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Seeking Solutions for Greater Minnesota's Future

Roads Less Traveled

How emerging issues are creating hazards for rural highway funding

All over the country, state and local governments are grappling with the same crisis: finding the funds to fix their crumbling transportation infrastructure.

Minnesota has not escaped this difficult issue. Every year the Minnesota Department of Transportation works to prioritize its construction projects, and every year there is controversy and argument over which project should go first. Is it that overcrowded, aging section of I-694 in the Twin Cities or the dangerous stretch of U.S. 14 between Mankato and New Ulm? The knotty, congested intersection of I-494 and U.S. 169 or the commercial lifeline of Highway 23 between Willmar and I-94 at St. Cloud? Highway 371 that brings much needed business through the Brainerd Lakes area or a 50-year-old freeway bridge in St. Paul? Every year there are too many projects for the amount of funding available.

In the draft of its latest 20-year plan, MnDOT states that it can currently budget $18 billion over the next two decades, but projects the agency will need $30 billion to keep up on just the maintenance of Minnesota's roads and bridges.[1] Critics of the agency maintain that MnDOT merely has its hand out for more dollars to maintain its large department, while defenders point to the above-average inflation pumping up the prices of construction materials and eating into the purchasing power of transportation funding.

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The Center for Rural Policy and Development, based in St. Peter, Minn., is a private, not-for-profit policy research organization dedicated to benefiting Minnesota by providing its policy makers with an unbiased evaluation of issues from a rural perspective.

Regardless of which voice is right, there is no denying that circumstances are converging that bode ill for Greater Minnesota's roads, especially those away from the regional centers. Most states and the federal government are facing this problem, too. These circumstances threaten to create a situation that puts the condition of Greater Minnesota's roads in jeopardy if nothing is done to change the way we fund our roads or allocate those dollars:

- Revenue from our major source of transportation funding, the gas tax, has been holding steady or declining over the last decade, largely because people are buying less gas as they drive fewer miles, driving more fuel-efficient cars, and using more alternative fuels. These trends are expected to continue and are likely to accelerate.
- Inflation is eating away at the purchasing power of gas tax revenue.
- Twin Cities roads see the hardest use, but Greater Minnesota roads need upkeep and improvement as well to handle the increasing truck traffic hauling goods and commodities to market. The concentration of political and economic power in the metro area, however, makes it difficult for rural legislators to get attention for their regions.
- New federal legislation passed last year created policy that will concentrate federal resources (and therefore state resources) on the biggest and most heavily traveled roads. MnDOT is projecting increasing deterioration in our secondary road system, especially in Greater Minnesota.

Given these trends, Greater Minnesota will find itself at the back of the line in terms of funding priorities as dollars are pulled back and monopolized by the most critical projects. This is not a message rural residents and officials want to hear as they coax along a recovering rural economy.

Transportation funding isn't an unsolvable problem, however.

- Research is going on in many states across the country, including Minnesota, looking for funding alternatives.
- The gas tax doesn't have to be abandoned yet. Even though its purchasing power is eroding, it is still strong enough to provide a smooth transition into alternative sources of funding.
- There doesn't appear to be any single magic bullet that can replace the gas tax. A portfolio of alternatives, however, would be a sensible solution to raise funds and reduce the risk of dependence on one revenue source.
- Finding a solution will be difficult and politically charged. However, the option of doing nothing guarantees worse consequences for our infrastructure in the long run, especially in rural Minnesota.

The developing crisis

In making its projections for the next 20 years, the Minnesota Department of Transportation is anticipating that it will come up $12 billion short in revenue to meet the state's transportation infrastructure needs if nothing changes in the way we fund this system, and that's just for roads and bridges.[2] It does not include mass transit, railroads, or airports. And we are not alone. Many states are facing this same dilemma and are taking action to develop alternative sources of transportation funding.[3,4]

What causes wear on our roads?

Minnesota roads need a great deal of maintenance. Answering the question of what causes wear on our roads is fairly easy: it's the weather. Indeed, Minnesota's climate is the number one factor. Freeze/thaw cycles and extreme heat and cold cause expansion and contraction in the pavement and under the pavement, leading to cracking, potholes and blowouts.

Sources of transportation funding for Fiscal Year 2011.

Source	Percentage of total funds
State Fuel Taxes	28%
Motor Vehicle Registration	19%
Federal Fuel Taxes	18%
Federal Aid	11%
Long-Term Debt	10%
Motor Vehicle Sales Tax	9%
Other	5%

Data source: MnDOT

Besides weather, the other main causes of wear are vehicle weight and the number of vehicles driving over a road surface. Heavy vehicles crush down the pavement and roadbed, and therefore a road must be built to certain specifications to be able to support the weight of vehicles passing over it repeatedly. While state regulations require that all roads be built to be able to support 10 tons of axle weight, as roads age, they deteriorate and can no longer support the weight. Local officials have the authority to impose weight restrictions on roads they're concerned about and often do, especially in rural areas. Weight restrictions are difficult to enforce, however, and Minnesota law also allows exceptions to weight restrictions for many types of vehicles, including farm equipment, garbage and recycling trucks, city vehicles, and utility vehicles.

A truck can lighten its load to meet a road's weight restriction, but doing so means the truck will need to make more trips. The result is increased costs in fuel and time, and the addition of the other road-wear factor, the number of vehicles passing over the road. As with weight restrictions, roads are designed to withstand a certain number of vehicle trips (traffic loading). Exceeding these designs because of increased traffic just wears out the road faster.

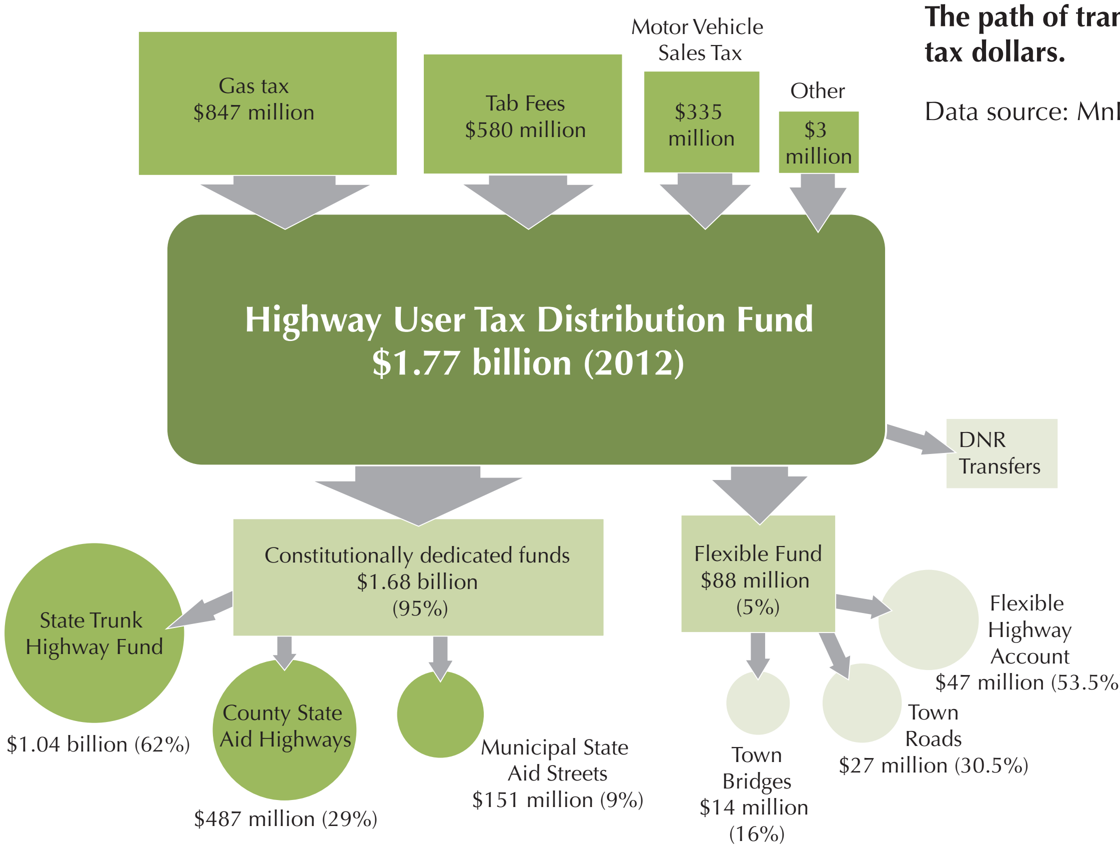
Where does the money come from to fix roads?

Funds for road construction and maintenance come from several sources, the largest of which is the state's fuel taxes, known as the gas tax. In 2011, 28% of transportation revenue came from state fuel taxes, while another 18% came from the federal gas tax.[5]

How the gas tax works

The gas tax is used throughout the United States because of its simplicity—it's been a good proxy of how much a driver uses the road. Collection is invisible to consumers and requires no effort on their part, and the gas tax has—and still does—return a large amount of revenue, $847 million in 2012. Currently, we pay 46.8 cents per gallon of gasoline, 28.5 cents to the state, 18.3 cents to the federal government. Well over three-quarters of state gas tax money (82%) comes from the sale of gasoline. The rest comes from the sale of diesel and other fuels.

The revenue collected from the state's part of the gas tax goes into the state's Highway User Tax Distribution Fund (HUTDF, next page), where it's combined with two other sources of funds: vehicle registration fees (tabs) and motor vehicle sales taxes. From here the money is divided up among a



The path of transportation tax dollars.

Data source: MnDOT

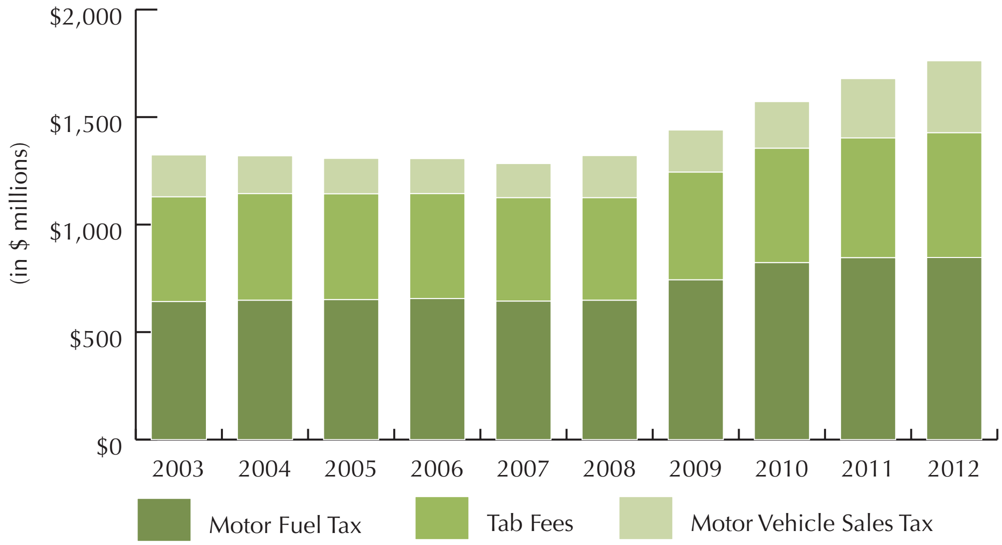
number of purposes, but the bulk of it (95%) goes to state and county highways and municipal streets. How the money is allocated to different type of highways is set in the state's constitution.

The problem with dependence on the gas tax

This current funding model is facing some problems, though. Trends over the last ten years are indicating that people are changing their habits when it comes to driving and gas consumption.

The gas tax represented just about half of all the funds in the HUTD in 2012 (48%). The problem is that around 2004, people started driving less for a number of reasons, most of which are outlined below.[6] Then during the 2008 recession, revenue from the gas and vehicle taxes dipped as people drove even less and bought fewer, more fuel-efficient cars. Revenues, particularly from the gas tax, stayed basically level from 2003 to 2008. In 2008, the state legislature approved a gas tax increase that was phased in from 2009 to 2012. The increase can be seen in 2009 and 2010, but from 2010 on, even with rate increases each year, the revenue from the gas tax has remained almost flat. A MnDOT forecast made in February 2013, in fact, projects gas tax revenues to fall from $847 million in 2012 to $840 million in 2017.[7] Why is that?

• *People are driving less.* It's a phenomenon being seen nationwide. People, especially young people, are driving less. The trend is strongest in the Millennial generation, those born between 1983 and 2000, and they now make up the largest age group in the country.[8] Their driving trends will have the greatest impact going into the future. Therefore, the trend in driving less is expected to continue, even as the state's population increases.



How the major sources of transportation funding have been trending over the last decade. Growth in revenue from tab fees and the motor vehicle sales tax may not be enough to offset the expected lack of growth in gas tax revenue.

Data source: MnDOT

• *People are looking for more fuel efficiency today.* Whether it's because they're interested in helping the environment, reducing our reliance on foreign oil, or just spending less as gas prices go up, people have been choosing smaller and/or more fuel-efficient cars to drive.

• *Federal fuel efficiency standards* have also required auto manufacturers to improve the average gas mileage of their fleets. Among other consequences, these federal standards—which will increase again by 2025—have promoted the development of electric and hybrid cars.

• *People have been choosing smaller—and therefore less expensive—cars.* Besides being more fuel efficient, smaller cars are generally lower priced, which means less revenue per car from the vehicle sales tax.

• *Cars are lasting longer.* The tab fee on a car goes down as the car depreciates. Older cars produce less revenue.

• *Alternative fuels are gaining market share.* Vehicles that run on electricity or natural gas and those that don't need much gasoline, like hybrids, contribute less to gas tax revenue, if at all.

And so, even though vehicle miles traveled are projected to go up somewhat, according to MnDOT's February 2013 funding forecast, gas sales are still expected to stay flat or go down, and therefore, so will gas tax revenue.[9]

Double whammy: Inflation

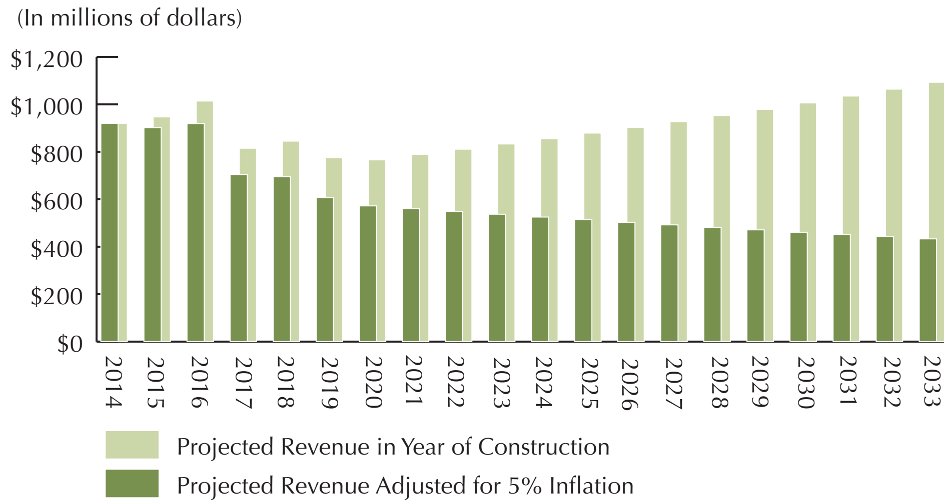
To make matters worse, the gas tax is constantly losing buying power to inflation (next page). Since the tax rate is a flat amount, it doesn't increase with the price of gas, and it doesn't increase with overall inflation.[10] From now to 2033, MnDOT expects revenue *in nominal dollars* increase steadily, but the revenue adjusted for 5% inflation—the inflation rate MnDOT analysts are projecting for construction costs—shows a steady drop off in what those dollars will really be able to buy in the future.

The impact of federal policy

The third issue, at least for Greater Minnesota, may actually be created by the federal government itself. The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law in July 2012 and brings with it policy changes that could have a significant impact on the amount of funding going to Greater Minnesota's state and county highways.

MnDOT projections for transportation revenue and its buying power when adjusted for inflation.

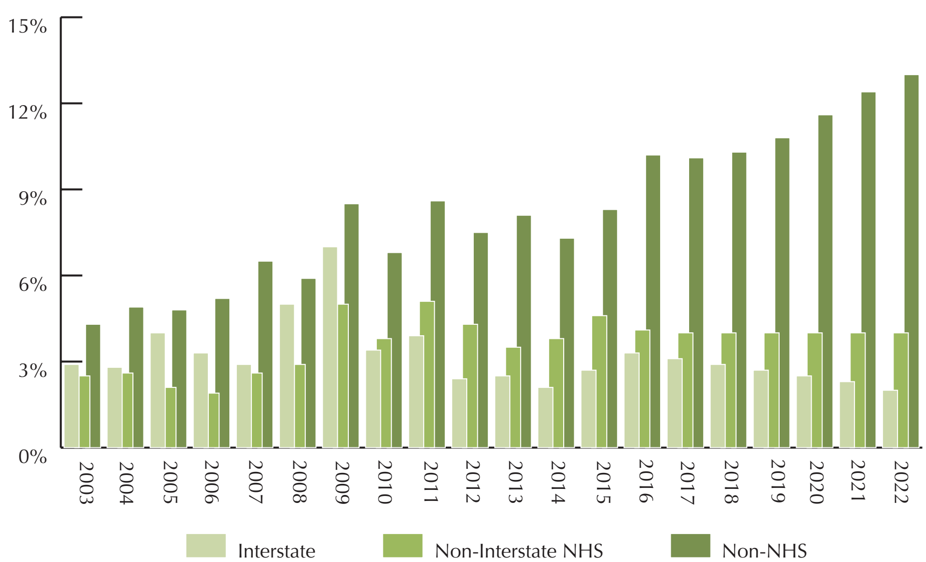
Data source: MnDOT



MAP-21 takes the old funding programs and combines them into five programs, the two largest of which are the National Highway Performance Program and the Surface Transportation Program. The NHPP program encompasses almost 60% of all federal highway funding formula dollars and focuses them specifically on the Interstates and National Highway System highways, the nation's largest highways. States receiving NHPP dollars will have to set and meet performance targets for surface quality and safety on their NHS highways.[11]

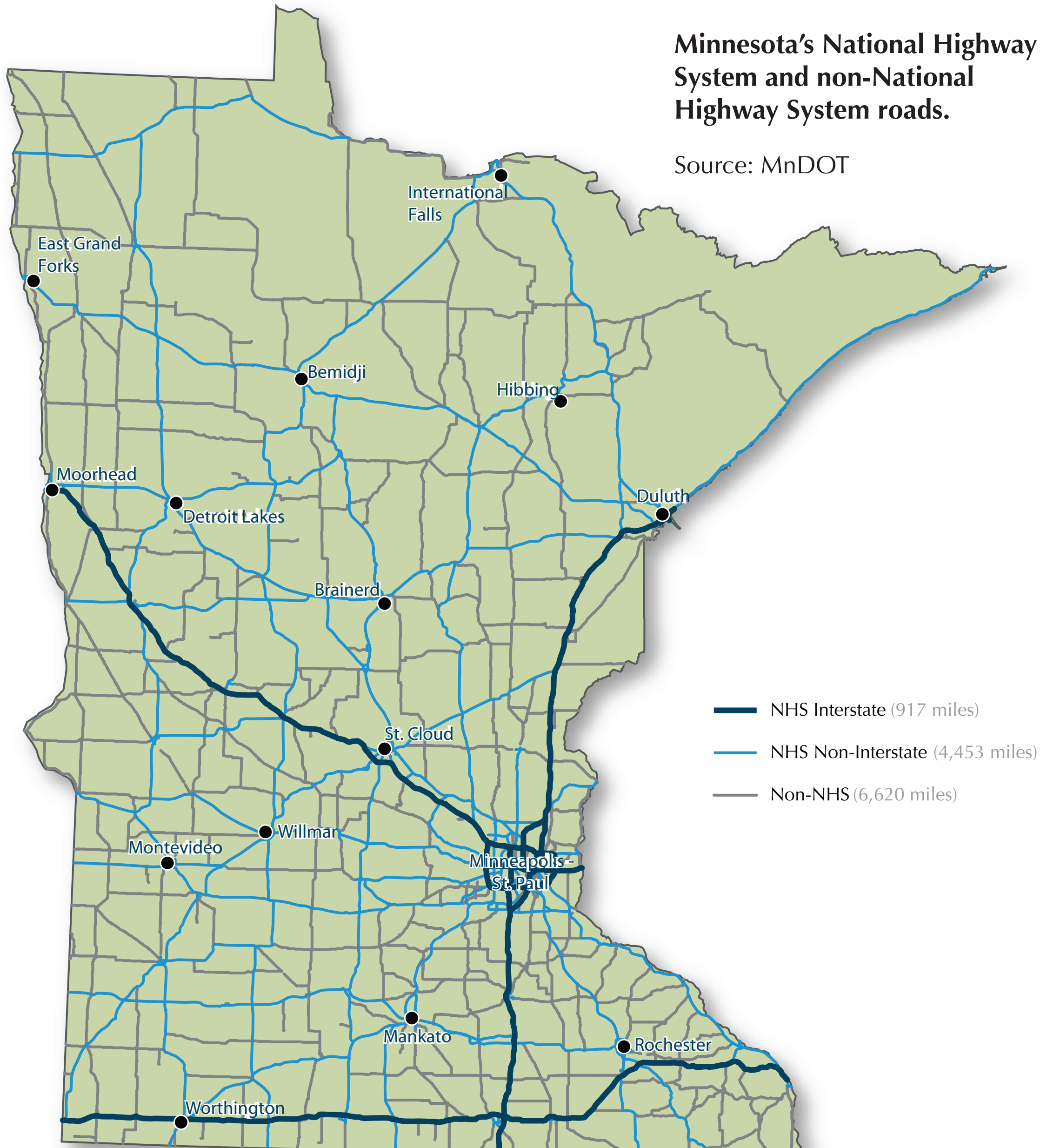
This change in policy may make sense for a government trying to maintain a vast road system on a not-so-vast budget: concentrate limited resources on the most critical routes. In addition, states will be allowed to transfer half their NHPP dollars to other programs, like the Surface Transportation Program, which funds the non-NHS highways. There is the risk, though, that Interstate and NHS highway projects will monopolize the state's already limited funds and reduce MnDOT's flexibility. Other things MAP-21 does:

- MAP-21 does not move the federal government off its heavy dependence on the gas tax.
- While MAP-21 increased the number of highway miles included in the National Highway System by more than a third (37%, or 60,000 miles nationally), the amount of funding authorized for the NHS was not increased by the same percentage.



MnDOT's projections for the percentage of highway miles rated as "poor" through 2022.

Data source: MnDOT



- Although a certain level of funding is *authorized*, that may not be the amount *allocated*.[12]

The upshot is that in this new federal funding environment, MnDOT is projecting the quality of non-NHS roads in Minnesota to go down over the next ten years. MnDOT uses sophisticated technology to measure "ride quality" on Minnesota's roads. Every mile of those roads are then rated as "good," "fair," or "poor." MnDOT expects it will be able to hold the Interstates and other NHS highways in Minnesota at a steady level of quality, with less than 2% of Interstate miles and about 4% of other NHS highways rated as "poor." Non-NHS highways are another matter. MnDOT is expecting that by 2022, upwards of 13% of non-NHS highway miles will fall into the "poor" rating.[13]

The shortfall in NHS and non-NHS funding is happening already. The Surface Transportation Program, which funds Minnesota's non-NHS highways, along with local roads, transit, and other activities, is "over programmed," meaning too many projects have been approved for the amount of money currently available. According to MnDOT, $20 million in projects will need to be delayed between now and 2016.

At the same time, the National Highway Performance Program is "under-programmed." While the federal government has approved a certain level of funding for these highway projects in Minnesota, not enough projects have been approved to take advantage of all the funds available.[14]

There is always the argument that MnDOT is simply inflating its estimates of how much funding it will need in the future and that there is always room for the department to operate more efficiently. Whether that statement is true or not is beside the point, however, when considering how the transportation funding climate itself is changing. Even if MnDOT is overestimating its rate of inflation on road construction costs (which seems unlikely given the competition for road construction materials with countries like China and India and the influence the price of oil has on these costs), lowering that inflation rate does not change the trends in lower gas sales or the federal government's new policy of focusing funding on only larger highways.

Add to these factors the lack of political impact at the State Capitol for rural road projects. Because of higher population density and therefore more compact legislative districts, road construction projects in the Twin Cities often span the districts of several legislators, who can advocate together for each project. A road project in Greater Minnesota will generally involve only one or two legislators. Those rural legislators must compete for attention against not only metro legislators but also other rural legislators, greatly watering down Greater Minnesota's influence.

An opportunity to explore new sources of transportation funding

Replacing the gas tax is a hot topic among transportation officials and advocates across the country, but so far there are few solid alternatives. What makes the current system difficult to replace is its simplicity. The tax is built into the price of the gas. Consumers don't need to do anything, and they never see the tax dollars leaving their pockets. The vehicle sales tax and registration fees take only a little more effort.

Many transportation agencies around the country are exploring alternatives and supplements to the current transportation funding system, and Minnesota is among them.[15] The gas tax system is still a viable option in the short term, but it will only continue to lose out to inflation and ongoing consumer buying trends year after year if those trends continue on their current course. For that reason, exploring options now to reduce our dependence on the gas tax would be wise.

The current system doesn't necessarily need to be replaced completely, and in fact, it would be difficult to do so. There are few alternatives right now that can generate revenue at the same level as the gas tax. However, a combination of options could be adopted to supplement the gas tax and reduce our dependency on it. In 2012, a governor-appointed Transportation Finance Advisory Task Force released a set of recommendations that show how many options there are to increase transportation funds.[16]

Their first recommendation was for MnDOT to continue to look for increased efficiency and cost savings wherever possible. The rest of the committee's recommendations, however, included but were not limited to:

- A mix of adjusting the current rates on the gas tax and the motor vehicle registration fees
- Expanding sales taxes dedicated to public transit and redirecting funds to transit services in Greater Minnesota
- Expanding local government revenue options
- Exploring ways the projects themselves can generate funds.
- Other options included toll roads and lanes; taxing vehicles by weight; public-private partnerships; and many others

Another option that is gaining attention nationwide is the mileage-based user fee. In this system, drivers are taxed based on the number of miles they drive instead of the amount of fuel purchased, capturing all types of vehicles, regardless of the type of fuel they use. According to a 2013 report from the California Department of Transportation, nine states besides Minnesota—California, Colorado, Hawaii, Massachusetts, Nevada, New York, Oregon, Texas, and Washington—are actively looking at alternatives to the gas tax. Almost all of them are concentrating on some type of mileage-based user fee. MnDOT, in addition, recently conducted a pilot project to study how a mileage-based user fee system might work in the real world.[17] Adoption of many of these alternative systems is still only in the study phase, however.

The consequences of doing nothing

The Minnesota Legislature did make some effort to help rural communities with transportation funding by expanding the wheelage tax option from just the

A spectrum of options

There are a number of ideas on how to beef up transportation funding, but very few of them could generate the kind of revenue that the gas tax does right now. The favorites among those are:

- **A mileage-based user fee (also known as vehicle miles traveled): Gets at the "true" cost of road repair and is considered "fairer," but there is concern it would fall harder on rural residents, who may have to drive farther for work, etc.**
- **Toll lanes and bridges: State law currently restricts adding toll lanes and bridges to new construction only.**
- **A partial sales tax to support transportation: Some counties are already doing this to support their transit systems.**

Other funding options include:

- **Public-private partnerships: MnDOT is exploring ways the department can partner with private-sector firms to save time and money.**
- **Taxing vehicles by weight: Another means of addressing a major source of damage to roads.**
- **A wheelage tax: A surcharge is added depending on the number of axles on a vehicle. The Minnesota Legislature passed legislation last session to allow counties outside the Twin Cities area to adopt this tax if they chose.**

Twin Cities to the entire state. Some counties have chosen to adopt this tax, which charges a set tax per wheel, meaning larger vehicles—which cause more damage to roads—pay a higher tax. The Legislature also passed a bill expanding counties' ability to create an additional sales tax to fund local roads.

It's a small step, however, given the transportation funding climate we are entering under the new federal policy. Whatever kind of funding system is settled on, there will be controversy and argument and someone dissatisfied with the outcome. And any decision the state makes on funding for transportation will have an impact on Greater Minnesota, including the decision to do nothing.

We all know that to thrive, a region needs an adequate, safe transportation system. How will road quality affect SuperValu's ability to truck groceries from its distribution center in Hopkins to its store in Willmar? Or for grain buyers to move corn from Western Minnesota to barges on the Mississippi? If the trends in consumer driving patterns continue and the new federal highway legislation proceeds as planned, the decision to do nothing is projected to lead to a progressive deterioration of Greater Minnesota's roads. That could lead to a measurable impact on Greater Minnesota's economy and on the state's economy as a whole.

Endnotes

[1] Minnesota Department of Transportation, *Minnesota State Highway Investment Plan: 2014-2033 (Draft Plan),* (2013), ES-11. http://www.dot.state.mn.us/planning/mnship/draft_plan.html

[2] Minnesota Transportation Finance Advisory Committee, *Summary Report and Recommendations* (November 30, 2012), 13. http://www.dot.state.mn.us/tfac/docs/TFACSummaryReport-Nov30.pdf

[3] California Department of Transportation, *Alternative Transportation Financing Strategies* (2013), 17-24. http://www.dot.ca.gov/newtech/researchreports/preliminary_investigations/docs/alternative_transportation_financing_strategies_pi_2013-01-14.pdf

[4] Transportation for America. "Tracking State Transportation Funding Plans." http://t4america.org/resources/state-plans-tracker/

[5] Minnesota Department of Transportation, *Annual Minnesota Transportation Performance Report, 2011* (October 2012), 50. http://www.dot.state.mn.us/measures/pdf/2011-Full%20Report%204-3-13%20LOW%20RES.pdf

[6] U.S. PIRG Education Fund, *A New Direction: Our Changing Relationship with Driving and the Implications for America's Future* (2013), 22. http://uspirg.org/sites/pirg/files/reports/A%20New%20Direction%20vUS.pdf

[7] Minnesota Department of Transportation, *Transportation Funds Forecast* (February 2013), 7. http://www.dot.state.mn.us/funding/documents/transpfundsforecast2013.pdf

[8] U.S. PIRG Education Fund, *A New Direction,* 20.

[9] Minnesota Department of Transportation, *Funds Forecast* (February 2013), 7.

[10] Institute on Taxation and Economic Policy, *Building a Better Gas Tax: How to Fix One of State Government's Least Sustainable Revenue Sources* (2011), 2. http://www.itepnet.org/bettergastax/bettergastax.pdf

[11] Transportation for America, "MAP-21 Program Explainer: National Highway Performance Program." http://t4america.org/resources/map-21/nhpp/

[12] Sergius Phillips (Federal Relations Manager, Minnesota Department of Transportation), interview with author, September 2013.

[13] Minnesota Department of Transportation, *2012 Pavement Condition Annual Report* (March 2012), 1-3. http://www.dot.state.mn.us/materials/pvmtmgmtdocs/annualreport_2012.pdf

[14] Minnesota Department of Transportation, "MAP-21." http://www.dot.state.mn.us/map-21/programming.html

[15] Transportation for America, "Tracking State Transportation Funding Plans." http://t4america.org/resources/state-plans-tracker/

[16] Minnesota Transportation Finance Advisory Committee, *Summary Report and Recommendations*, 5-12.

[17] Rephlo, Jennifer A., *Connected Vehicles for Safety, Mobility and User Fees: Evaluation of the Minnesota Road Fee Test* (Minnesota Department of Transportation, 2013). http://www.dot.state.mn.us/mileagebaseduserfee/pdf/EvaluationFinalReport.pdf

For further reading:

Minnesota Department of Transportation, "Minnesota State Highway Investment Plan: 2014-2033." http://www.dot.state.mn.us/planning/mnship/index.html
Home page for the MnDOT's 20-year State Highway Investment Plan, the state's plan to manage all the state's modes of transportation.

U.S. PIRG Education Fund. *A New Direction: Our Changing Relationship with Driving and the Implications for America's Future*. (2013). http://uspirg.org/sites/pirg/files/reports/A%20New%20Direction%20vUS.pdf
Discusses in detail reasons why Americans are driving less, why this trend may continue, and its implications for transportation funding into the future.

Transportation for America. "Making the Most of MAP-21." http://t4america.org/resources/map-21/
A primer on the details of the new federal transportation policy, where the money will be, and its impact on state transportation planning and funding.

Transportation for America. "Tracking State Transportation Funding Plans." http://t4america.org/resources/state-plans-tracker/
Tracks state government action (legislation, executive orders) aimed at increasing transportation revenue.

California Department of Transportation. *Alternative Transportation Financing Strategies*. (2013). http://www.dot.ca.gov/newtech/researchreports/preliminary_investigations/docs/alternative_transportation_financing_strategies_pi_2013-01-14.pdf
Provides a comprehensive list of what other states are doing in the area of alternative financing as of January 2013.

Minnesota Transportation Finance Advisory Committee, *Summary Report and Recommendations* (November 30, 2012). http://www.dot.state.mn.us/tfac/docs/TFACSummaryReportNov30.pdf
Provides recommendations from the Transportation Finance Advisory Committee on how to make up the gap in transportation funding. Shows the 20-year and annual funding gaps for all the transportation categories, not just state highways.

Minnesota Department of Transportation, "Mileage-Based User Fee" web page. http://www.dot.state.mn.us/mileagebaseduserfee/index.html
A starting place to learn about mileage-based user fees and what research MnDOT has been conducting in this area.

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