CITIZENS RESEARCH COUNCIL OF MICHIGAN

***"The right to criticize government is also an obligation to know what you're talking about."***

Lent Upson, First Director of the Citizens Research Council

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# Michigan's Transportation Funding Law Hinders Efficient Use of Road Funding

## In a Nutshell

- State revenue for locally-owned roads is distributed to 614 local government road agencies, including 83 counties and 531 cities and villages.
- Analysis of allocation data shows that while dense urban counties receive the highest share of funding, sparsely populated rural counties receive much more funding per resident.
- These results suggest a need to evaluate the efficacy of Michigan's road funding distribution formula. Michigan's current road funding law, Public Act 51 of 1951, should be repealed and replaced with a distribution formula that better reflects the needs of road agencies and the priorities of Michigan residents.

Recent research has shown that Michigan has road funding levels similar to peer states such as Indiana and Ohio, but is challenged to achieve similar levels of pavement quality. One potential explanatory factor for Michigan's challenges is that the state's public road network is notably decentralized and fragmented. This imposes challenges to distributing funding to where it can most benefit the state and its residents.

Only 7.9 percent of Michigan's public road network (by route miles) is under the authority of the Michigan Department of Transportation (MDOT). Only two states have a lower percentage of roads owned by the state DOT. The remainder of the road network is owned and operated mainly by local governments. Michigan's locally-owned public road network is distributed among 614 individual road agencies, representing 83 counties and 531 cities/villages.

It is widely agreed that Michigan's transportation infrastructure is inadequately funded. Local governments have limited options to raise their own-source transportation revenue and federal funding is inconsistent. This means that local road agencies are highly dependent on state revenue sharing. As we pursue options to increase road funding, we should also evaluate the system through which funding is allocated and distributed.

Our analysis of funding distributions to local governments suggests that Michigan could make better use of existing road funding by updating the framework that allocates road ownership and funding across agencies.

**Michigan's local public road network is distributed among 614 individual road agencies, representing 83 counties and 531 cities & villages.**

The majority of Michigan road funding comes from state revenue earmarked for transportation purposes. This revenue is distributed and allocated according to our transportation funding law, Public Act (PA) 51 of 1951. Public Act 51 dictates that, after various statutory deductions, the Michigan Transportation Fund (MTF) is distributed to state and local road agencies according to the percentages displayed in Table 1.

**Table 1**

**PA 51 Michigan Transportation Fund Distribution**

– MDOT State Trunkline Fund (39.1%)

– County Road Agencies (39.1%)

– Cities and Villages (21.8%)

Public Act 51 further establishes how the percentages dedicated to counties and cities/villages are distributed among the many individual local governments.

## Distribution to Counties

In Fiscal Year (FY)2023, Michigan's county road agencies received about $1.24 billion in state funding. A small fraction of this (about half a percent) was received as payment for mileage transfers – former state trunkline segments that a county has taken ownership of and received state payment to mitigate additional cost burdens. The remainder is distributed according to the following formula:

**Table 2**

**Factors Determining Allocations of Michigan Transportation Fund to Counties**

– Share of Resident Vehicle Registrations (47.90%)

– Share of County Local Road Mileage (16.41%)

– Share of County Road Mileage in Urban Areas (9.90%)

– Equally among the 83 counties (9.58%)

– Share of Population outside of Incorporated Municipalities (8.84%)

– Share of County Primary Road Mileage (6.39%)

– Using Snow Formula (1.00%)

– Each county receives $10,000 before the formula is applied.

In FY2023, distributions to Michigan's 83 county road commissions ranged from $124.2 million (Oakland County) to $2.1 million (Keweenaw County). The average distribution was $14.8 million. The median distribution was $8.1 million. (These figures include the Local Program Fund (LPF) but omit distributions from the snow formula and mileage transfers.)

## Distribution to Cities and Villages

In FY2023, cities and villages received just over $714 million in PA51 state revenue sharing. About 0.8 percent of this was received as compensation for assuming ownership of former state trunkline routes. The remainder is distributed according to the following formula:

**Table 3**

**Factors Determining Allocations of Michigan Transportation Fund to Counties**

– Share of City/Village Resident Population (59.58%)

– Share of City/Village Major Street Mileage with population multiplier (29.79%)

– Share of City/Village Local Street Mileage with population multiplier (9.93%)

– Using Snow Formula (0.70%)

In FY2023, PA51 distributions to Michigan's 531 cities and villages ranged from $99.8 million (Detroit) to $22,388 (Village of Allen in Hillsdale County). The average distribution was $1.3 million. The median distribution was about $282,000. Nearly 100 city/village agencies received less than $100,000 for the year.

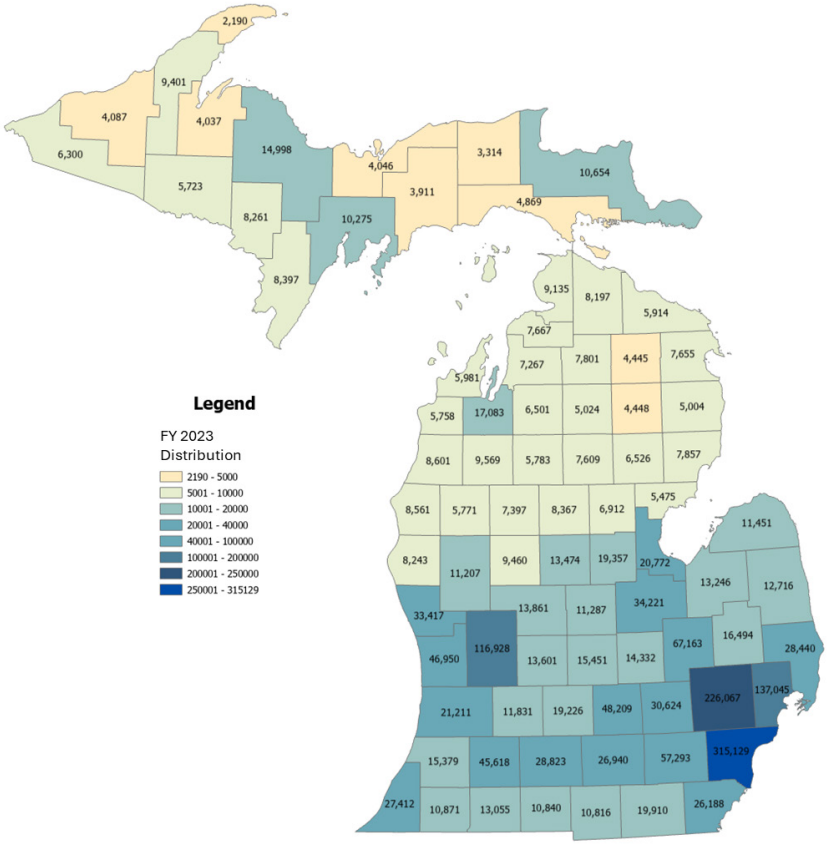
## All Local Distributions by County

To better understand how state revenue sharing for local road funding is distributed geographically across Michigan, we have aggregated distributions from the MTF and LPF by county (excluding snow funding and mileage transfers). The data provided below includes PA 51 funding of all cities and villages within a county, as well as PA 51 funds county road commissions received in FY2023.

**Map 1**

**PA 51 MTF+LPF Local Distributions by County, Including City/Village Distributions**

**(FY2023, $1,000s)**



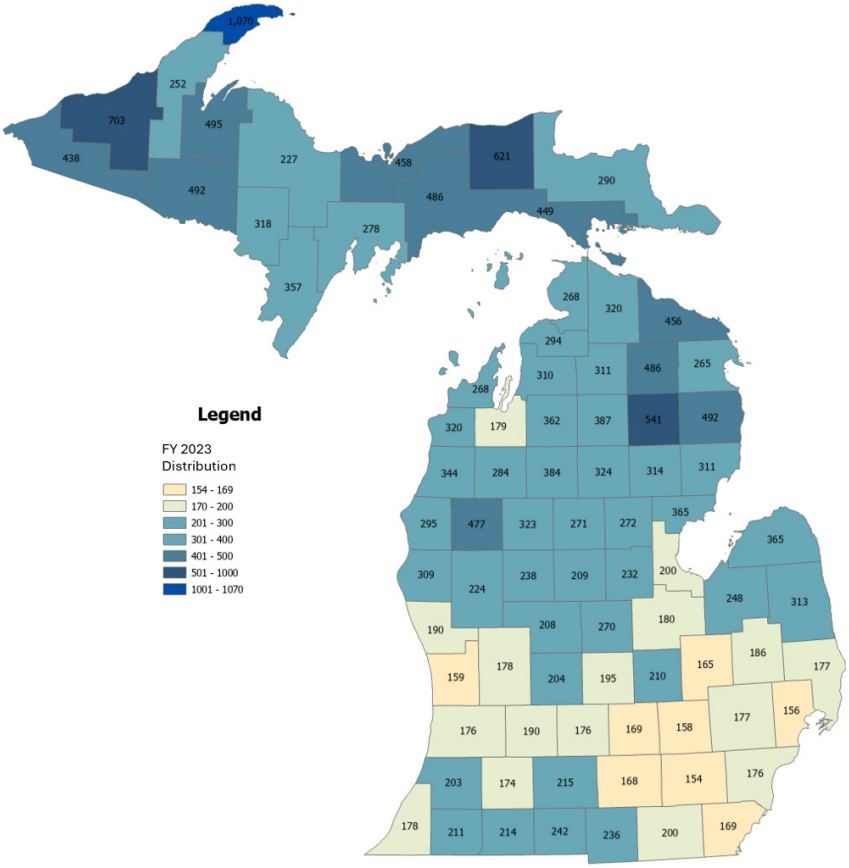

As would be expected, road funding allocations vary substantially. Highly populated urban counties receive more state revenue. Wayne County and the cities and villages therein collectively received over $315 million. Oakland County ranks second, followed by Macomb, Kent, and Genesee.

We can also visualize this data based on funding relative to the size of the population. Map 2 shows FY2023 PA 51 distributions from the MTF and LPF normalized to 2020 county populations.

**Map 2**

**PA 51 MTF+LPF Local Distributions by Resident Population by County, Including City/Village Distributions**

**(FY2023, $s)**




When we look at PA 51 road funding distributions per capita, the trend is very different from the raw distribution data. Low-population rural counties are typically much better funded on a per-capita basis. Keweenaw County receives the most PA51 funding per population, with $1,070 per resident. Washtenaw County ranks last, receiving only $154 per resident in FY2023. The average county received $296 per resident. The median county received $268.

When interpreting these maps, it is important to note that this does not include all road funding within each county. Additional funding may come from local property tax revenue, carve-outs in the PA 51 formula, one-time grants and earmarks, or federal aid.

**Low-population rural counties are typically much better funded on a per-capita basis.**

It is tempting to conclude from this analysis that the PA51 local road funding formula is biased against urban counties. This is possible (and perhaps likely), but cannot be concluded from this data alone. Even a brief read of the state's transportation funding law reveals that any discussion involving the allocation of state dollars is much more complicated.

The amount of funding that local jurisdictions 'should' receive depends on the priorities of the Michigan Legislature as the chief architect of the funding formula. State laws are generally reflective of the values and priorities of the citizens when they are enacted and subsequently amended.

Public Act 51 was adopted in 1951, over 70 years ago. This was in the midst of a drastic reorganization of American society around the use of the automobile. In crafting Michigan's primary transportation funding law, the legislature prioritized constructing a robust statewide network of high speed roads. In the intervening years, the law has been amended several times to transition from a formula that emphasizes building roads to one that emphasizes maintaining them. Yet many aspects embedded in the original formula remain.

Public Act 51 today is a result of historical inertia. Distribution of road funding remains subject to the same allocation factors written into the law in 1951. Road ownership and related funding levels were established not according to an assessment of current needs, but by outdated priorities and political compromises negotiated decades ago.

For counties, the most governing allocation factor is the number of registered vehicles within a county. Another factor is the population living in that county, but outside of an incorporated municipality. Also emphasized are miles of "county primary" and "county local" roads.

For cities and villages, the most governing allocation factor is population. The miles of "major" and "local" city streets are also factored in, yet these too are subject to a multiplication factor based on population.

These factors – vehicle registrations, population, and road miles – were a reasonable proxy for estimating funding needs in 1951. The number of resident vehicle registrations and population counts may help to estimate traffic demand. But these registered vehicles and residents frequently travel to other jurisdictions. The mileage of a local system provides a good first estimate of funding needs, but assumes that construction and maintenance costs are equivalent across the state.

In 2024, we have much better methods of estimating road funding needs. In addition to decades of research on asset management, we have abilities in data collection and analysis that could not have been anticipated in 1951.

Let's consider what determines the life-cycle cost of a road.

**Mileage by Road Type.** The PA 51 distribution formula is largely based on the system mileage owned by each authority. Yet all roads are not created equal; a major thoroughfare has more demanding design and maintenance requirements than a low traffic residential street. PA 51 allocates funding, in part, based on road type. County roads are divided into "primary" and "local" roads. City/village streets are divided into "major" and "local" streets. But the law does not dictate how these classifications are assigned. It is up to each individual jurisdiction to propose what roads in their network are "primary" or "major," on the basis of "general greatest importance." It is unclear if there is a consistent logic in classification of streets. As an alternative, the National Functional Classification system provides a consistent approach to distinguish road types based on their importance to the nation, state, region, and community. The distribution of federal aid from the Highway Trust Fund considers National Functional Classifications, and this should be adopted into the state distribution formula as well.

**Pavement Area.** Regardless of functional classification, road construction and maintenance costs increase as pavement area increases. Features such as multiple lanes, wide lanes, bike lanes, and paved shoulders significantly impact the life-cycle costs of a road. An ideal distribution formula would compensate agencies for these additional costs without incentivizing unnecessary road-widening projects.

**Traffic Volume.** Unlike in 1951, we now have the technology to accurately estimate various metrics related to traffic demand. Commonly used metrics include average daily traffic (ADT) and peak hour traffic. Traffic engineers use such metrics to determine design elements such as the number and width of lanes. A distribution formula may use such traffic volume factors in addition to, or as an alternative to, considerations based on pavement area.

**Commercial Traffic Load.** Traffic volume metrics such as ADT are correlated to funding requirements to the extent that they justify additional pavement area. However, ADT alone cannot provide reliable data on the pavement damage imposed by traffic. A typical passenger vehicle or light truck imposes negligible pavement damage. Traffic-related pavement damage is related almost entirely to commercial vehicle traffic (heavy trucks). Routes with high volumes of truck traffic require higher standards of design and maintenance, or they will deteriorate rapidly. Commercial vehicle traffic metrics are available and should be a meaningful factor in a funding distribution formula to assure that road agencies that accommodate high volumes of truck traffic are fairly compensated for the additional costs imposed by that traffic.

**Drainage Requirements.** Drainage is critical in preventing pavement damage. A paved road is ideally engineered to prevent water from infiltrating beneath the pavement surface, and to remove any water that does infiltrate beneath the pavement surface. When the base beneath a pavement surface is saturated, rapid and severe pavement damage can result, either from the expansion of that water into ice during freeze cycles, or

simply from decreased load-bearing capacity. Removing water from beneath the pavement is much more difficult in regions where the subbase (native soil) is slow-draining, such as heavy clay soils. Roads in such regions may require additional drainage features, and incur related construction and maintenance costs. Such geological factors would ideally be considered in a distribution formula.

**Bridge Features.** Bridges are very expensive. Bridge costs are incorporated into Act 51 through various carve-outs before the MTF is allocated to agencies. However, the dedicated bridge funding is an insufficient remedy for the primary malady: the distribution formula does not consider bridge costs. This omission is becoming increasingly detrimental as recent environmental regulations are compelling many road agencies to construct new bridges where once a low-cost culvert was considered sufficient. The state maintains a database including all public bridges in the state, including attributes like deck area and traffic load. This data should be factored into a distribution formula.

**Climate.** Michigan is a large state with variable weather and climate in different regions. MDOT pavement engineers have divided the state into two regions (north and south) as southern Michigan is typically subject to more damaging freeze-thaw cycling. These freeze-thaw cycles impose pavement damage and additional costs that could be factored into a distribution formula. This could be based simply on the north/south regions. A preferable alternative may be to distribute a portion of funding based on actual freeze-thaw cycles experiences in a region in the preceding winter. This would help agencies with maintenance costs that may not have been anticipated.

**Construction Costs.** The cost of labor and materials involved in road construction can vary significantly in different regions in Michigan. PA 51 embeds an assumption that a road funding dollar sent to every road agency will purchase an equivalent amount of road work. This is not the case. We have data on regionally variable construction costs, and this should be incorporated into a distribution formula so that agencies in high cost regions are not disproportionately challenged to maintain their systems in a state of good repair.

If we were to create a road funding formula from scratch in 2024, these are the kinds of allocation factors we would use.

**PA 51 allocates funding by factors established over 70 years ago. In 2024, we have much better methods of estimating road funding needs.**

In past decades, Michigan has had many policy initiatives to increase road funding. Yet it is rare that anyone thinks about how our existing funding is allocated or why. The law was once scheduled to sunset, but the sunset provision was repealed in 2000 after multiple extensions. Legislative attempts to rationalize the funding formula to better meet needs have only resulted in an overly complex law that is practically impossible to understand or audit.

The bottom line is that PA 51 is obsolete.

Again, there are ongoing efforts to find more funding to repair and maintain Michigan's roads. What is missing is an earnest effort to evaluate how the distribution formula has undercut Michigan's ability to allocate funding to where it would most benefit the state, local agencies, and all Michigan residents. Specifically, we should consider the following:

An evaluation of road ownership across state and local agencies and potential processes of redistributing ownership according to the importance to each jurisdiction.

- Including charter townships to be certified as recipients of MTF revenue sharing.
- Potential costs and benefits involved with consolidating road agencies.
- How to allocate funding so that it is distributed fairly among road agencies to support the priorities and values of the state, local governments, and all residents.

- How to incorporate principles of asset management into the distribution formula as to incentivize road agencies to utilize funding as efficiently and effectively as is practicable.
- Potential to allow local governments additional revenue options for road funding.

Addressing Michigan's road funding issues must include a serious conversation about allocation. Act 51 has stood in the way of rational road funding and efficient asset management of the statewide public road network for too long. It is past time to repeal Public Act 51 and replace it with a distribution formula that reflects the costs to road agencies and the priorities of Michigan residents.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Eric joined the Citizens Research Council in 2022 as an expert in civil infrastructure policy. Previous to his position with the Research Council, Eric spent nearly ten years as a transportation systems analyst, focusing on the policy implications of emerging technologies such as autonomous vehicles, connected vehicles, and intelligent transportation systems. Eric has been a Michigan-licensed professional engineer (PE) since 2012. As a practicing engineer, Eric has design and project experience across multiple domains, including highways, airfields, telecommunications, and watershed management. Eric received his Bachelor's degree in civil engineering from Michigan State University in 2006. Eric also holds Masters degrees in environmental engineering and urban/regional planning, both from the University of Michigan.





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