



TECHNICAL SUMMARY

Questions?

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LRRB PROJECT COST:

\$144,353



Corrective, not preventive, maintenance is the primary target of limited funds.



Guidance to Help Local Agencies Address Deferred Maintenance

What Was the Need?

Local government budgets are continually inadequate to meet increasing transportation maintenance needs. Rising construction costs and declining funding have created an estimated deficit of \$17.7 billion for state roads over the next 20 years. The inability to maintain roads and bridges in good condition leads to shortened infrastructure life spans and higher future repair costs.

The pandemic has only increased budget deficits through reductions in local revenues and state support. New infrastructure may take precedence over repairing existing infrastructure due to public pressure and political appeal. As upkeep is postponed, the necessary work grows and material costs increase, resulting in higher future maintenance costs.

The Local Road Research Board (LRRB) wanted strategies to help local governments secure the funding they need to effectively manage Minnesota's roadways and promote a common understanding among elected officials and the public about the risks of delaying road repair.

What Was Our Goal?

The goal of this project was to better understand how local governments across the state make transportation maintenance expenditure decisions, the primary factors influencing those decisions and the impacts of deferring maintenance on state roads.

What Did We Do?

To begin, researchers engaged in a multifaceted approach to analyze transportation maintenance decision-making in local governments across Minnesota. An extensive literature review of local roadwork expenditures across the country, the fiscal conditions that affect spending and the impacts of postponing road repair informed a spatial analysis of maintenance spending in the state's cities, counties and townships.

Then they explored local public finance data from the Minnesota Transportation Finance Database and road condition data from MnDOT to identify trends or patterns. Overall maintenance spending was examined along with the amount spent per lane mile in the road system and the ratio of maintenance to construction investment. Next, they statistically analyzed the fiscal conditions impacting maintenance expenditures, including levels of intergovernmental and local revenues from taxes, fees and fines, and the level of local government debt.

Using the identified fiscal conditions, the research team developed case studies on local government road maintenance decision-making. Five cities and four counties were chosen based on a variety of factors, including geographic location, the use of asset management plans or processes, wheelage or other optional taxes, and road conditions. Researchers conducted interviews and reviewed budgets, plans and reports regarding capital budgeting practices and funding sources affecting road repair investments.

Building on the learnings from the case studies, researchers conducted a survey in which representatives from 31 local Minnesota governments described the size and condition of their road-

Using a multifaceted approach, researchers analyzed maintenance investment decision-making in local governments across Minnesota. They identified fiscal conditions that impact road repair spending, provided context to inform communications with decision-makers and recommended steps to close maintenance funding gaps.

“This project really illustrated that the longer maintenance is put off, the more difficult it is to catch up. Maintaining an appropriate and stable level of maintenance funding is most cost-effective in the long term. We can now better communicate that information to decision-makers.”

—Paul Oehme,
Public Works Director,
City of Lakeville

“This work will promote a common understanding among Minnesota’s local governments of issues associated with deferred maintenance.”

—Camila Fonseca-Sarmiento,
Director of Fiscal
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While infrastructure conditions and safety needs primarily drive local government maintenance investments, other factors include infrastructure age, maintenance history, public input, material and labor costs, and staff capacity.

way networks, challenges with managing maintenance investments, funding gaps and strategies they use to minimize deferred maintenance.

What Did We Learn?

Through multiple lines of inquiry, researchers developed a comprehensive understanding of how local governments make road maintenance investment decisions. While overall investment has generally increased, there was significant variation in the unmet needs reported, primarily due to differing measures of needed maintenance, including how maintenance itself is defined. Overall, localities reported total funding needs from \$1 million to \$30 million to restore pavements to acceptable condition levels.

Examining the fiscal conditions that impact spending on road repair at the county level, researchers found that the larger the share of federal and state grants in total revenues, the smaller the share of total roadway expenditures is spent on maintenance. This finding suggested that intergovernmental funding is invested in transportation projects other than maintenance, such as construction. Conversely, in recent years, the more debt a local government pays back, the more maintenance spending tends to increase, possibly due to a hesitancy to invest in construction under those circumstances.

Most local governments use annual budgeting practices, capital improvement plans, and asset inventories and management plans. Pavement conditions, road usage, safety and infrastructure age are the primary drivers of maintenance investment decisions.

Local road repair is generally funded through local revenues or general funds and state funding, depending on the type of system. However, local funding capacity is limited and state support has decreased. Cities and counties are trying to close maintenance gaps by using new funding sources such as taxes or fees, completing more work in-house and performing more preventive maintenance, yet significant maintenance needs have accumulated.

Based on their findings, researchers have several recommendations to help local transportation agencies secure and maintain adequate funding to meet their road maintenance needs, including the following:

- Adopt a standard definition of deferred maintenance.
- Identify pavement and bridge condition targets.
- Estimate funding needed to achieve and maintain condition targets.
- Monitor and report road conditions, trends and target achievement.
- Plan and coordinate maintenance activities with other stakeholders.
- Maintain a consistent funding stream for roadway maintenance activities.

What’s Next?

The conclusions and recommendations from this research will serve as a reference tool for local public works directors and engineers who are responsible for budgets and work with elected officials to secure adequate maintenance budgets. The LRRB will use the researchers’ recommendations in considering further guidance.

This Technical Summary pertains to Report 2022-08, “The Impacts of Deferred Maintenance in Minnesota,” published April 2022. The full report can be accessed at mndot.gov/research/reports/2022/202208.pdf.