

2040

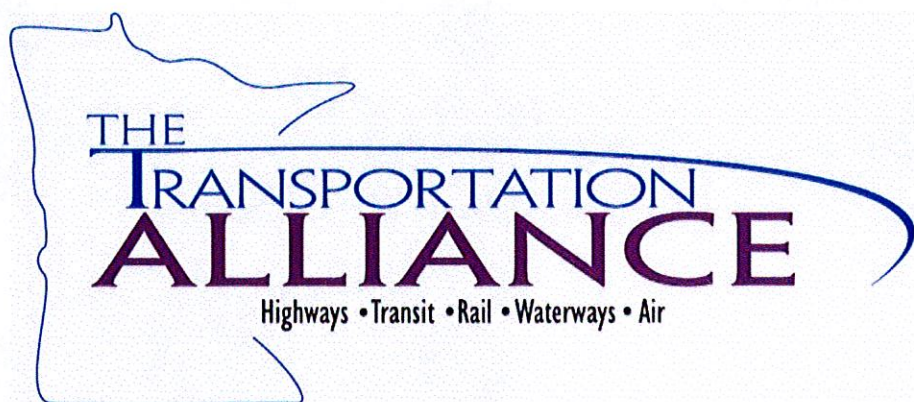
Minnesota's Roadmap to the Future



Minnesota Transportation Alliance

Transportation in Minnesota

A Roadmap To 2040



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The Minnesota Transportation Alliance is a non-profit statewide coalition of organizations that are all involved in the development, design, construction and operation of Minnesota's transportation system. Alliance members represent both public sector and private sector organizations that are committed to working together to further policies that improve the safety and effectiveness of our transportation system. More information about the Alliance and its membership can be found at: www.transportationalliance.com

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Resources

“Modern transportation can be the rapid conduit of economic growth – or a bottleneck.
It can bring jobs and loved ones and recreation closer to every family
– or it can bring instead sudden and purposeless death.
It can improve every man’s standard of living – or multiply the cost of all he buys.
It can be a convenience, a pleasure, the passport to new horizons of the mind and spirit
– or it can frustrate, impede and delay.
The choice is ours to make.”

- President Lyndon B. Johnson
March 2, 1966

EXECUTIVE SUMMARY

A Bold Transportation Plan for Minnesota

The future prosperity and quality of life in our state will be shaped by the quality of our transportation system.

For Minnesota to be a strong, competitive state that is the leader in the Upper Midwest, attracting businesses and new residents, we need a bold plan for a transportation system that will meet the needs of our state for decades to come.

Minnesota's economy depends on a strong, interconnected transportation system to move products and people and this Roadmap to 2040 provides residents and businesses with a vision for how our state could and should look with needed strategic investments in our transportation system.

The governor and legislative leadership have asked for recommendations on how to increase job creation and economic development in the state. We have transportation projects all across the state waiting for funding, waiting to put people back to work building the infrastructure that will allow businesses to locate here, expand and compete.

Minnesota's population growth and stagnant transportation funding have resulted in deferring basic maintenance and capacity improvements, resulting in safety concerns, mounting congestion and economic constraints for businesses and commuters.

The cost of delaying a bold vision will risk putting Minnesota further behind in the economic recovery and subject future taxpayers to additional costs.

Even with new innovative techniques and redesigning transportation maintenance and project delivery, a bold vision for Minnesota's transportation system cannot happen without addressing the current and future funding shortfalls. There is a real cost to inaction - lives lost, dollars spent inefficiently, cost increases, jobs lost.

POSITIONING MINNESOTA TO SUCCEED

How can our transportation system contribute to the overall success of the state?

We can revitalize our state's economy and dramatically improve the quality of life in Minnesota with key transportation investments that position our state for the future. Or we can watch the investments of previous generations continue to age and deteriorate.

Minnesota's extensive transportation system moves an enormous amount of products and millions of people every year. However, congestion and safety problems continue to plague the system.

- Every year over 400 Minnesotans are killed in traffic crashes and thousands are injured;
- Minnesota commuters are paying over \$800 per year in lost fuel and time due to traffic congestion, while potholes and deteriorating roads throughout the state inflict costly wear and tear on vehicles;
- Many Minnesotans have little choice when it comes to getting to work, accessing needed services and reaching other important destinations, adding costs for individuals and society.

MINNESOTA'S FUTURE

AS WE LOOK OUT OVER THE NEXT 40-50 YEARS, WILL MINNESOTA BE A PLACE WITH VIBRANT, LIVABLE COMMUNITIES THAT ARE WELL CONNECTED?

The Cost of Doing Nothing

For individuals, the added cost of vehicle repair as well as time and fuel lost due to traffic jams adds up to significant dollars. In 2009, Americans wasted 4.8 billion hours sitting in traffic at a cost of \$115 billion. This drain on family budgets means forgoing other purchases that impact our quality of life. The cumulative cost to households, which could be avoided with adequate investments in infrastructure, is projected to add up to \$482 billion in 2020 and \$1.9 trillion by 2040.

For our nation's businesses, the lack of infrastructure investment reduces competitiveness and impacts our Gross Domestic Product (GDP). As of 2010, the loss of GDP approached \$125 billion due to deficient surface transportation infrastructure. By 2040, our failing infrastructure will cost Americans nearly \$3 trillion which represents more than \$1.1 trillion in added business expenses.

Baby Boomer Infrastructure – It's all getting older

Following World War II, Minnesota and the nation embarked on a campaign to build the type of transportation infrastructure necessary to rebuild the country's economy. President Dwight Eisenhower spearheaded the effort to build the interstate highway system, recognizing the need for better connections for commerce within the country as well as better connections to world markets. Our parents and grandparents invested in the multi-modal transportation system that Minnesota relies on today. And just like the baby boom generation of people, our infrastructure is getting older. In some cases roads and bridges are reaching the end of their useful lives. If we don't follow the footsteps of previous generations and plan for the needs of our children and grandchildren, they will inherit a transportation system that is not only outdated but falling apart.

A Roadmap to 2040

The state needs a bold, multimodal long-range transportation plan that:

- Builds consensus among local governments, the state, stakeholders and the public about how our future transportation system should look;
- Explores ideas for innovation and re-designing how transportation services and projects are planned and delivered;
- Provides suggestions for how to fund the investments we need to maintain and build the transportation system that will allow our state to be competitive

In looking toward the Minnesota transportation system the state will need in 2040, we asked our members to provide their experience and expertise in transportation to identify key investments that will be needed on our transportation system by the year 2040. Local government officials, engineers, planners and other stakeholders

provided the input we used to develop a multi-modal map that illustrates examples of improvements that would strengthen the transportation system in key corridors.

We started with maps generated through agency studies dealing with specific modes and then combined and added to those study efforts.

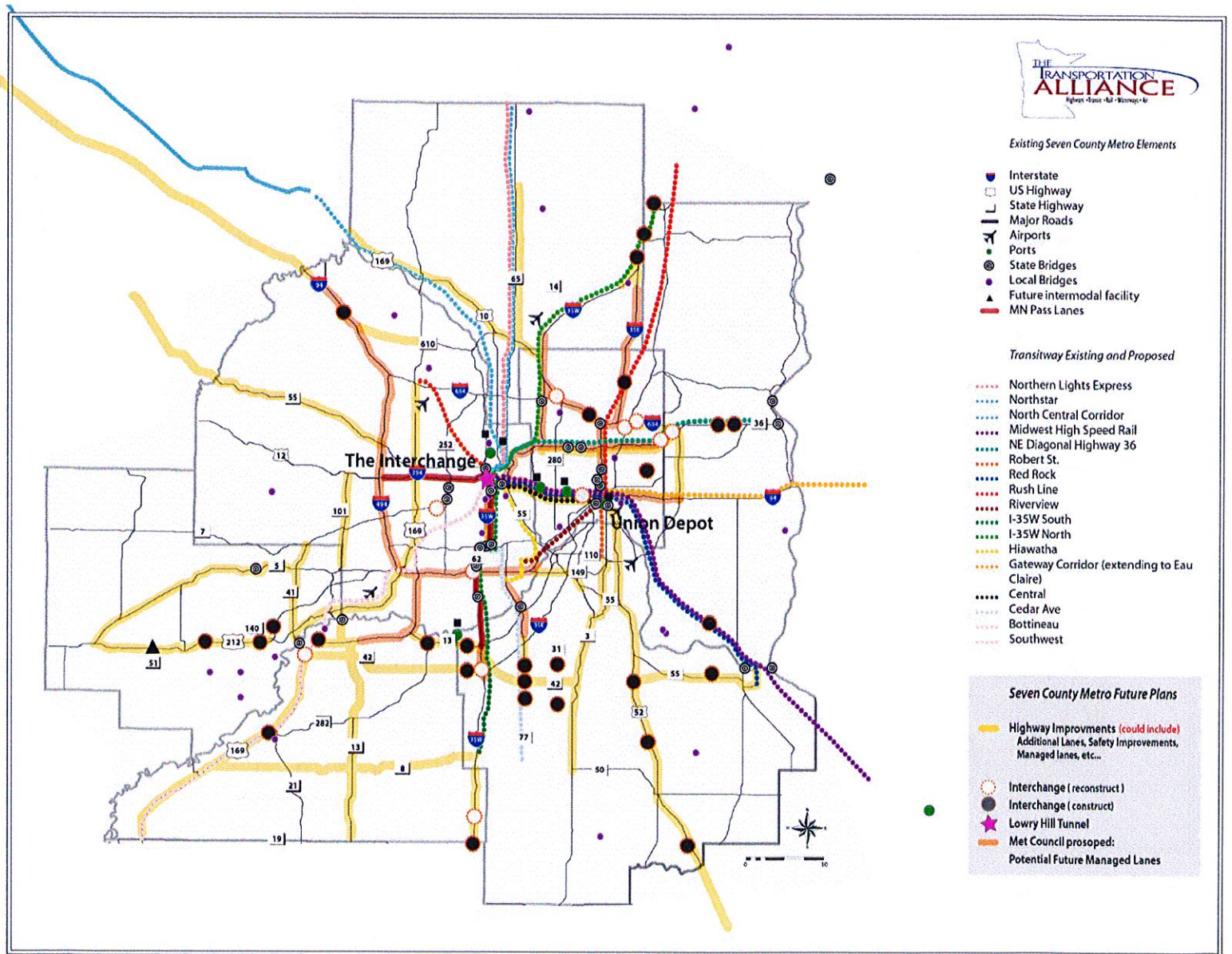
PERFORMANCE MEASURES

Clearly the state needs a bold vision for the future that guides investment decisions. How do we know whether or not investments are needed and how we're doing in terms of reaching our vision? The state uses performance measures to analyze how the transportation system is performing and to determine areas that need improvement. Cost estimates for meeting our needs are based on the cost to meet these performance measures.

VISION FOR THE FUTURE

What do we want our transportation system to look like in 2040?

2040 METRO MAP



2040 GREATER MN MAP



Greater Minnesota Future Plans

- Interstate
- US Highway
- State Highway
- Major Roads
- Airports
- State Bridges
- Local Bridges
- Ports
- Freight Rail
- Future Intermodal facility
- Interregional High Priority Corridors
- Interregional Medium Priority Corridors
- Regional Corridors

Passenger Rail

- Passenger Rail Phase 1
- Passenger Rail Phase 2

Greater Minnesota Future Plans

- Highway Improvements (could include) Additional Lanes, Safety Improvements, Managed lanes, etc...
- Interchange repair, improvements, replace, etc.
- Future county wide transit
- Regional Centers
- Bypass

LOCAL ROAD AND BRIDGE NEEDS – Annual funding gap

Based on 50-year life cycle replacement estimate

20 year total: \$12.1 billion

- City/County bridges \$ 75 million per year
- County highways \$400 million per year
- City roads and streets \$250 million per year
- Township bridges \$ 30 million per year

STATE HIGHWAY NEEDS – Annual funding gap from 2009-2028 District Investment Plans Based on Performance Measures

Statewide total: \$16.1 billion

Districts 1-4 and 6-8 identified funding gap: \$10 billion or slightly over \$500 million per year

Metropolitan District identified funding gap: \$6.1-\$8.1 billion or roughly \$400 million per year

STATE PASSENGER AND FREIGHT RAIL NEEDS – From State Rail Plan

With 80% federal funding: \$190.61 million

Table 7.7 Total Possible Annual Costs, State Rail Plan
(\$millions)

	No Federal Funds	50% Federal Matching Funds	80% Federal Matching Funds
Base Case			
Phase I Infrastructure Costs	\$252.34	\$126.17	\$50.47
Freight Only Improvements, Public Share	\$50.86	\$50.86	\$50.86
Phase I Operating Costs	\$129.83	\$104.49	\$89.28
Subtotal Annual Cash Costs	\$180.69	\$155.35	\$140.14
Total Annual Costs, Capital and Cash Costs	\$433.03	\$281.52	\$190.61
Best Case			
Phase I Infrastructure Costs	\$217.92	\$108.96	\$43.58
Freight Only Improvements, Public Share	\$29.86	\$29.86	\$29.86
Phase I Operating Costs	\$84.85	\$63.89	\$51.31
Subtotal Annual Cash Costs	\$114.71	\$93.75	\$81.17
Total Annual Costs, Capital and Cash Costs	\$332.63	\$202.71	\$124.75

Best Case includes discounted rolling stock, reduced O&M costs, reduced capacity rights costs, higher revenues.

Passenger rail Phase I costs presume traditional MN public debt, 20-year term, 5% annual interest.

Annual Operating Costs include RRIF debt for rolling stock and capacity access, 25-year term, 4.8% annual interest.

METROPOLITAN AREA TRANSIT NEEDS- From Metropolitan Council Transportation Policy Plan 2030

\$45-\$70 million annually needed in additional funding by 2020 and \$135-\$160 million by 2030.

Roughly \$700 million over 20 years

GREATER MINNESOTA TRANSIT NEEDS- From Greater Minnesota Transit Investment Plan

Additional funding needed in 2015: \$58 million; In 2020: \$75 million; In 2025: \$98 million; In 2030: \$126 million.

Roughly \$600 million over 20 years

PORT AND WATERWAY NEEDS – From Minnesota Ports Association

Funding for Immediate Projects: \$14.9 million

Funding for Long-Term Projects: \$32.215 million

Total need: \$47.115 million

The funding gap for all modes of surface transportation on both the state and local systems for the next 20 years based on established long-range plans is approximately \$30 billion or \$1.5 billion per year. In order to meet all of the improvements identified in our 2040 Roadmap over the next 30 years, additional funding will be needed. The amount of money needed will depend on the exact improvements made, particularly in highway corridors that need to be expanded in the future.

RE-DESIGNING AND IMPROVING TRANSPORTATION

Today, government at all levels is working to re-design the process used to deliver services and projects to improve cost effectiveness. As we plan for the future transportation system our state will need to be successful, we should be continually exploring ideas and strategies for accomplishing more with limited dollars, ensuring that transportation dollars are used for their intended purposes and that transparency allows the public to understand the funding of the system.

We will need to re-think how projects are delivered, working to eliminate wasted time or steps in the process that can prove costly. We need to make sure we are building for the future so that investments are made that will last for many years.

Above all, we need to constantly be exploring ways to improve the safety of our transportation system – reducing fatalities and injuries for everyone who relies on the transportation system to get where they need to be.

Improving Safety

Reducing fatalities and injuries has to be a top priority and a prime consideration in planning for future investments on the transportation system. A number of programs and strategies are needed to continue to reduce the number of fatalities to fewer than 400 per year. We know that the vast majority of fatalities occur on two-lane rural highways. Efforts need to be focused on the most effective ways to continue to reduce crashes and fatalities.

Transparency and Accountability

The legislature needs to provide greater oversight of all transportation funds and how they are spent. A stronger effort should be made to ensure the use of dedicated funds for construction, repair and operations of the transportation system.

Legislation introduced during the 2011 session and supported by the Transportation Alliance and the Minnesota Chamber of Commerce would provide more detailed reports to the legislature on expenditures from the trunk highway fund as well as the status of major highway projects. This legislation should be enacted

Cost of Delay

Each year that a project is delayed adds about 10 percent to the final cost of the project for taxpayers. Construction inflation in Minnesota and around the country has traditionally been higher than the Consumer Price Index (CPI). When projects are deferred due to a lack of funding, the final project can cost significantly more than the original estimate.

Building For The Future – Getting it right the first time

Cost increases can also come about if we don't engage in long-term planning and instead build facilities that need to be upgraded later on at additional cost.

The lack of funding for highway improvements can lead to a patchwork approach that requires costly traffic management strategies and shifting of traffic, creating other system problems. Recent projects to address inadequate roadways with limited funding in the Twin Cities Metropolitan Area demonstrate the challenges of constructing and delivering the right solution for today and the future.

Maintaining the System With Limited Funds

The state needs to continually work to ensure that the right road is on the right road system from a jurisdictional perspective. Should some state highways be turned back to counties given the function they serve within the roadway system and will that in turn reduce the long-term maintenance costs for the state? Are some county highways more appropriate on the state system given the amount of traffic? Should some county roadways be turned back to city and township jurisdictions? Should some roadways be classified as minimum maintenance roads or changed from paved roads to gravel roads? These issues impact the size and cost of maintaining the roadway system.

Strategies for Efficient project delivery

According to a report issued August 3, 2011 by the Congressional Research Service, major highway and transit facilities can take somewhere between 10 and 15 years to plan and build. Available data and research shows that environmental review is not usually the biggest source of delay. Other important factors include: lack of community consensus, lack of funding, managing utilities and the impact on property owners.

Streamline permitting process – Deadlines should be established for making decisions on needed permits and processes. In addition, efforts should be made to include stakeholders early on in the process to identify issues and develop consensus to avoid costly delays closer to construction.

Innovative Delivery Option for Certain Projects

- Road Closures
- Design-Build
- Right-of-Way Acquisition
- Recycling Construction Materials

Some Of The Areas FHWA Is Exploring:

- Expanding Use of Programmatic Agreements
- Right-of-Way Flexibility
- Utility Accommodation and Relocation
- Pre-Fabricated Bridges
- Warm Mix Asphalt
- Safety Edge

Manage Demand on the System

With ongoing congestion and safety problems, interest has grown in ways to use information and communication technologies to mitigate congestion and improve safety.

Intelligent transportation systems (ITS) vary in technologies applied, from basic management systems such as car navigation; traffic signal control systems; container management systems; variable message signs; automatic number plate recognition or speed cameras to monitor applications, such as security CCTV systems; and

to more advanced applications that integrate live data and feedback from a number of other sources, such as parking guidance and information systems; weather information; bridge deicing systems and others.

Green Ideas

The Oregon Department of Transportation has completed a demonstration project that placed 8,000 square feet of solar panels alongside the busy I5/I-205 interchange south of Portland.

Vehicles in free-flowing traffic generally emit fewer pollutants than those stuck in stop-and-go conditions. Unfortunately, since 1980, we have only added three percent in new capacity to our highway system. As a nation, we're wasting 4.2 billion gallons of motor fuel,

adding unnecessary CO2 emissions to the atmosphere. A national study found that improvements at 233 traffic bottlenecks across the country would reduce carbon emissions by as much as 77 percent.

Increasing the availability of transit service is another important strategy for improving the quality of the environment. If all current public transportation riders were to use their own personal vehicles instead of transit, they would generate 16.2 million metric tons of CO2 annually.

Concrete producers are also major consumers of industrial by-products that otherwise would wind up in landfills. They annually use 15 million tons of fly-ash – a fine particulate that results from the combustion of a solid fuel like coal -- as a binding agent, keeping that material out of our landfills.

FUNDING/FINANCING

Federal Transportation Funding

The National Surface Transportation Policy and Revenue Study Commission found that an investment of \$225 billion annually from all sources would be required over the next 50 years to upgrade our existing system to a state of good repair and create a system able to sustain a strong economy. We are spending less than 40% of this amount today. We need to invest \$140 billion more each year.

From federal fiscal year 2004 through 2009, the state paid in \$3,507,546,000 and received back \$4,116,756,000 in federal highway funds for a ratio of 1.17.

For federal fiscal year 2012, MnDOT anticipates \$679 million in federal funds. Of the \$679 million, \$525 million comes from federal formula funds for highways and \$154 million was earmarked by Congress for projects that Minnesota has already been authorized to construct. The federal transit funding in the FY2012 STIP program is \$303 million, with \$269 million of that amount for the Twin Cities metropolitan area and \$34 million for Greater Minnesota Transit. Of the \$269 million for metropolitan area transit, approximately \$150 million is for the Central Corridor LRT line.

Federal funding for surface transportation programs: highways, transit, public safety and rail is currently being provided under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU) which was passed in 2005 with an expiration at the end of federal fiscal year 2009 (September 30). Since that time, Congress has passed eight short-term extensions of SAFETEA-LU, allowing federal funds to continue to be distributed to the states at the same levels as those proscribed for the last year of the act.

The short-term extensions and lack of certainty at the federal level have been problematic for states as they try to plan projects – particularly major projects that require a number of years to prepare and construct. This uncertainty has only added to the unemployment problem in the construction industry which has been hard hit by the recession. A new surface

transportation authorization act and a new Federal Aviation Administration authorization act are desperately needed as the country's infrastructure continues to decline and our economy needs job creation.

State Transportation Funding

Transportation Dollars for Transportation

In an era of limited funding, it's critical that transportation funds be used for their intended purpose: the construction, reconstruction and operations of our transportation system. This means that funds need to be accurately tracked and accounted for and a real commitment to investing dollars wisely needs to be maintained.



Loopholes in Tax Policy

Minnesota voters decided that sales tax revenue from the purchase of vehicles should be used to maintain and improve the transportation system. However, current law contains a number of exemptions from payment of the motor vehicles sales tax for certain transactions.

Revenue Options/Financing Options

See Funding Matrix

Many options exist for providing the additional resources necessary to adequately maintain and improve our transportation system. From increases in dedicated user fees to bonding and other financing strategies, we have the tools to avoid leaving huge problems for future generations. We now need political leadership and a commitment to responsible stewardship to make our transportation system work for decades to come.

The Roadmap to 2040 – Let's Make Minnesota the Best it Can Be

We have a plan for getting people back to work building the infrastructure that will allow our businesses and our communities to thrive. We need leadership and resources to make this vision a reality.

By working together across jurisdictions and transportation modes and thinking about long-term needs, community leaders and partners in transportation can deliver a strong, safe, effective transportation system that works for all Minnesotans for many years to come.

State Transportation Funding Options Matrix			
Funding Mechanism	Per Unit Yield	Illustrative Rate	Hypothetical Estimated Revenue
Highway User Tax Distribution Fund Sources			
Fuel Tax	1¢/gallon ≈ \$30 million	5¢/gallon	≈ \$150 million
Fuel Tax Rate Indexing	1% ≈ \$6.2 million	3% / yr.	≈ \$18.6 million
Vehicle Registration Tax (Tab Fees)	1% total revenue increase	5%	≈ \$26.5 million
Motor Vehicle Sales Tax	½% MVST incr ≈ \$13.8 million	1% increase	≈ \$27.6 million
Motor Vehicle Sales Tax Exemptions	Over \$100 million per year		\$20-80 million
Special Fuels			
Liquified petroleum	Currently: 21¢ per gallon		
Liquified natural gas	Currently: 16.8¢ per gallon		
Alcohol	Currently: 28¢ per gallon		
Compressed natural gas	Currently: 0.2435¢ per cubic foot		
E-85	Currently: 19.8¢ per gallon		
Kerosene	Currently: 28¢ per gallon		
Biodiesel	Currently: 28¢ per gallon		
Other Transportation-related Potential Sources			
Notes:			
Drivers License Fees	Licensed drivers: 3.9 million	\$5 per driver	≈ \$19.5 million
Annual fee for Electric Vehicles		\$100 per vehicle	
"Unrefunded" non-highway-use fuels to DNR	\$19.7 million in FY2010		
Underground Petroleum Tank Release Fund	2¢ add'l tax effective 4 months/yr		\$30 million
Sales Tax on Leased Vehicles	≈\$40M annual revenue		\$40-\$50 million
Currently: After \$30M deduction 1/2 for Greater MN Transit, 1/2 metro counties			
Local Wheelage Tax	≈\$80M for all 87 counties		\$40-80 million
Local gasoline and diesel tax			
Sales Tax on Motor Fuels	Tax Expenditure ≈ \$609M in 2010		
Transit Advertising			
Transit Farebox Recovery			
Transit Contracts for Service			
Sales tax on auto repair services	Tax Expenditure ≈ \$169.5M in 2010		
Surcharge on DWI and moving violations			
Non-Transportation Dedicated Fees / Taxes			
Notes:			
General Fund transfers	FY2012-13 biennium: \$125.6M.; \$350M transfer to THF in 2000 Session		
Local Option Sales Tax	5 metro counties levy ¼¢ (\$100M/yr); Greater Mn counties authorized to levy ½¢ (2010≈\$80M)		\$80-\$200 million
Bonding / Financing			
Trunk Highway Bonds	MnDOT policy: 20% for debt service		
G.O. Bonds	\$33M -\$55M local bridges		
	\$10-\$30M local roads, \$20-\$40M transit		
Local Roads and Bridges, Transitways and facilities			
Transportation Revolving Loan Fund (TRLF)	loan funds available		
Right-of-Way Acquisition Loan Fund (RALF)	loan funds available		
"New" Revenue Types			
Public Private Partnerships			
Weight / Distance Tax			
Mileage Tax			
Local Street Maintenance Fee			
Payroll Tax - Transit			
"Value Capture" taxes			
Tolling			
Congestion Pricing			
Gaming Revenue - Racino, etc.	\$250M estimate		\$250 million/year