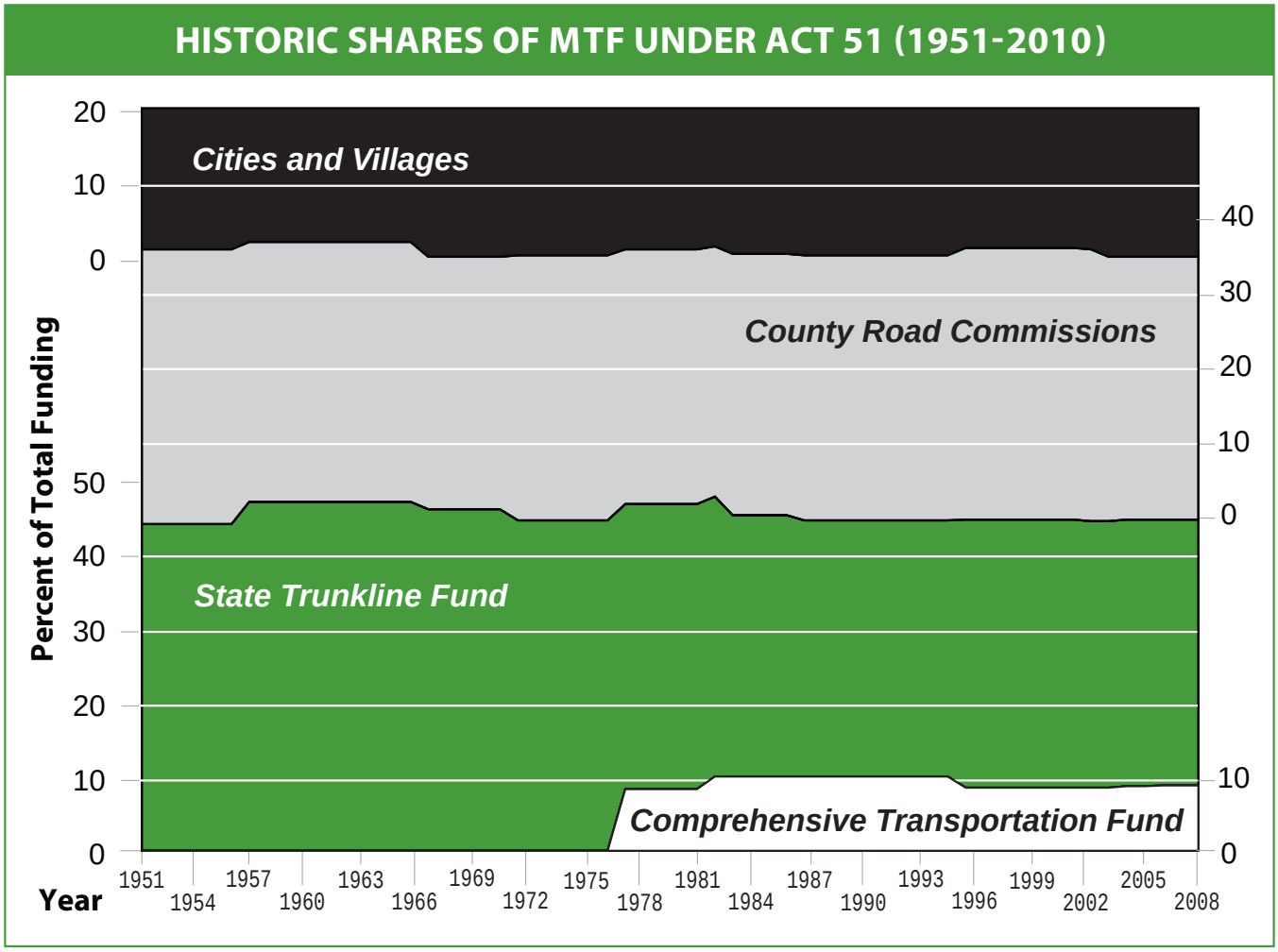


Figure 4.2 A



Effective 4-way Distribution of MTF only	*35.8%*		*35.3%*		*20.0%*		*8.8%*	
Effective 4-way Distribution of All State Transportation Revenues	*34.4%*		*33.9%*		*19.2%*		*12.4%*	

Figure 4.2 B



As noted in the previous "Brief History of Michigan Transportation Finance" section, Act 51 has been changed a number of times over the years. Each change, with the exception of creating the Comprehensive Transportation Fund, has made barely perceptible shifts in shares of funding (see Figure 4.2 B). So while there have been many changes, those changes have not fundamentally changed the distribution of transportation funding in the state.

Act 51 Formula Details

As noted above, the 3-way distribution of road and bridge funds among state, county and local roads is most commonly referred to in Act 51 as "the formula." In actuality, there is no single formula. Rather, "the formula" is the result of about 10 major standing appropriations from the MTF, and some other adjustments and restrictions. Here is a brief description of the items on the formula flow chart.

Comprehensive Transportation Fund — The CTF receives up to 10 percent of the MTF, except that an amount equal to 4 cents gasoline tax revenue plus $46,000,000 is distributed before calculating the 10 percent (see Figure 4.2 A). This reduces the effective CTF share to about 8.8 percent of the MTF. Roughly $160 million/year is available for public transportation and intercity passenger and freight programs. This provides about 70 percent of CTF revenue, the rest being auto-related sales tax. Within the CTF portion of Act 51 there are additional statutory formula and distribution requirements which are described later in this report.

Three cents' 3-way distribution – An amount equal to 3 cents' gasoline-tax revenue is deducted before the CTF share is calculated. It is divided among road agencies according to the 3-way roads formula: 39.1 – 39.1 – 21.8 percent to the STF, counties, and cities and villages.

One-cent's bridge distribution – An amount equal to 1 cent's gasoline-tax revenue is divided equally between the STF (restricted to trunkline bridges) and the Local Bridge Program.

$43,000,000 for STF – This amount is appropriated each year to the STF, restricted to debt service. (This is not the total of state trunkline debt service.)

Rail Grade Crossing Program – This program makes $3,000,000/year available for safety improvements at railroad crossings.

The following appropriations are made after the share for the CTF is deducted:

Local Road Program – This appropriation originated when the point of gasoline-tax collection was changed from retailers to fuel distributors. It was thought that this yielded an additional $33 million a year, but the new revenue was appropriated only to counties and cities and villages, not state trunklines.

Local Bridge Program – Three appropriations fund this grant program: $5,000,000/year, $3,000,000 for bridge debt service, and an amount equal to half a cent's gasoline-tax revenue. In sum, they provide $30 million a year which is expended by Regional Bridge Councils for bridges on local roads, according to the priorities set among local agencies.

WHICH FORMULA ARE WE TALKING ABOUT?

The "Act 51 Formula" – The total of appropriations in Act 51 that together allocate the Michigan Transportation Fund among four programs: the Comprehensive Transportation Fund (for transit), the State Trunkline Fund (for state highways), county roads, and city and village streets. This formula is show in Figure 4.2 A.

County and City and Village Formulas – The shares of the MTF for county road commissions and city and village streets are further divided among the counties and cities and villages by two other formulae, one for counties and one for cities and villages. These formulas are illustrated in figures 4.2 C and 4.2 D, respectively.

The Transit Formula – The formula in Act 51 for distribution of the Comprehensive Transportation Fund for "local bus (transit) operating assistance" to eligible transit agencies. In addition to this transit formula, there are a number of statutory distribution requirements in Act 51 that guide use of the CTF. The distribution requirements for the CTF are shown in Figure 4.2 E.

Transportation Economic Development Fund — The TEDF consists of two grant programs and three sub-formulas:

- Category "A" awards $12,567,100/year in grants to county roads, city streets, or state highways for projects associated with new employment in basic industries.
- Category "C" is a formula delivering $4,533,600/year to the 5 largest counties for projects remedying congestion. (There is no Category "B.")
- Category "D" distributes $4,533,600/year to the 78 smallest counties and cities under 5,000 population. These funds are expended according to priorities set by multi-county Rural Task Forces, since the amounts appropriated to individual counties and cities are too small to be of use to the recipients until aggregated into larger projects.
- Category "E" delivers $5,040,000 to increase the Act 51 distribution to 43 northern Michigan counties with more than a certain percentage of federal forest land.
- Category "F" awards $2,500,000' in grants to cities and villages over 5,000 population in the 78 smallest counties.

3-way roads distribution – this 39.1 (MDOT) – 39.1 (counties) – 21.8 (cities/villages) division is the descendent of the original 44 – 37 – 19 formula of 1951, and it still distributes the majority of the MTF. After all other appropriations have been made, this central part of the formula distributes about $1.4 billion/year.

Restrictions

Not less than 90 percent of the amounts distributed to the STF, counties, and cities and villages must be used for road preservation (as opposed to new construction).

Of the amounts distributed to the STF, counties, and cities and villages, an average of one percent must be spent on projects benefiting non-motorized travel (sidewalks in cities, non-motorized paths, and bike paths).

Transferred Mileage

Before distributions are made under the 3-way formula, amounts are calculated to account for road miles transferred among state highways, county roads, and city and village streets. These "takeovers and turnbacks" of state highways and local roads must be accompanied by a transfer of funds lest agencies be penalized by assuming responsibility for road mileage that the formula would not compensate them for (because the percentages do not change when system size changes). Each year the "revenue worth per mile" of each class of road is calculated, and individual counties, cities and villages, or MDOT are awarded this amount for each mile that has changed hands since 1992.

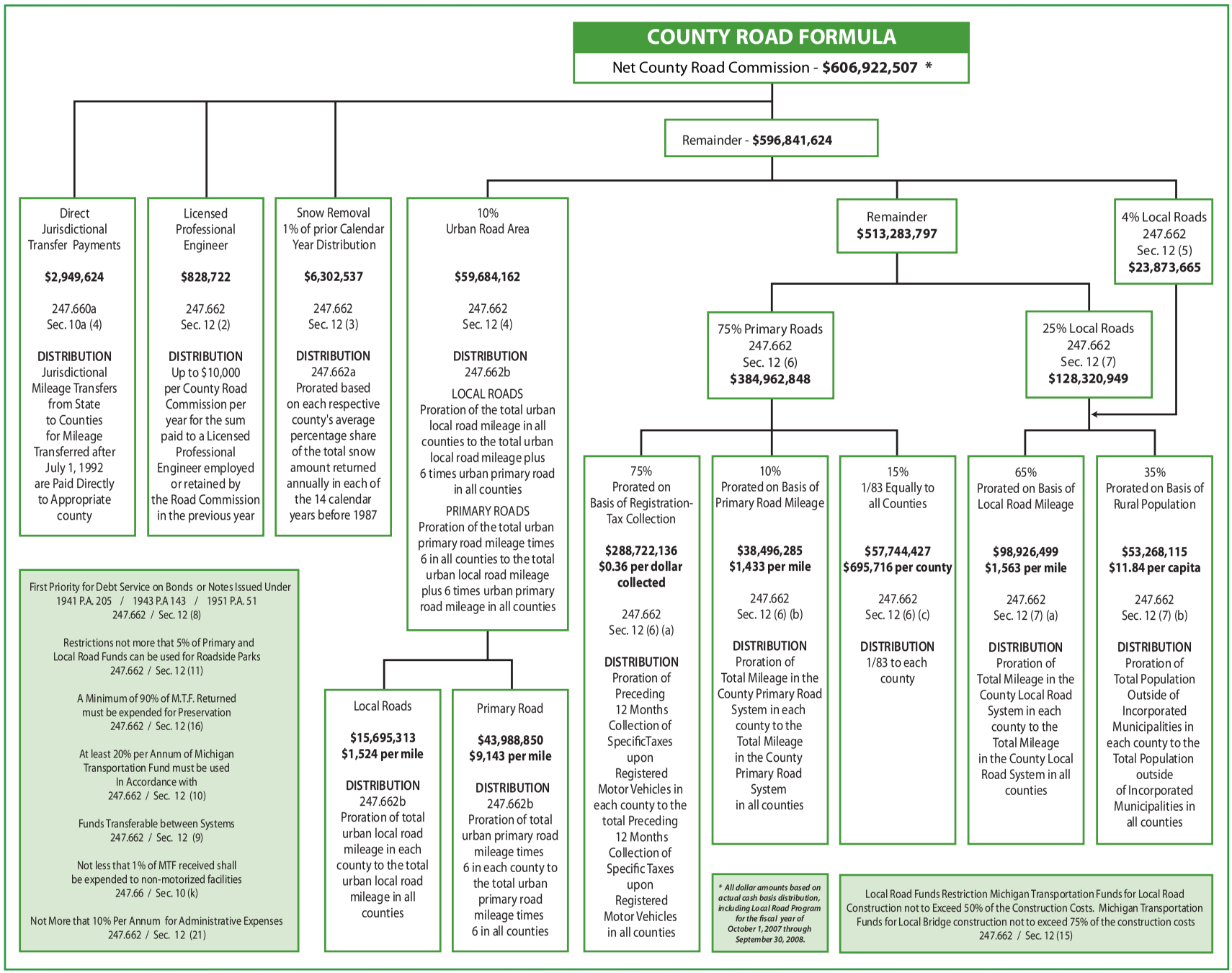
County Road Formula

Figure 4.2 C shows the factors used in appropriating Act 51 distributions among Michigan's 83 county road commissions (or other agencies in charter counties not having a road commission).

The formula is a series of nested percentages based on 5 factors. The formula is divided among urban and other areas, and between primary and local roads.

The relative weight of the 5 factors can be understood by multiplying the various percentages to see what weight each factor has:

COUNTY ROAD FORMULA FACTOR WEIGHTS	
Value of resident vehicles	47.9%
Centerline mileage	32.7%
1/83 equal share	9.6%
Per capita	8.8%
Snowfall	0.7%
Mileage transferred	0.2%


COUNTY ROAD FORMULA
Net County Road Commission - $606,922,507 *
Remainder - $596,841,624
Direct Jurisdictional Transfer Payments
$2,949,624
247.660a
Sec. 10a (4)
DISTRIBUTION
Jurisdictional Mileage Transfers from State to Counties for Mileage Transferred after July 1, 1992 are Paid Directly to Appropriate county
Licensed Professional Engineer
$828,722
247.662
Sec. 12 (2)
DISTRIBUTION
Up to $10,000 per County Road Commission per year for the sum paid to a Licensed Professional Engineer employed or retained by the Road Commission in the previous year
Snow Removal 1% of prior Calendar Year Distribution
$6,302,537
247.662
Sec. 12 (3)
DISTRIBUTION
247.662a
Prorated based on each respective county's average percentage share of the total snow amount returned annually in each of the 14 calendar years before 1987
10% Urban Road Area
$59,684,162
247.662
Sec. 12 (4)
DISTRIBUTION
247.662b
LOCAL ROADS
Proration of the total urban local road mileage in all counties to the total urban local road mileage plus 6 times urban primary road in all counties
PRIMARY ROADS
Proration of the total urban primary road mileage times 6 in all counties to the total urban local road mileage plus 6 times urban primary road mileage in all counties
Local Roads
$15,695,313
$1,524 per mile
DISTRIBUTION
247.662b
Proration of total urban local road mileage in each county to the total urban local road mileage in all counties
Primary Road
$43,988,850
$9,143 per mile
DISTRIBUTION
247.662b
Proration of total urban primary road mileage times 6 in each county to the total urban primary road mileage times 6 in all counties
Remainder
$513,283,797
4% Local Roads
247.662
Sec. 12 (5)
$23,873,665
75% Primary Roads
247.662
Sec. 12 (6)
$384,962,848
25% Local Roads
247.662
Sec. 12 (7)
$128,320,949
75%
Prorated on Basis of Registration-Tax Collection
$288,722,136
$0.36 per dollar collected
247.662
Sec. 12 (6) (a)
DISTRIBUTION
Proration of Preceding 12 Months Collection of SpecificTaxes upon Registered Motor Vehicles in each county to the total Preceding 12 Months Collection of Specific Taxes upon Registered Motor Vehicles in all counties
10%
Prorated on Basis of Primary Road Mileage
$38,496,285
$1,433 per mile
247.662
Sec. 12 (6) (b)
DISTRIBUTION
Proration of Total Mileage in the County Primary Road System in each county to the Total Mileage in the County Primary Road System in all counties
15%
1/83 Equally to all Counties
$57,744,427
$695,716 per county
247.662
Sec. 12 (6) (c)
DISTRIBUTION
1/83 to each county
65%
Prorated on Basis of Local Road Mileage
$98,926,499
$1,563 per mile
247.662
Sec. 12 (7) (a)
DISTRIBUTION
Proration of Total Mileage in the County Local Road System in each county to the Total Mileage in the County Local Road System in all counties
35%
Prorated on Basis of Rural Population
$53,268,115
$11.84 per capita
247.662
Sec. 12 (7) (b)
DISTRIBUTION
Proration of Total Population Outside of Incorporated Municipalities in each county to the Total Population outside of Incorporated Municipalities in all counties
First Priority for Debt Service on Bonds or Notes Issued Under 1941 P.A. 205 / 1943 P.A 143 / 1951 P.A. 51
247.662 / Sec. 12 (8)
Restrictions not more that 5% of Primary and Local Road Funds can be used for Roadside Parks
247.662 / Sec. 12 (11)
A Minimum of 90% of M.T.F. Returned must be expended for Preservation
247.662 / Sec. 12 (16)
At least 20% per Annum of Michigan Transportation Fund must be used In Accordance with
247.662 / Sec. 12 (10)
Funds Transferable between Systems
247.662 / Sec. 12 (9)
Not less that 1% of MTF received shall be expended to non-motorized facilities
247.66 / Sec. 10 (k)
Not More that 10% Per Annum for Administrative Expenses
247.662 / Sec. 12 (21)
* All dollar amounts based on actual cash basis distribution, including Local Road Program for the fiscal year of October 1, 2007 through September 30, 2008.
Local Road Funds Restriction Michigan Transportation Funds for Local Road Construction not to Exceed 50% of the Construction Costs. Michigan Transportation Funds for Local Bridge construction not to exceed 75% of the construction costs
247.662 / Sec. 12 (15)

The dominant factor in the county distribution is the value of vehicle registrations "resident" in each county. For the most part this means automobiles and light trucks registered under the ad valorem registration tax, which is based on the list price of each vehicle. It also includes weight-based registration taxes on trucks above 10,000 lbs., if the trucks are registered at an address in a county. Registration taxes on commercial vehicles not associated with a Michigan address are distributed in proportion to the resident vehicles.

Most of the rest of the county formula is accounted for by centerline mileage (i.e. route miles). Not all miles are equally valuable. Primary-road miles are accorded roughly three quarters of the weighting and there is a separate sub-formula for miles within the urban area.

WEIGHTING OF PRIMARY ROADS IN COUNTY FORMULA	
Primary roads	71.9%
Local roads	28.1%

Factors NOT Included

Other variables could conceivably be used to apportion county-road funds: federal functional classification, auto- and truck-miles traveled, number of bridges, fuel used, or other measures. These alternatives will be described in later sections of the report.

Restrictions

Not more than 10 percent of distributions may be used for administrative expenditures. As with all Act 51 road distributions, at least 90 percent must be used for preservation, and an average of one percent must be spent for non-motorized facilities.

Funds distributed on the basis of primary-road mileage must be used on the primary-road system, except that up to 30 percent of each year's primary-road funds may be transferred to the local system, and 15 percent of local-road funds may be transferred to the primary system.

City and Village Road Formula

Figure 4.2 D shows the formula used to divide the city and village share among Michigan's 533 cities and villages for their streets.

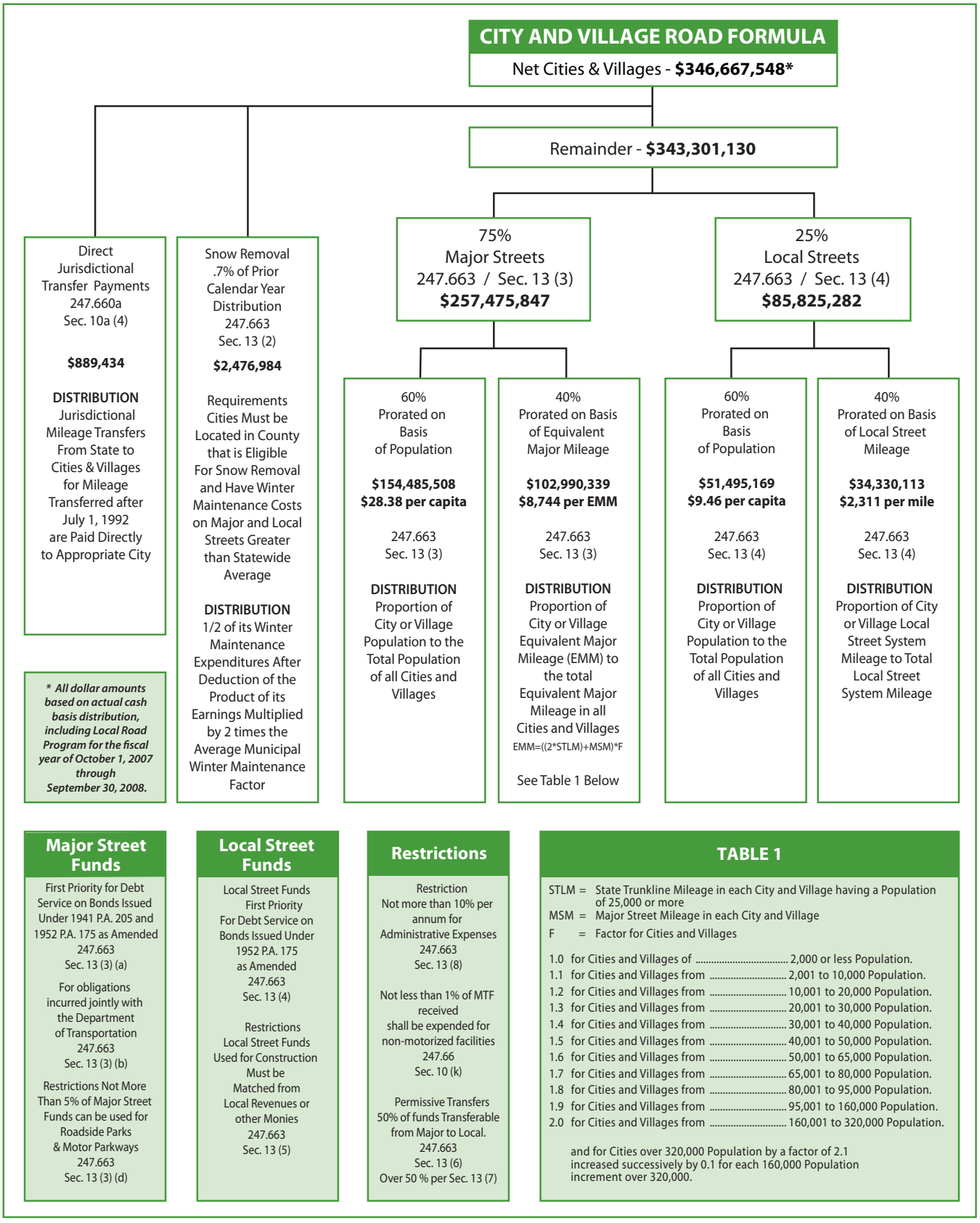
This is a simpler formula than the county road formula, dividing the share 75 percent for major streets and 25 percent for local streets, and then apportioning the distribution among cities and villages in proportion to population (60 percent) and street mileage (40 percent), except that mileage of state trunkline in each city is multiplied by two and included in the major-street mileage, and major-street mileage is multiplied by a factor that increases with population. Also, 0.7 percent is set aside for snow removal in certain eligible counties. Population accounts for over 60 percent of each city and village's distribution from the city and village share.

Restrictions

Several restrictions to city and village Act 51 funding should be noted:

- Local-street funds used for construction of new streets must be matched by an equal amount from local sources.
- Not more than 50 percent of major-street funds may be transferred to use on local streets unless an asset management plan is in effect, in which case unlimited transfers are permitted.
- Administrative expenditures are restricted to 10 percent.
- 90 percent must be used for preservation.

Figure 4.2 D



Major Street Funds

First Priority for Debt Service on Bonds Issued Under 1941 P.A. 205 and 1952 P.A. 175 as Amended 247.663 Sec. 13 (3) (a)

For obligations incurred jointly with the Department of Transportation 247.663 Sec. 13 (3) (b)

Restrictions Not More Than 5% of Major Street Funds can be used for Roadside Parks & Motor Parkways 247.663 Sec. 13 (3) (d)

Local Street Funds

Local Street Funds First Priority For Debt Service on Bonds Issued Under 1952 P.A. 175 as Amended 247.663 Sec. 13 (4)

Restrictions Local Street Funds Used for Construction Must be Matched from Local Revenues or other Monies 247.663 Sec. 13 (5)

Restrictions

Restriction Not more than 10% per annum for Administrative Expenses 247.663 Sec. 13 (8)

Not less than 1% of MTF received shall be expended for non-motorized facilities 247.66 Sec. 10 (k)

Permissive Transfers 50% of funds Transferable from Major to Local. 247.663 Sec. 13 (6) Over 50 % per Sec. 13 (7)

TABLE 1

STLM = State Trunkline Mileage in each City and Village having a Population of 25,000 or more
MSM = Major Street Mileage in each City and Village
F = Factor for Cities and Villages

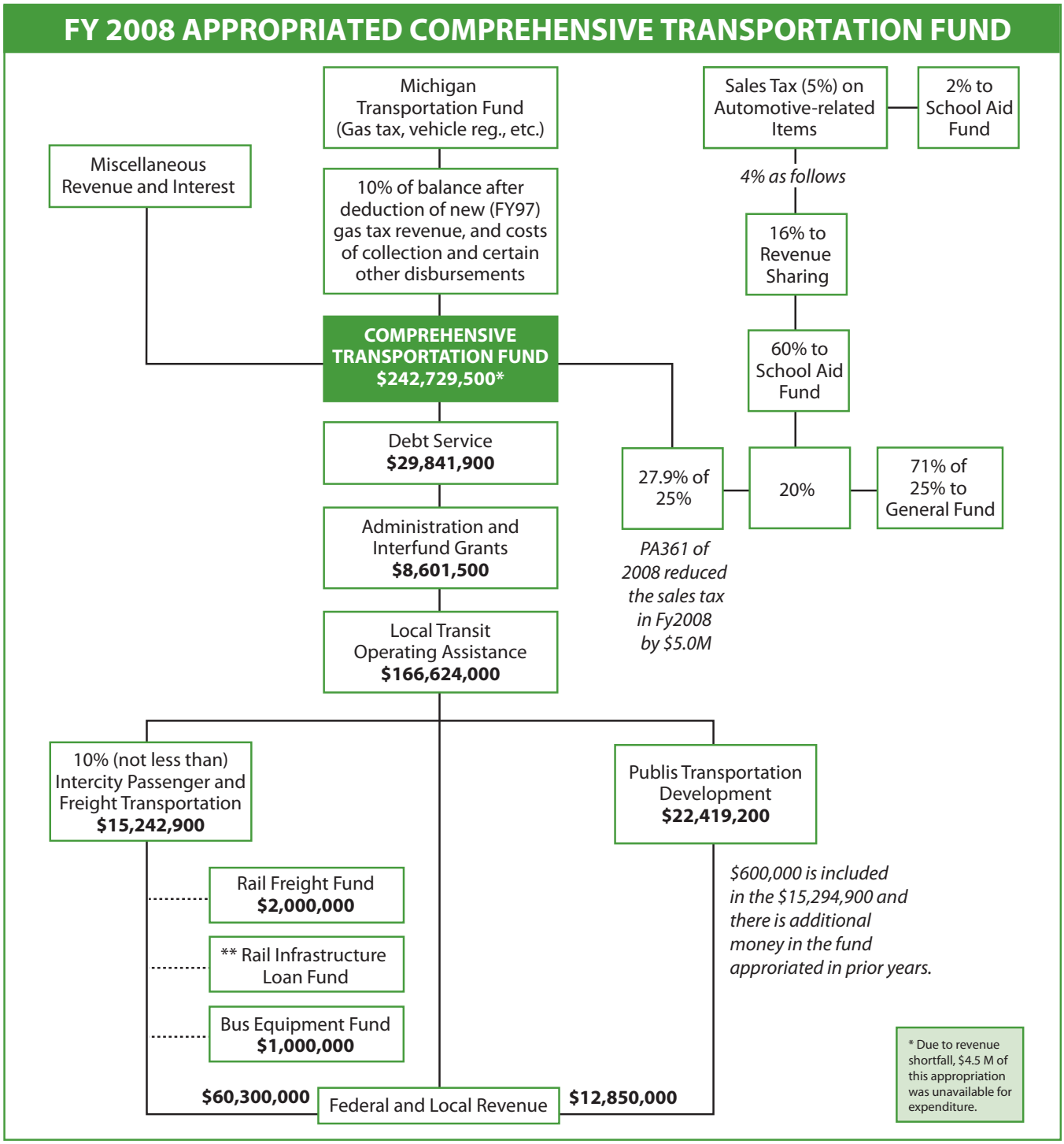
1.0	for Cities and Villages of	2,000 or less Population.
1.1	for Cities and Villages from	2,001 to 10,000 Population.
1.2	for Cities and Villages from	10,001 to 20,000 Population.
1.3	for Cities and Villages from	20,001 to 30,000 Population.
1.4	for Cities and Villages from	30,001 to 40,000 Population.
1.5	for Cities and Villages from	40,001 to 50,000 Population.
1.6	for Cities and Villages from	50,001 to 65,000 Population.
1.7	for Cities and Villages from	65,001 to 80,000 Population.
1.8	for Cities and Villages from	80,001 to 95,000 Population.
1.9	for Cities and Villages from	95,001 to 160,000 Population.
2.0	for Cities and Villages from	160,001 to 320,000 Population.

and for Cities over 320,000 Population by a factor of 2.1 increased successively by 0.1 for each 160,000 Population increment over 320,000.

Public Transportation

The Comprehensive Transportation Fund (CTF) provides for public transportation including financial assistance to local transit operators through a number of programs defined in Act 51 or MDOT's annual appropriation. The CTF receives funds from several sources, with the Michigan Transportation Fund (MTF) providing roughly 70 percent (see Figure 4.2 E). Article IX, Section 9 of the Michigan Constitution allows up to 10 percent of vehicle fuel and regis-

Figure 4.2 E



tration taxes to be used for public transportation programs. As described above, Act 51 appropriates about 8.8 percent of the MTF to the CTF.

The other major revenue source for the CTF is 4.65 percent of sales-tax revenue from automotive-related businesses. Because this revenue source is not dedicated to transportation by the Constitution, the amount of sales-tax revenue appropriated to the CTF has been reduced in some years and the funds transferred to the General Fund or the STF, typically $5 to $25 million/year.

Statute's Role in Funding Distribution for the CTF

Appropriations from the CTF are guided by estimated revenues and the requirements in Act 51 of 1951. Act 51 requires the CTF to be distributed in the following priority:

1. Debt service obligations
2. Cost of administration
3. Local bus operating assistance
4. Other programs

Act 51 mandates a minimal level of funding for several CTF funded programs, although there have been fiscal years that the annual appropriations bill did not abide by these minimums. The programs and their funding floors are:

- Local bus operating assistance at FY 1997 levels, which equals $121,332,410
- 10% of program funds for intercity passenger and freight programs
- $3,600,100 for specialized services,
- $2,000,000 for municipal credit, and
- $8,000,000 for bus capital federal match.

A brief summary of the four largest local transit CTF programs follows. The largest of these programs—over 80 percent of the annual CTF appropriation—is local bus operating assistance which is described last. This is the only CTF program distributed by statutory formula.

Bus Transit Capital

This is the largest program under "Public Transportation Development" as shown in Figure 4.2 E. Act 51 requires that no less than $8,000,000 be distributed each fiscal year either to match federal aid for local bus capital projects, or for 100 percent of the cost of capital projects by authorities not able to receive federal aid. The actual amount is fixed by the annual appropriations process and has been less than the $8,000,000 minimum in Act 51. Act 51 requires MDOT to use the CTF to provide the match for federal transit grants awarded to MDOT or to local agencies. While Act 51 requires MDOT to provide 66-2/3rds of the required match, historically MDOT has provided all of the required match, although since FY2005 MDOT has had to use toll revenue credits to meet the CTF's match obligations. MDOT distributes CTF match in response to federal grants, so the amount of CTF each agency receives is a function of the federal funds they receive that must be matched.

Transportation to Work

This is one of the programs under "Public Transportation Development" as shown in Figure 4.2 E. The size of this program is governed by annual appropriation. Annual appropriations bills require that sufficient funds be distributed to match federal Job Access Reverse Commute (JARC) grants to local transit agencies. JARC grants are distributed by a competitive grant process managed by regional planning agencies for large urban areas, and by the state for small urban agencies and non-urbanized areas. MDOT determines the amount of CTF Transportation to Work funds each agency will receive each year as a direct function of the amount of federal JARC assistance each agency receives.

Specialized Services

This is one of the programs under "Public Transportation Development" as shown in Figure 4.2 E. Act 51 defines "specialized services" as public transportation primarily designed for persons with disabilities or persons 65 years of age or older. The Act dictates eligible recipients of this class of funding.

The size of this program is governed by annual appropriation, however, Act 51 requires at least $3,600,100 in CTF funds be provided for this program each year. MDOT conducts an annual application

process for these funds consistent with Act 51. Since funding for this program has remained relatively static, MDOT distributes funding to maintain existing services from year to year. For most agencies, the amount of funding they receive each year does not change.

State Operating Assistance/Local Bus Operating

Under Section 10e of Act 51, after debt service and administration, the first priority for the CTF shall be "the payment of operating grants to eligible authorities and eligible governmental agencies." In Fiscal 2009, 82 percent of the CTF program appropriations were for local transit operating assistance.

Act 51 establishes a formula for distribution of CTF funds appropriated for local transit operating assistance. Under this transit formula, Act 51 establishes two "peer groups" based on population. It also establishes different maximum levels of assistance to each group:

- Urban areas with populations over 100,000—up to 50 percent of eligible operating expenses. Currently there are 9 agencies in 7 urban areas in this group.
- Urbanized areas with populations under 100,000 and non-urbanized areas—up to 60 percent of eligible operating expenses. Currently there are 75 transit agencies and local governments in this group.

Act 51 fixes maximum distribution rates for each group (50% and 60%). However, the amount appropriated for operating assistance has never been sufficient to meet these maximums, so MDOT must calculate each year's distribution rate for the two groups based on budgeted and actual operating expenses (accounted for as prescribed by MDOT). Each group's share of the appropriation is divided by that group's total eligible expenses to come up with the percentage of the appropriation that will be distributed to each agency in that group. In Fiscal 2010, the distribution rates are 25.7 percent for the "50% group" and 35.0 percent for the "60% group."

A complete description of how the operating assistance amount is calculated is available as Appendix A to this report.

CTC & Associates LLC (CTC) was hired by MDOT to review and summarize information from the Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), Transportation Research Board (TRB) and other authoritative sources regarding state formulae, statutes and practices for distributing transportation revenue. In addition, CTC conducted an online survey of state departments of transportation (DOTs) regarding distribution of transportation revenue. Twenty-three agencies responded to the survey. CTC followed up with telephone interviews of targeted states to gain further understanding of their practices regarding distribution of transportation revenue. The following section summarizes their findings from the survey of targeted states. The complete report can be found in Appendix B.

FINDINGS

The 23 state DOTs who responded to the survey are employing a wide range of revenue sources and factors to determine the allocation of funding for their surface transportation programs.

Allocation of Road User Fees

- The most commonly reported problem associated with transportation funding systems is an overall lack of funding, not a systemic flaw in distribution formulae.
- Allocations of road-user fees for state highways ranged from 100 percent (West Virginia) to 25.37 percent (Oklahoma).
- County road allocations ranged from 40.5 percent (Kentucky) to zero percent (Georgia, Maine, North Carolina and West Virginia); city and village street allocations ranged from 30.5 percent (Arizona) to zero percent (Delaware, Texas and West Virginia).
- Where an allocation of road user fees for public transit was noted, all but one of the percentage allocations is under 10 percent, ranging from 6.4 percent (Wisconsin) to zero percent (Illinois, Indiana and Ohio). At 43 percent, New Jersey's percentage allocation for transit is a notable exception. Oklahoma's allocation of 54.85 percent to "other non-transportation uses" was the highest reported by respondents.

Revenue Sources

- More than one-third of respondents (39 percent) do not use large sources of revenue other than road-user fees to fund their transportation programs.
- Almost two-thirds of respondents (60 percent) reported using large sources of revenue other than road user fees to fund their transportation program.
- Other funding sources reported by the remaining respondents included: tolls, general revenue funds, gambling revenues, state sales and use taxes, state corporate income taxes, bond revenues, and local sales option taxes.

FACTORS USED TO DISTRIBUTE ROAD FUNDING

- Almost three quarters of respondents (72 percent) reported no recent changes to their distribution formulae.
- The factors for distribution of road and bridge funding currently used by the most respondents are road performance indicators (50 percent) and federal Functional Classification (46 percent).
- Five states - Iowa, Kansas, Maine, Missouri and Utah - report using Vehicle Miles Traveled (VMT) to allocate funding among geographic areas or road systems.
- Other distribution factors not noted above that agencies are using or considering using vary widely, and include capacity, condition, economic development, motor vehicle registrations, population, functional class, safety, congestion, and proportion of revenue contributed.

TRANSIT FUNDING SOURCES

The AASHTO publication "Survey of State Funding for Public Transportation," 2007, presents the results of AASHTO's annual public transportation funding survey of the 50 states and the District of Columbia. The report reflects FY 2006 funding. Data from the AASHTO report indicate that the 51 transportation departments distributed $11.1 billion in state transit funding in 2006. Total state funding for transit ranged from zero dollars (three states - Alabama, Hawaii and Utah - do not provide state funding for

transit) to $2.573 billion in state transit funding distributed by New York, followed by California's $2.208 billion. Michigan ranked 12th in terms of total state transit funding with $201 million, and 16th in terms of funding per capita based on the level of investment reported by all 51 departments.

The AASHTO report categorizes funding distribution methods as discretionary, formula-based, local pass-through, or other. Twenty-nine states reported the use of formula-based methods to distribute at least some transit funding and of these, eight states distribute 100 percent of state transit funding by formula. With $178 million and 88.6 percent of state transit funds distributed by formula, Michigan ranks seventh in terms of dollars of state transit funding distributed by formula and sixth in terms of the percentage of funds distributed by formula (the eight states distributing 100 percent of funds by formula are counted as one state).

Of the 29 states using formula-based distribution methods, 23 provided additional information about the formulae in use. According to the AASHTO report, methods in use by states include:

- Funds for operating, capital and planning expenses are distributed to cities, towns and counties based on population.
- 75 percent of funds are allocated to counties by population and 25 percent is retained by the state for interregional improvements.
- Funds are allocated to operators by regional planning agencies based on population, prior year fares and local revenues.
- 60 percent of funds are allocated evenly to all providers; 40 percent is distributed to local jurisdictions based on the elderly and disabled population.
- State funds are distributed to both rural and urban transit systems based on a percentage of the prior year's allocation.
- A statutory formula distributes funds to each county for public transportation operators in that county based on population and a base funding amount.
- 100 percent of state funds are allocated by formula - 80 percent needs and 20 percent performance.

In a survey of State DOTs conducted for this report, respondents were asked for information that clarified or corrected the information in the AASHTO publication. Ten respondents provided clarification or additional detail about their transit funding formulae:

- Rural area funds are distributed according to historical data and annual applications.
- The allocation of state transit funding is based on peer group and performance metrics that relate the number of passengers, miles of service and locally derived income to each dollar of operating expense.
- All transit systems that provide more than 50,000 rides a year are provided funding based on ridership numbers. Mileage is weighted for those systems with less than 50,000 rides per year as most of those systems are demand-response. Capital requests are competitive.
- The allocation formula for the program to assist the state's fixed-route transit systems in urbanized areas includes a performance component.
- Funding for transit aid is decided by the legislative biennial budget process, not formulae. Distribution of the funding to individual systems is based on a statutory tier structure, amount of funding available and a requirement that each system within a tier receives the same percentage of operating subsidy.

PROBLEMATIC ELEMENTS OF TRANSPORTATION FUNDING SYSTEMS

States reported a number of problematic elements in their funding systems. More than three-quarters of respondents (79 percent) reported that some interests feel a class of road or transit agency, or a geographic area, is systematically under-funded by the current distribution formula. Almost two-thirds (64 percent) of respondents noted one or more elements of their transportation funding systems were a source of chronic trouble or complaint.

Section 394 of the 2010 Transportation budget asked MDOT to provide an analysis of "alternative distribution strategies for state and local road and street programs, including distribution methods based on vehicle miles traveled as compared to lane miles."

ALTERNATIVES FOR ROAD FUNDING

For purposes of this study, two alternative road distribution formula scenarios were examined, the first substituting Annual Vehicle Miles Traveled (AVMT) into the county and city internal formulas, and the second substituting lane miles. Act 51 does not currently require that counties and municipalities certify AVMT and lane mile data to MDOT. To create these scenarios, estimates of AVMT and lane miles were made.

To generate the estimated funding distributions, the appropriate AVMT and lane mile data was substituted into the existing Act 51 distribution formulas wherever the existing factor – route mile data – appeared. Under current law, route mile data is certified by each county and municipal jurisdiction to MDOT, on an annual basis.

Generating AVMT Data

MDOT reports *estimates* of AVMT to the FHWA each year, through the Highway Performance Monitoring System (HPMS). This report is legally required and FHWA guidance is followed. Data collection for this effort typically costs MDOT approximately $4 million annually. As noted previously, AVMT is derived from Annual Average Daily Traffic (AADT) estimates. Three processes are currently used to generate the AADT estimates, for three types of road:

- *State trunkline.* Approximately 9,700 route miles are divided into roughly 4,000 traffic segments. Each segment has an AADT estimate based on a traffic study or traffic count conducted by MDOT over a two year period. A traffic count typically requires a mechanical device that counts the number of vehicles per day at a specific point along the roadway.
- *Federal-aid Highways (County or City jurisdiction).* Approximately 26,600 route miles are divided into roughly 16,000 traffic segments. Of these, traffic counts are conducted by metropolitan and regional planning organizations on about 2,500 sample segments over a three year period. As part of the HPMS reporting procedure, the resulting estimated AADT is used to estimate AVMT for this set of roads, using a sampling process. Non-sampled segments receive an estimated AADT which is either based on old traffic counts or an estimated count.
- *Non Federal-aid Highways.* There are approximately 83,600 route miles of this type of road. Estimated AADT reported through the HPMS process is not based on traffic counts. Rather, the figures are derived from old traffic estimates to which MDOT has applied an estimated annual growth rate over the years.

The references to estimates, sampling, and multi-year processes are emphasized in order to contrast AVMT data with route mile data, which is used in the current formula. Under current law, each county and municipality can and does measure and report (certify) route mile data for each roadway under respective jurisdiction. This self-reporting may result in minor errors. However, the current process for generating AVMT data is MDOT-driven, and relies heavily on estimates. The lower the functional class, the greater the reliance on estimates. This is largely a financial decision because data is expensive to collect. Traffic estimates are acceptable for transportation planning purposes, but individual county and municipal jurisdictions would likely challenge funding distribution based on these estimates. The non-annual nature of the AVMT data generating process would also likely be an issue.

As noted previously, the cost to collect sufficient data for planning purposes is approximately $4 million per year. To collect more refined data on which to base a revenue distribution formula would be very costly. One solution could be to place sufficient traffic counters to provide the AVMT data. MDOT estimates the cost of a single traffic count at $150. For all federal-aid highways, if traffic counts for each segment were captured, the total cost would be $3 million (20,000 segments x $150). For non federal-aid highways, the estimated number of segments ranges between 48,666 and 153,333, so the total cost would be between $7.3 million and $23 million.

Generating Lane Mile Data

Lane mile data is also reported by MDOT to HPMS. There are also differences in data generation, according to the same three road types as above:

- *State trunkline.* To support asset management and other business practices, MDOT collects information about every mile of state trunkline in a GIS-based digital inventory. One attribute of this file is lane miles; the lane mile inventory is updated yearly.
- Federal-aid Highways (County or City jurisdiction). Data for the lane mile attribute is collected annually during the Asset Management condition rating process, Pavement Surface Evaluation and Rating (PASER ratings).
- Non Federal-aid Highways. These roadways rarely have more than two lanes. Examples of such roadways are: residential streets in neighborhoods, and lightly traveled roads in the countryside. All roads of this type are estimated to have two lanes.

There is less estimating involved with lane mile data, compared to AVMT. For the Pavement Surface Evaluation and Rating System (PASER) ratings process, the county or municipality with jurisdiction over a given roadway may or may not be directly involved. The self-reporting aspect of the current route miles approach may be diminished with the lane mile approach.

RESULTS

Effects of AVMT and Lane Miles Approaches on Counties

Table 6.2 A compares changes to county distributions under the AVMT and Lane Mile scenarios for a sampling of counties.[1] Of the two approaches, substituting AVMT creates a greater redistribution of funding. Twelve counties would see estimated funding increases under the AVMT approach. Five counties, (Oakland, Wayne, Macomb, Genesee, and Livingston) would receive estimated increases ranging between 24 percent and 33 percent. Twenty-one counties are estimated to lose between 35 percent and 47 percent of their current Act 51 distributions. Figure 6.2 B shows the geographic distribution of estimated changes to distributions.

The method which substitutes lane miles for route miles produces less dramatic results. Eight counties would see funding increases under this scenario. Wayne County would receive the largest percentage increase (4%), followed by Newaygo, Macomb, Oakland, and Genesee, each with 2 percent increases. Ten counties' distributions would remain fairly static, and the remaining counties would see estimated funding decreases in the range of 1 percent to 4 percent. Figure 6.2 C shows the geographic distribution of estimated changes to distributions.

Effects of AVMT and Lane Miles Approaches on Cities and Villages

Table 6.2 D compares the AVMT and Lane Mile scenarios for a sampling of cities and villages.[2] Applying the AVMT approach to cities and villages produces results similar to the county results. A relatively small number of cities and villages (38 out of 533) would see increases under the AVMT approach, with eight seeing increases over 30 percent (seven in Southeast Michigan). Estimates show that over 100 cities and villages would lose half or more of their current funding. Figure 6.2 E shows the geographic distribution of estimated changes in Act 51 distributions.

As with the AVMT approach, 38 cities and villages would see increases under the Lane Miles approach, with the largest percentage increase going to Pontiac (13 percent), Lansing (8 percent), Roseville (8 percent), and Warren (7 percent). One hundred seventy-eight cities/villages would lose more than 10 percent of their current funding under this scenario. Figure 6.2 F shows the geographic distribution of estimated changes in Act 51 distributions.

Expanding the Alternative Scenarios

Either of the two above scenarios could be also expanded to include state trunkline to determine distributions among all Act 51-eligible agencies.

Under the AVMT approach, because state trunklines handle such a large proportion of traffic, MDOT would receive approximately half of all Act 51 distributions, reducing transportation funds to counties and cities dramatically, although cities with higher traffic volumes would be less impacted. Under the

[1] *Estimated Act 51 distributions for each county under the AVMT and lane miles scenarios are found in Appendix C.*

[2] *Estimated Act 51 distributions for each city and village under the AVMT and lane miles scenarios are found in Appendix C.*

Lane Miles approach, because the local-access road system accounts for such a large portion of the transportation network, an estimated 70 percent of the funding would be distributed to counties, with cities distributions accounting for another 17 percent, and trunklines receiving an estimated 12 percent of the MTF.

Any revision to the existing or new transportation funding distribution formula should entail a blended approach that takes into account the need to provide for both mobility and access, to adequately fund all modes, and to ensure stable and predictable levels of future funding. It must be developed using verifiable data at all levels of the system. Such an approach, where a formula uses multiple variables to maintain the transportation system in a way that reflects statewide transportation priorities, could be beneficial, provided the data were available, and sufficient resources on hand to ensure a smooth transit for all transportation agencies currently receiving funding.

Table 6.2 A

SAMPLING OF COUNTY ESTIMATED SHARES

AVMT vs. Lane Miles

		Annual Vehicle Miles Traveled			Lane Miles		
County	Orig. Act 51 Formula Share*	Estimated Share	$ Change	Percent Change	Estimated Share	$ Change	Percent Change
Oakland	$55,975,000	$74,223,000	$18,248,000	33%	$57,072,000	$1,097,000	2%
Wayne	$55,728,000	$70,684,000	$14,956,000	27%	$57,814,000	$2,086,000	4%
Macomb	$34,481,000	$44,303,000	$9,822,000	28%	$35,161,000	$680,000	2%
Genesee	$19,887,000	$24,682,000	$4,795,000	24%	$20,202,000	$315,000	2%
Kent	$27,335,000	$30,765,000	$3,430,000	13%	$27,678,000	$343,000	1%
Livingston	$11,119,000	$14,083,000	$2,964,000	27%	$10,948,000	($171,000)	-2%
Ottawa	$15,065,000	$15,651,000	$586,000	4%	$14,625,000	($440,000)	-3%
Washtenaw	$15,747,000	$16,241,000	$494,000	3%	$15,523,000	($224,000)	-1%
Kalamazoo	$12,145,000	$12,301,000	$156,000	1%	$11,953,000	($192,000)	-2%
Jackson	$10,042,000	$9,522,000	($520,000)	-5%	$9,863,000	($179,000)	-2%
Allegan	$7,565,000	$6,255,000	($1,310,000)	-17%	$7,530,000	($35,000)	0%
Montcalm	$5,054,000	$3,663,000	($1,391,000)	-28%	$5,031,000	($23,000)	0%
Cheboygan	$3,293,000	$1,882,000	($1,411,000)	-43%	$3,258,000	($35,000)	-1%
Menominee	$3,127,000	$1,697,000	($1,430,000)	-46%	$3,089,000	($38,000)	-1%
Newaygo	$4,509,000	$3,025,000	($1,484,000)	-33%	$4,605,000	$96,000	2%
Sanilac	$4,945,000	$2,766,000	($2,179,000)	-44%	$4,915,000	($30,000)	-1%

NOTE: Sorted by AVMT $ Change
NOTE: Numbers may not be precise do to rounding.
**Based on 2009 Act 51 distributions*

Figure 6.2 B

COUNTY ALTERNATIVE DISTRIBUTION

Substitute AVMT for Route Miles in Act 51 Formula

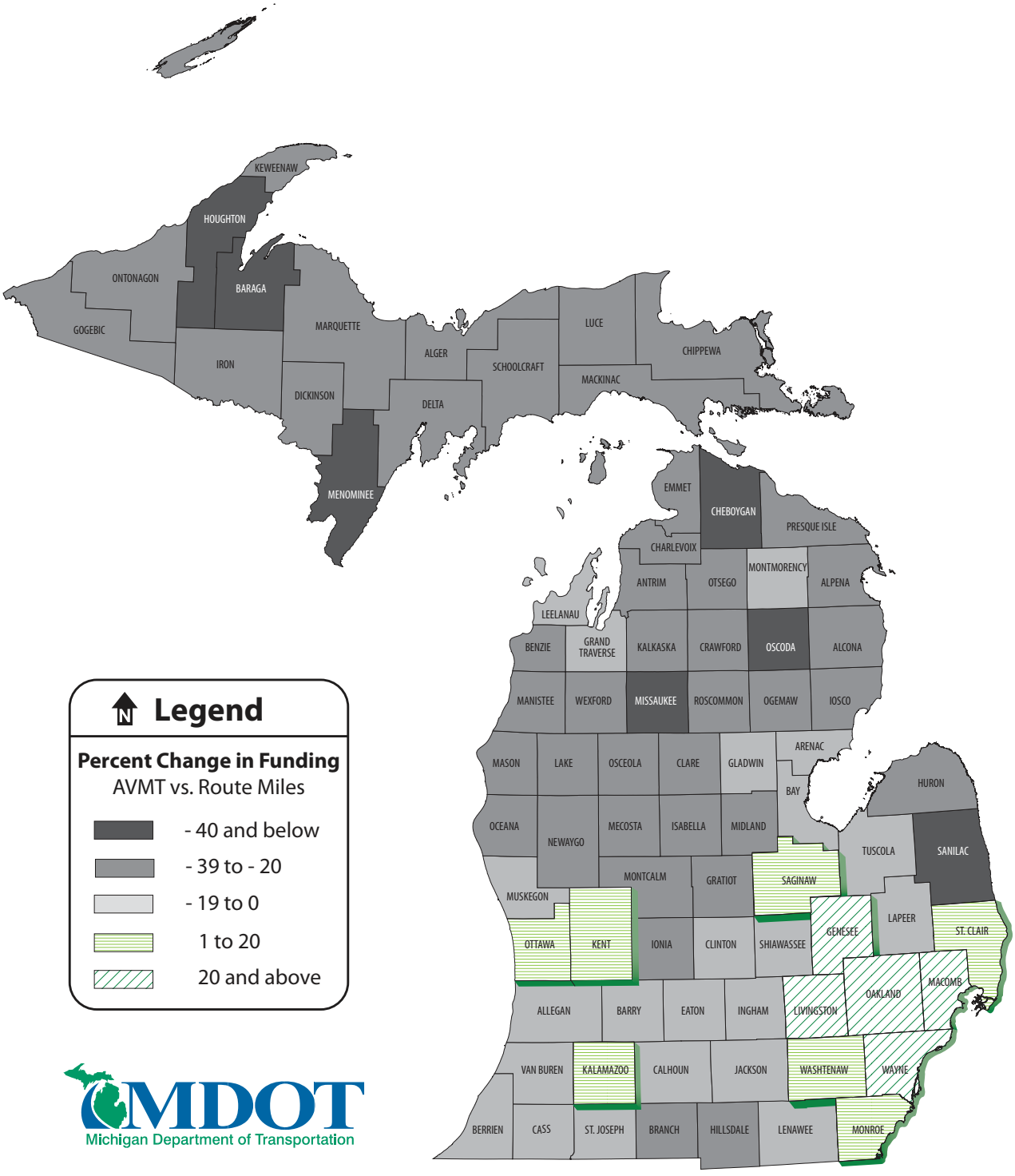


Figure 6.2 C

COUNTY ALTERNATIVE DISTRIBUTION

Substitute Lane Miles for Route Miles in Act 51 Formula

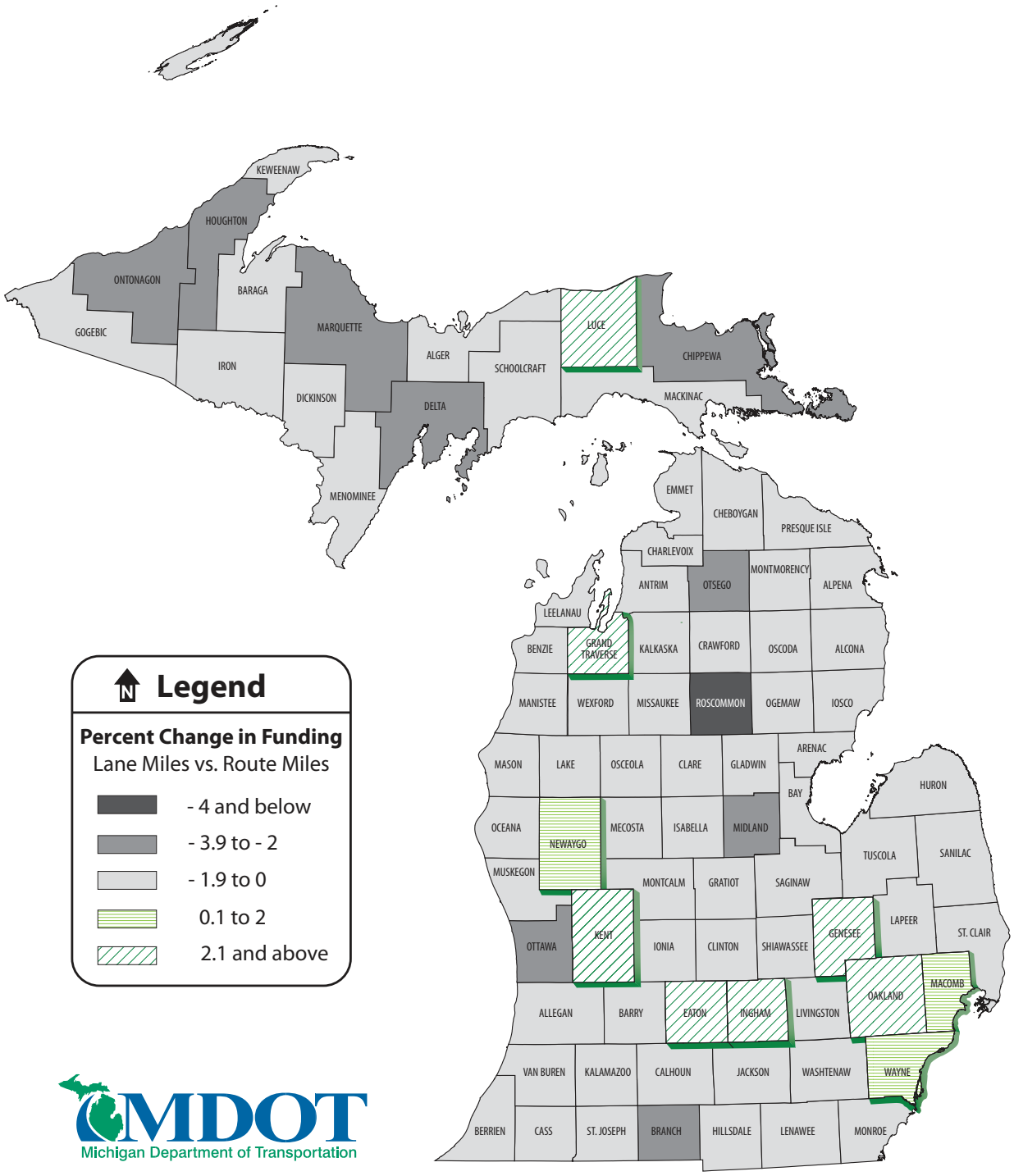


Table 6.2 D

SAMPLING OF CITY ESTIMATED SHARES

AVMT vs. Lane Miles

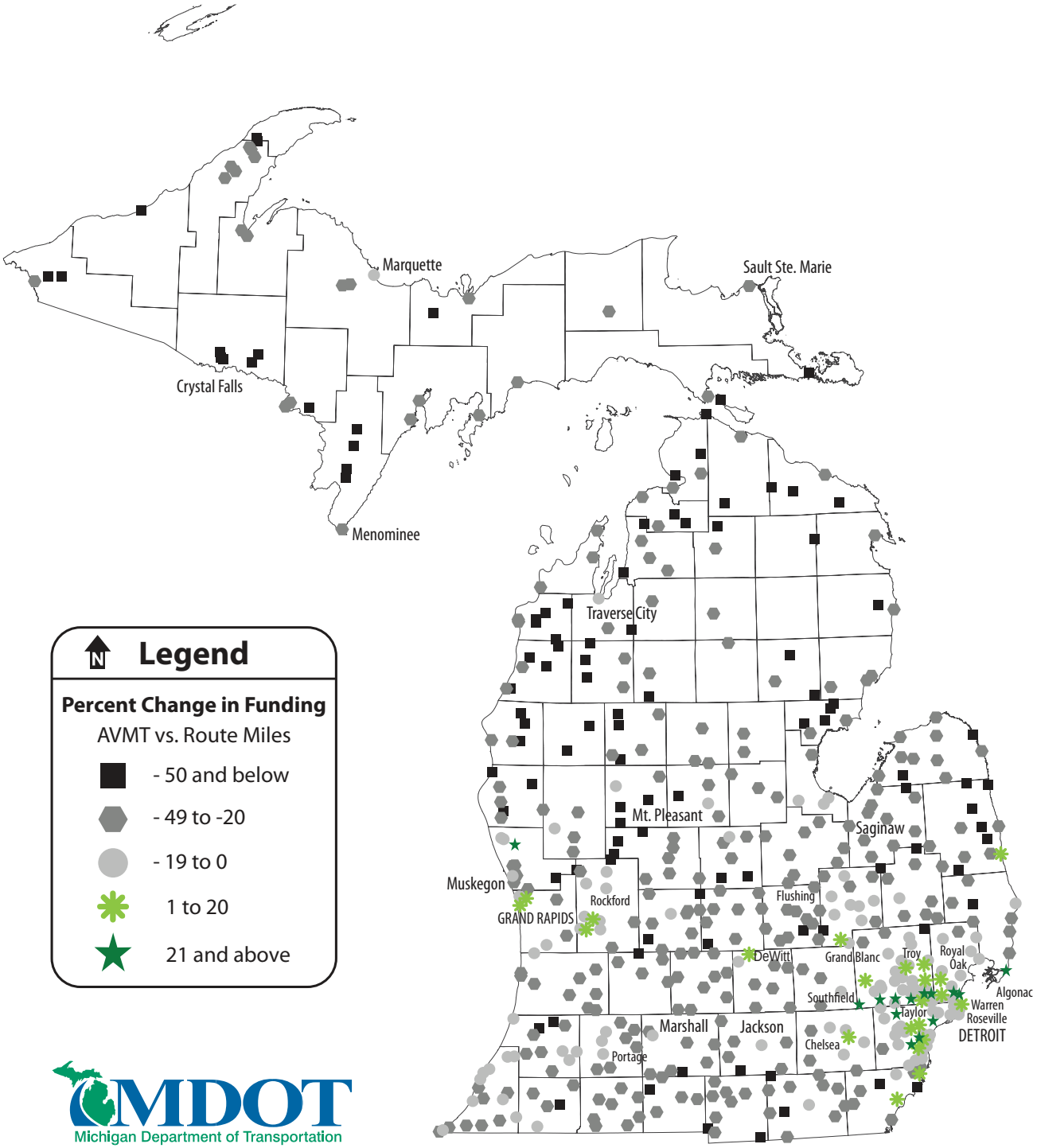
		Annual Vehicle Miles Traveled			Lane Miles		
City	Orig. Act 51 Formula Share*	Estimated Share	$ Change	Percent Change	Estimated Share	$ Change	Percent Change
Detroit	$55,022,000	$67,140,000	$12,118,000	22%	$57,774,000	$2,752,000	5%
Southfield	$4,583,000	$6,793,000	$2,210,000	48%	$4,631,000	$48,000	1%
Taylor	$3,465,000	$4,516,000	$1,051,000	30%	$3,609,000	$144,000	4%
Troy	$4,438,000	$5,310,000	$872,000	20%	$4,457,000	$19,000	0%
Royal Oak	$3,386,000	$4,151,000	$765,000	23%	$3,543,000	$157,000	5%
Warren	$7,429,000	$8,117,000	$688,000	9%	$7,953,000	$524,000	7%
Roseville	$2,486,000	$3,100,000	$614,000	25%	$2,674,000	$188,000	8%
Gr. Rapids	$11,990,000	$12,566,000	$576,000	5%	$11,874,000	($116,000)	-1%
Algonac	$242,000	$306,000	$64,000	26%	$227,000	($15,000)	-6%
Grand Blanc	$399,000	$392,000	($7,000)	-2%	$415,000	$16,000	4%
Portage	$2,984,000	$2,971,000	($13,000)	0%	$2,980,000	($4,000)	0%
Rockford	$243,000	$208,000	($35,000)	-14%	$228,000	($15,000)	-6%
De Witt	$251,000	$190,000	($61,000)	-24%	$242,000	($9,000)	-4%
Flushing	$457,000	$395,000	($62,000)	-14%	$438,000	($19,000)	-4%
Crystal Falls	$149,000	$73,000	($76,000)	-51%	$134,000	($15,000)	-10%
Chelsea	$250,000	$171,000	($79,000)	-32%	$224,000	($26,000)	-10%
Marshall	$438,000	$339,000	($99,000)	-23%	$400,000	($38,000)	-9%
Traverse City	$874,000	$755,000	($119,000)	-14%	$833,000	($41,000)	-5%
Mt Pleasant	$1,358,000	$1,155,000	($203,000)	-15%	$1,364,000	$6,000	0%
Menominee	$593,000	$365,000	($228,000)	-38%	$543,000	($50,000)	-8%
Jackson	$2,255,000	$1,993,000	($262,000)	-12%	$2,271,000	$16,000	1%
Muskegon	$2,750,000	$2,178,000	($572,000)	-21%	$2,651,000	($99,000)	-4%
Saginaw	$4,205,000	$3,383,000	($822,000)	-20%	$4,279,000	$74,000	2%

NOTE: Sorted by AVMT $ Change
NOTE: Numbers may not be precise do to rounding.
*Based on 2009 Act 51 distributions**

Figure 6.2 E

MUNICIPAL ALTERNATIVE DISTRIBUTION

Substitute AVMT for Route Miles in Act 51 Formula

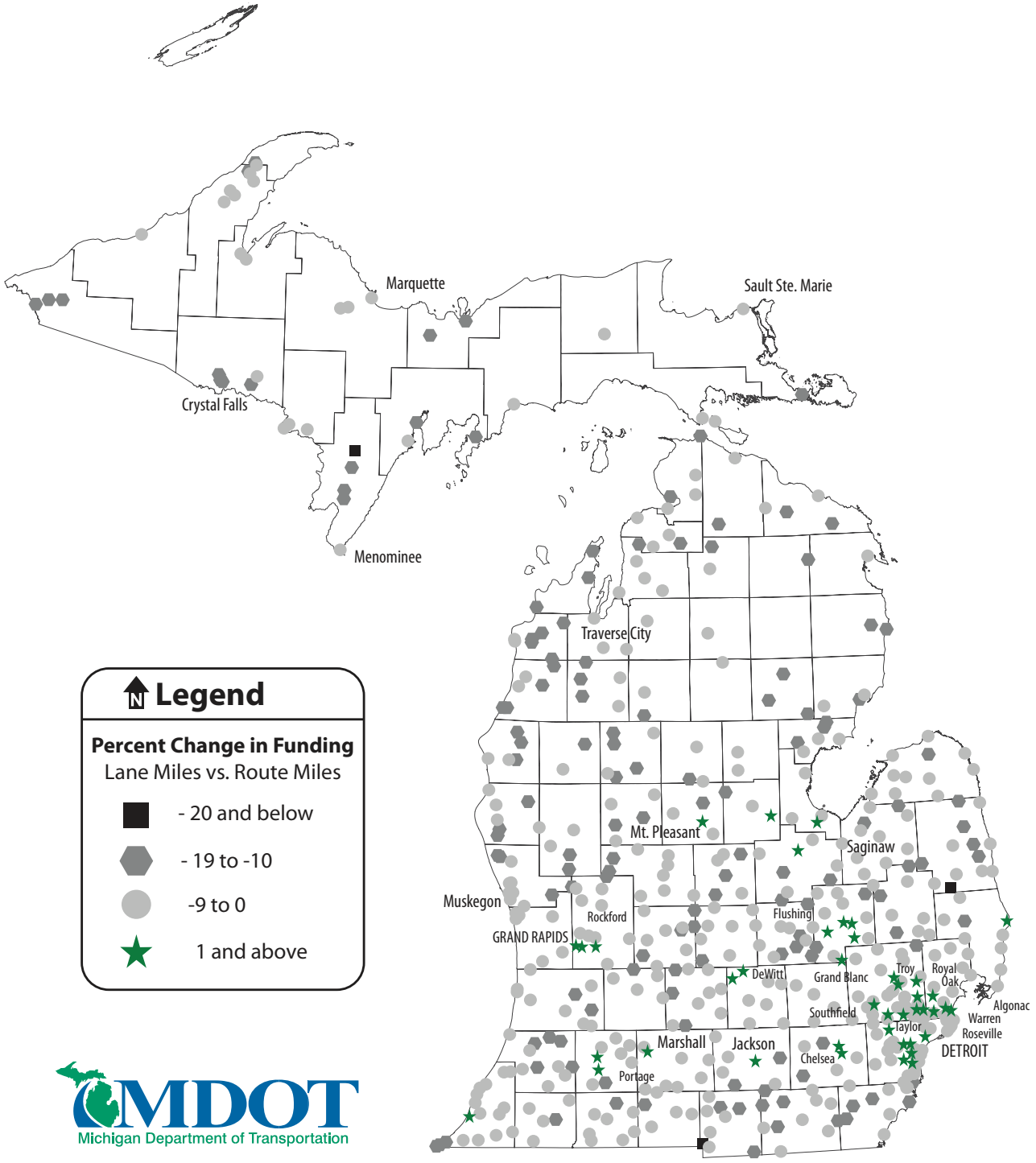


MDOT
Michigan Department of Transportation

Figure 6.2 F

MUNICIPAL ALTERNATIVE DISTRIBUTION

Substitute Lane Miles for Route Miles in Act 51 Formula



MDOT
Michigan Department of Transportation

ALTERNATIVES TO THE TRANSIT FORMULA

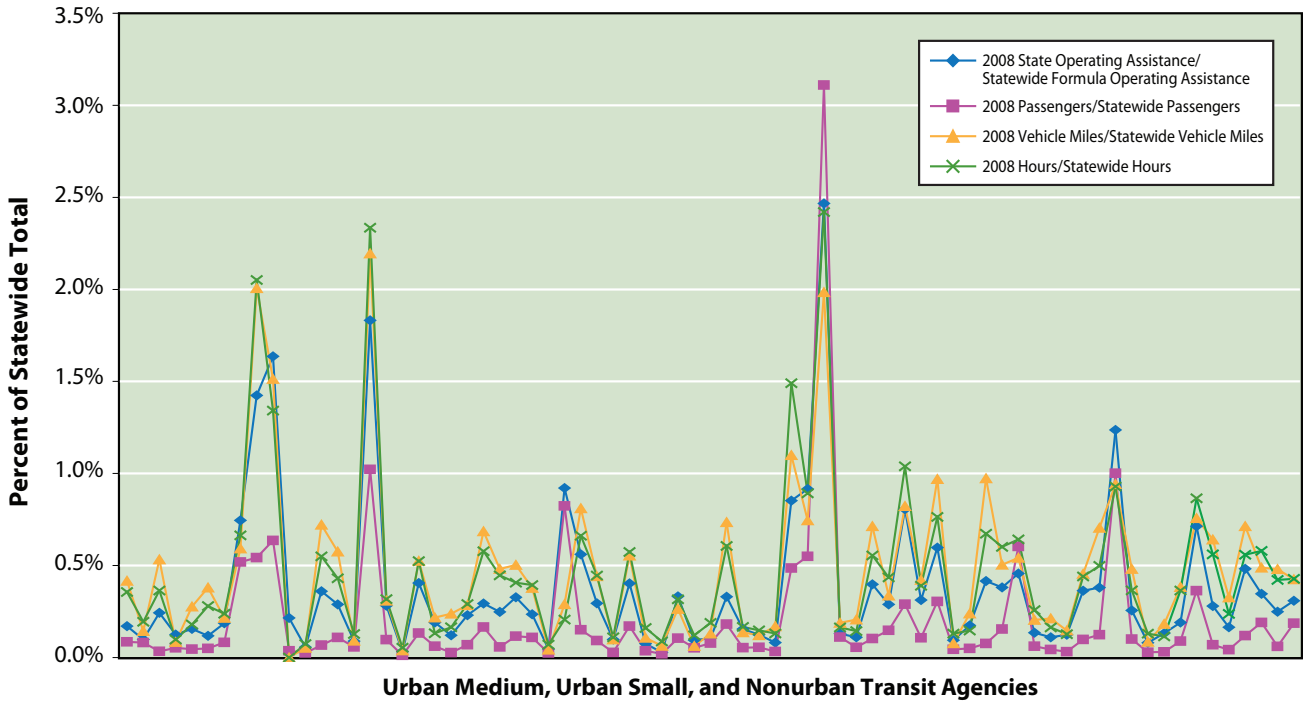
Over the years various formal and informal recommendations have been made to revisit and alter the current transit formula. However, prior recommendations have only suggested general principles for a new formula with insufficient specificity to calculate possible distribution results.

For the purpose of this report, MDOT undertook several efforts to estimate the impact of different transit funding formulas. The first distribution method MDOT considered links each agency's share of funding to the agency's share of service provided. In this analysis, ridership and service hours were assumed to approximate service. As shown in Figure 6.3 A, funding and service factors do tend to track together. It is important to note that the graph below has a total range of just 3.5% (i.e., the variation between the three service factors and share of funding) and most transit agencies have less than a one percent range for all of their factors. This graph indicates an equitable distribution using the current transit formula and suggests that a formula based on share of statewide service would not significantly change the distribution results.

MDOT also reviewed recent trends in transit agency service levels to determine if a distribution method based on agency performance over time would yield significantly different results than the current formula. MDOT compared operating expenses, ridership, service hours, and service miles for each agency over several years (Fiscal Years 2006, 2007, and 2008) as opposed to the single year analysis included in Figure 6.3 A. The analysis shows that the vast majority of agencies have performed very consistently over these years, virtually mirroring Figure 6.3 A. Therefore, it would appear that a formula that included all of these factors and also took into account trends over time, would not have yielded significantly different results from the current formula, which is based solely on expenses. However, MDOT acknowledges that agency behavior under a formula that included additional factors may have differed from their behavior under the current formula.

Figure 6.3 A

STATEWIDE TRENDS BY TRANSIT AGENCY



(Due to scale, view is limited to nonurban, medium, and small urban agencies only, however, this trend holds true for the large urban and metro agencies as well.)

To conduct a more in-depth analysis, a specific formula recommendation would need to be developed with very specific guidance on which factors (such as ridership, service hours or service miles) should be used to allocate the funds and the weight each factor should play.

MASSTrans Proposal

Recently, one of Michigan's two transit associations proposed a new formula. Under the proposed MASSTrans formula the amount each agency receives would be determined by a multiple step distribution process. The initial distribution would be primarily based on either expenses (as with the current Act 51 formula) or service area population. Each agency would receive the lesser of their "soft cap," (which is an amount based on their percent of service area population and square miles compared to state's population and square miles) and their "hard cap" (which is a guaranteed percent of their eligible expenses). Those agencies which received their "soft cap" in the initial distribution would be eligible for additional funding under a second distribution. The second distribution would be based on expenses that were not funded under the soft cap.

The MASSTrans formula would impact the amount of formula funds received by each agency as compared to the current formula distribution method. While MASSTrans has generated a spreadsheet with the projected results of this proposed formula, the results are incomplete. There is not an existing standard for determining population attributable to each agency's service area when there is an overlap of service area or when the service boundaries are not based on jurisdictional lines. To conduct the analysis, MASSTrans made assumptions about service area square miles and population. In addition, for a few areas, MASSTrans analysis had to group transit agencies together to come up with an estimated service area square miles and population, and as such, an agency-by-agency comparison is not possible. Figures 6.3 B, 6.3 C and 6.3 D show the distribution amounts for each agency or group of agencies under both formulae. These exhibits clearly show how each agency is impacted by the change – some negatively, some positively.

The maximum increase is +12% and the maximum decrease is -17%, with an average change of +6%. These percentage changes do not suggest a fundamental shift in the allocation of funding among agencies. However, as the three figures below show, the formula would result in minor movement of funds from large and small urban systems (which carry 92 percent of the passengers) to nonurban systems. In total, large and small urban systems would lose about one percent of their funding (as compared to the current formula) and moving these funds to nonurban systems which would result in a 6% increase for that group. The main argument for this alternative formula is that it will limit the amount of operating assistance that an expanding system could receive, and as such is more protective of existing recipients than the current formula. The main argument against this alterative formula is that it will not support the expansion of transit services in our urban areas, including rapid transit, which is critical to Michigan's economic future.

Figure 6.3 B

ACT 51/MASSTRANS FY2009 FORMULA COMPARISON FOR DETROIT METRO AREA

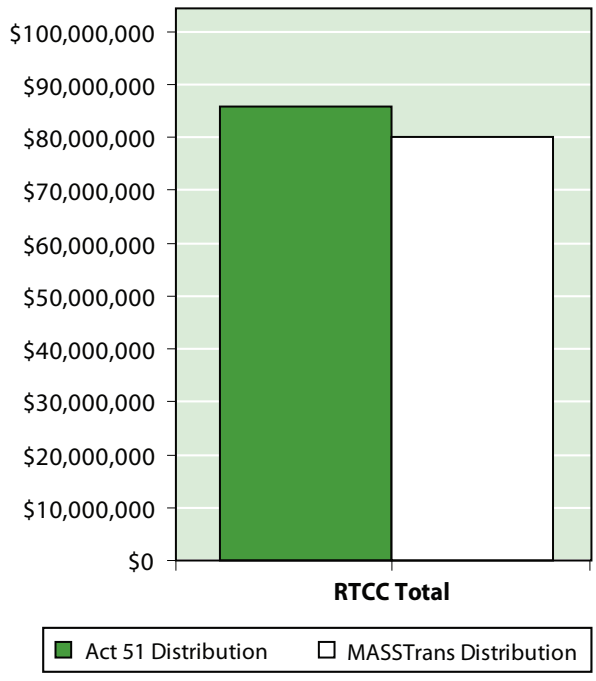


Figure 6.3 C

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

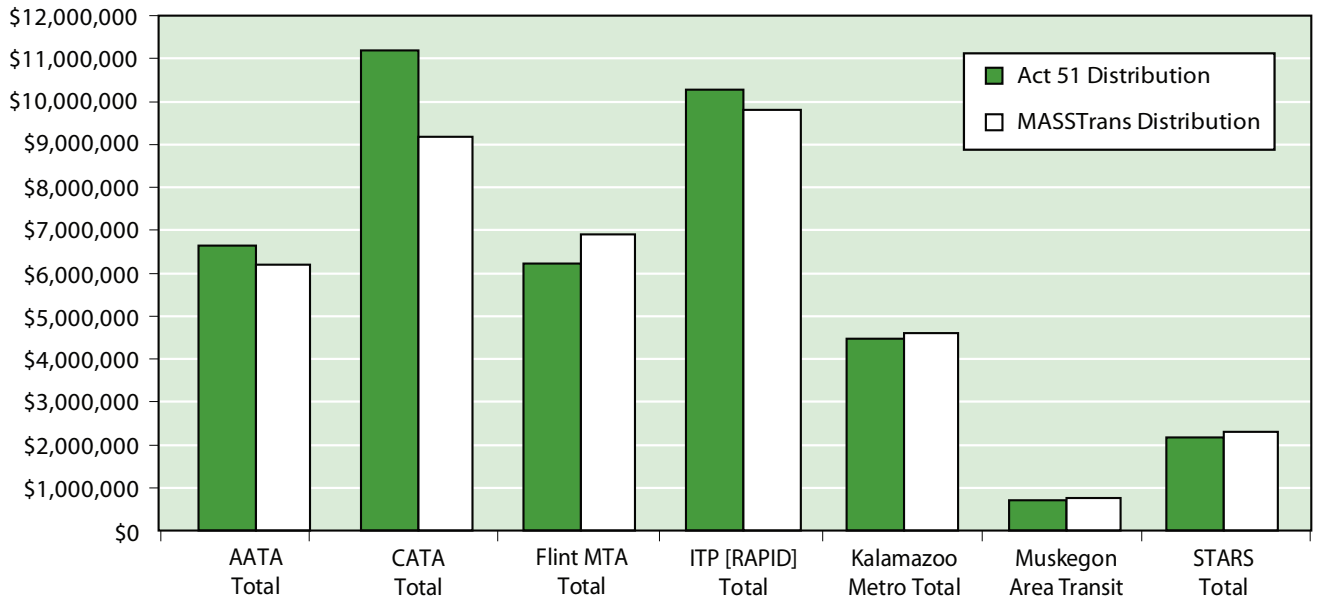
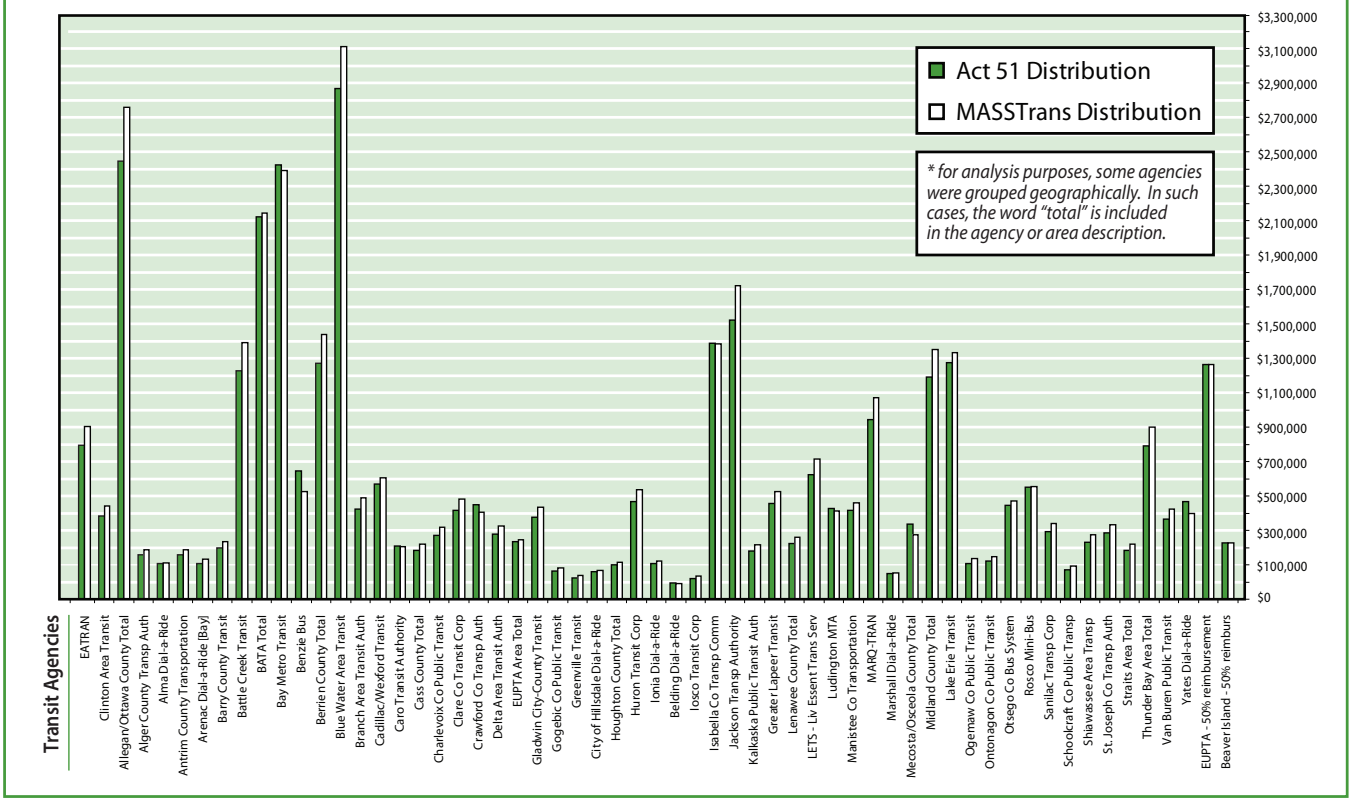


Figure 6.3 D

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 to 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.

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.

Transit [3]

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 assistance [4] each agency received in 2008 as compared to the share of service each agency provided [5] 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 year1989. 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 states 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 sending 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.