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CRC: Michigan's Roads Have a \$4B Funding Gap. Or Do They?

More money might not be the best way to "fix the damn roads," a new [study](#) from the Citizen's Research Council of Michigan argues.

The report, written by Eric Paul Dennis, compares road quality to the level of road funding across all 50 states and found that many states have better pavement conditions and similar levels of road funding.

Michigan has a growing \$4 billion gap in road funding, according to a 2023 study conducted by Public Sector Consultants for the Michigan Infrastructure and Transportation Association, but, when compared to other states across the country, Michigan's roads are not underfunded, the Citizen's Research Council Report found.

Using revenue and expenditure data from 2012-2021, the report found that Michigan ranks 30th nationally in road funding, with similar levels of funding to Ohio and Indiana.

Further analysis in the report compared the level of road funding to the pavement condition. Data showed that although peer states, such as Ohio and Indiana, spend a comparable amount on roads, the quality of their roads is much higher. Ohio, which ranks 24 on the study's road funding index, ranks 11 on the pavement condition index. Similarly, Indiana ranks 40 on the funding index ranks 5 on the pavement condition index. Michigan's ranks are 30 on the funding index and 40 on the pavement condition index.

Ultimately, the report found that states with more road funding are no more likely to achieve better pavement conditions than moderately funded states.

The study also considered other factors, such as climate.

Michigan's poor road conditions are often attributed to the state's wet-freeze climate, and although the climate does affect the roads, Michigan is not the only state dealing with a wet-freeze cycle. Once again, the study points to Ohio, which has a comparable climate and comparable levels of road funding but has better pavement conditions.

Similarly, every state has its own weather patterns to contend with, as pavement in southern states is more subject to heat stress and rapid aging due to UV damage, and excessive rainfall elsewhere in the country can damage pavement by saturating and weakening the pavement subbase foundation.

The solution, the report argued, is for Michigan to look for better maintenance to contend with the climate. It notes the state's pilot program to explore alternative approaches to winter maintenance, which is expected to have results in 2025. Some suggestions include improving maintenance practices so that water doesn't get through the pavement surface, monitoring the condition of drainage features and reducing the use of corrosive ice-melting chemicals.

Another factor that may be making Michigan's roads worse is the lack of unity in its approach to road maintenance, the report suggests.

Only 7.9 percent of Michigan's public road network is under the Department of Transportation's authority, which ranks Michigan 47th nationally. Additionally, only 26.2 percent of Michigan's federal aid system is controlled by MDOT, ranking 48th nationally.

Instead, road ownership in Michigan is distributed across 614 county and municipal road agencies. This, the study argues, may preclude attempts at better planning and economies of scale. The distribution of ownership may also make it difficult for Michigan's revenue distribution formula, Act 51, to efficiently match distribution of funding with system needs.

The number of new road projects may also be contributing to Michigan's poor pavement conditions, the study found.

The data used within the study for road funding and pavement conditions does not differentiate funding dedicated to new pavement, new roads or capacity expansions, which means that states undergoing system expansions may partially explain a performance gap.

Available data suggests that a few of Michigan's peer states, including Tennessee, North Carolina and Missouri, have invested significantly in

new roads and capacity since 2012, but they don't have the same performance gap in road quality.

The report argues that although the data is incomplete, it's reasonable to propose that states that are expending funding on new pavement and capacity expansion projects will have less funding available to maintain current infrastructure. Therefore, road agencies should consider whether projected revenue will cover the life cycle costs of new pavement before investing in such projects.

Heavy truck traffic could also be contributing to Michigan's poor road performance, the report said.

Although most states limit loaded truck weights to 80,000 pounds, Michigan allows for up to 164,000 pounds. The argument in favor of allowing the additional weight is that the weight is spread over more axels. Pavement engineers now use a more robust method to evaluate pavement damage. The state's truck weight laws have required MDOT to extensively research how to apply this to pavement design. This means Michigan's unique axle load spectra are almost certain to impose more pavement damage and associated costs than states with similar truck vehicle miles travelled.

Finally, the study suggests that different priorities for material testing, construction inspection, warranty enforcement and transportation asset management could also be contributing to Michigan's road problem.

"Planners benefit from reliable, meaningful data on pavement conditions, which allows them to forecast pavement quality into the future and apply funding to appropriate projects at an appropriate stage in the pavement's life cycle," the report said.

The report suggest that Michigan should look to peer states— including Georgia, Indiana, Missouri, Tennessee and Ohio— that have similar road funding levels but have better pavement conditions.

What's needed next is a thorough engineering-quality research effort that evaluates how well the state is using road funding to achieve a high-quality transportation system, the report argued. The report should evaluate the following:

- The effectiveness of the state road funding distribution formula, Act 51 of 1951, in matching funding allocations with system needs.
- The efficiency of vesting road responsibilities in 614 road agencies and the potential benefits of charging the state highway department with

responsibility for larger shares of the road network

- Winter maintenance practices and the pavement damage costs associated with deicing chemicals
- The life-cycle costs and benefits associated with new pavement, new roads, and capacity expansion projects
- Costs associated with Michigan's truck weight laws
- Quality assurance and quality control practices such as material testing, construction inspection, and warranty enforcement
- Transportation Asset Management approaches in Michigan, including the ability for current metrics to accurately forecast pavement conditions.

"A study that provides actionable advice to improve the efficiency of Michigan's road agency operations could pay back hundreds of millions of dollars annually," the report said. "To borrow an old idiom, 'We're all out of money; it's time to start thinking.'"

– By Elena Durnbaugh

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