2040

Minnesota's Roadmap to the Future

Minnesota Transportation Alliance

Transportation in Minnesota

A Roadmap To 2040

By:

Minnesota Transportation Alliance

Saint Paul, MN 55103-2106

Phone: (651) 659-0804

www.transportationalliance.com

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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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"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.

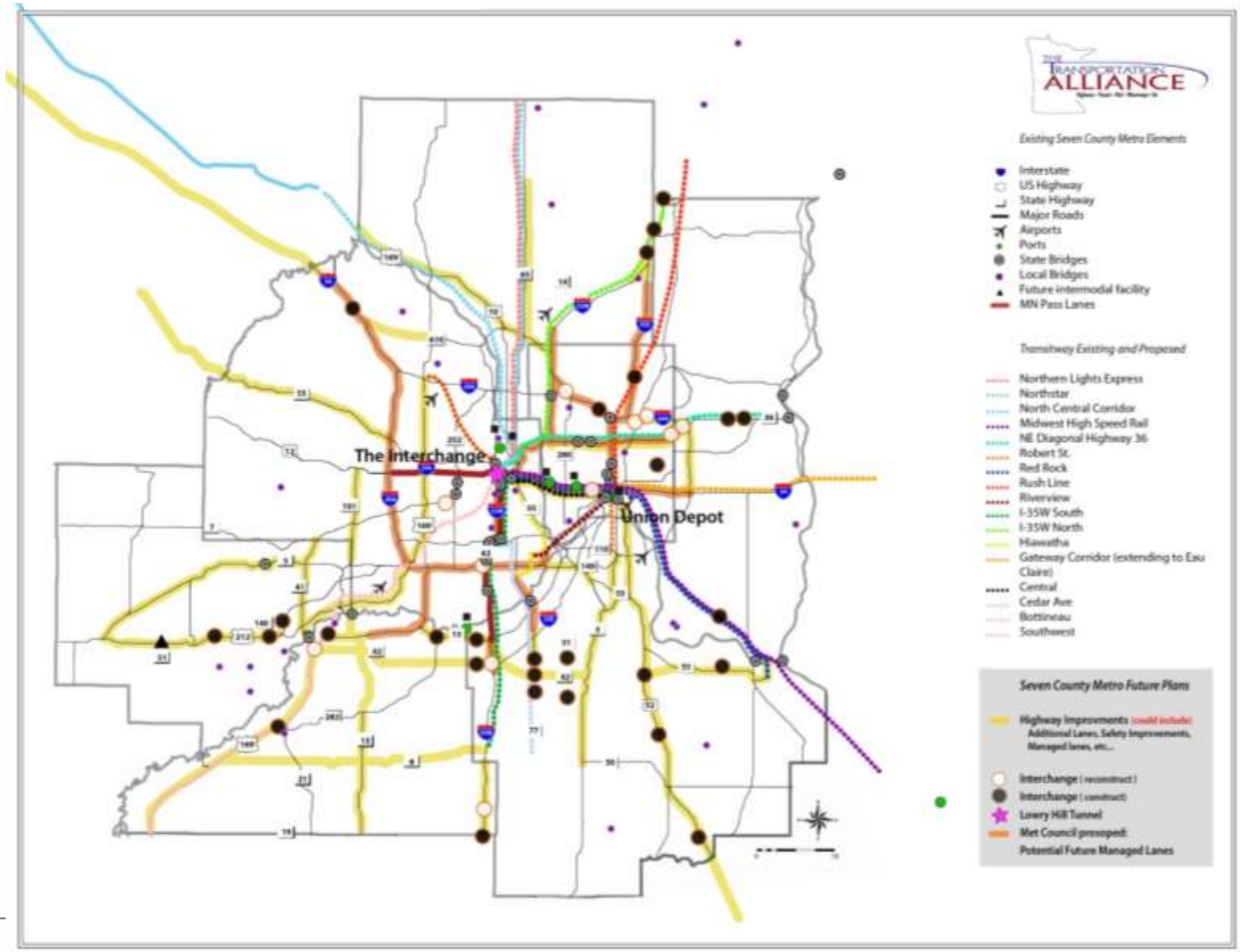
PERFORMANCE MEASURES

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

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 etablished 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 SAFEATEA-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

TRANSPORTATION ROADMAP 2040

South 35W Main thoroughfare into Downtown

35W Bridge Collapse 2007

Minnesota's Transportation System - Our Future is Riding on it

Generations of Minnesotans have a built an integrated, multimodal transportation system with many miles of roadways, and freeways, thousands of bridges, miles of railway, ports and waterways, airports and transitways along with bus service for residents throughout the state.

This foundation can serve as a springboard to the future, attracting new businesses that look to a strong transportation infrastructure to move products and people.

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Munsinger Gardens, St. Cloud Minnesota

Downtown Minneapolis farmers market

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

- Will our agricultural, manufacturing, retailing and other business sectors be able to efficiently move commodities and products and effectively compete in a global marketplace?
- Will our state be home to a strong transportation construction industry that provides high-quality jobs while improving the safety and effectiveness of our public infrastructure?
- We have a real opportunity to transform Minnesota's future and make our transportation system the driving force behind our economic growth and quality of life.

Failing Infrastructure Damages Our Economy

All across the country, our crumbling roads and bridges, growing congestion and lack of investment in transportation systems impose a huge cost on both individuals and businesses.

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.

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In addition, the US will lose high-value, high-paying jobs resulting in employee income in 2040 that is $252 billion less than would be the case if we made the necessary investments in surface transportation. By 2040, the costs of infrastructure deficiencies are expected to result in the US losing more than $172 billion in foreign exports compared to the level expected with sufficient investments in our infrastructure.

TABLE 1 ★ The Mounting Cumulative Cost of Deficient and Deteriorating Surface Infrastructure Imposed on Americans*

PERFORMANCE AREA	COST OF DEFICIENCIES IN 2010	BY 2020	BY 2040
Pavement and Bridge Conditions	$10	$58	$651
Highway Congestion	$27	$276	$1,272
Rail Transit Conditions	$41	$171	$370
Bus Transit Conditions	$49	$398	$659
Inter-City Rail Conditions	$2	$10	$20
TOTAL COST TO SYSTEM USERS	**$130**	**$912**	**$2,972**

Present value of cost stream in billions of constant 2010 Dollars

SOURCE: EDR Group analysis using Transportation Economic Impact System (TREDIS), 2011 NOTE: Totals may not add due to rounding.

EXISTING SYSTEM

MINNESOTA'S TRANSPORTATION SYSTEM – An Asset Built by Previous Generations

Minnesota's transportation system is comprised of many modes: highways, roadways, city streets, bridges, interchanges, transit systems, railways, ports and waterways, and airports. Minnesota residents and businesses rely on this system every day.

It is critical that we maintain this public asset, one that is worth billions of dollars, while planning for growing demands on the system.

Local Roadway System

While most of the miles traveled occur on state highways and interstate freeways, the largest number of miles of roadway is under the jurisdiction of local governments. Townships are responsible for a whopping 58,166 miles of roads connecting residents to their communities and farms to markets. Counties have jurisdiction over 44,947 miles of roadway, while cities maintain 22,021 miles of streets. With its many lakes and rivers, Minnesota needs thousands of bridges. Currently, the state maintains 20,265 bridges.

Local roads represent a critical element of the transportation system as all trips – even those that don't involve automobiles -- begin and end on a local road. The safety and quality of county, city and township roads has to be a key consideration in future planning if we want to keep communities connected and provide a high quality of life for Minnesota residents.

Southern Minnesota rural road

Table 3.1 Minnesota Roadways: 2007 Vehicle Miles of Travel Share and Mile Share

Road System	Annual Vehicle Miles Traveled (VMT, Billion)	Share of Annual VMT (%)	Miles	Share of Miles (%)
State Highways	33.41	58	11,883	8.4
County State Aid Highways	12.87	22	30,544	21.7
Municipal State Aid Streets	4.53	8	3,221	2.2
County Roads	1.04	2	14,403	10.2
Township Roads	1.19	2	58,166	41.2
City Streets	4.33	8	18,800	13.3
Other Roads	0.04	<1	4,025	2.9
Total	**57.41**	**100**	**141,042**	**100**

Note: Shares may not sum to 100 percent due to rounding.

State Corridor System

Connecting key regional centers is a critical function of Minnesota's highway system. The goal of the Interregional Corridor System is to maintain safe, timely and efficient transportation services between regional centers.

As more and more people and economic activity concentrated around regional centers, MnDOT recognized the need to focus on key connections between these centers. The goal of the Interregional Corridor System is to support the economic vitality of the state by maintaining safe and efficient transportation connections between regional trade centers. Perfomance measures are key to tracking the progress of the state in meeting this goal.

With anticipated future growth in population and economic activity, a continued lack of investment on these important corridors will reduce traveler safety and mobiilty, ultimately impairing the ability of Minnesota's regional centers to compete in today's global marketplace.

Twin Cities Metropolitan Area Transit

In the Twin Cities metropolitan area, transit service plays a key role in reducing congestion, improving air quality, moving thousands of people efficiently and helping to attract business development in a thriving metropolitan area.

From local circulator buses to express bus service, light rail transit and inter-city commuter rail, transit networks connect people throughout the region, providing cost savings for individuals and businesses.

In the Twin Cities Metropolitan Area, METRO TRANSIT, as the Twin Cities' largest operator of bus and rail transportation, provides about 85 percent of regular route service hours in the Metro region.

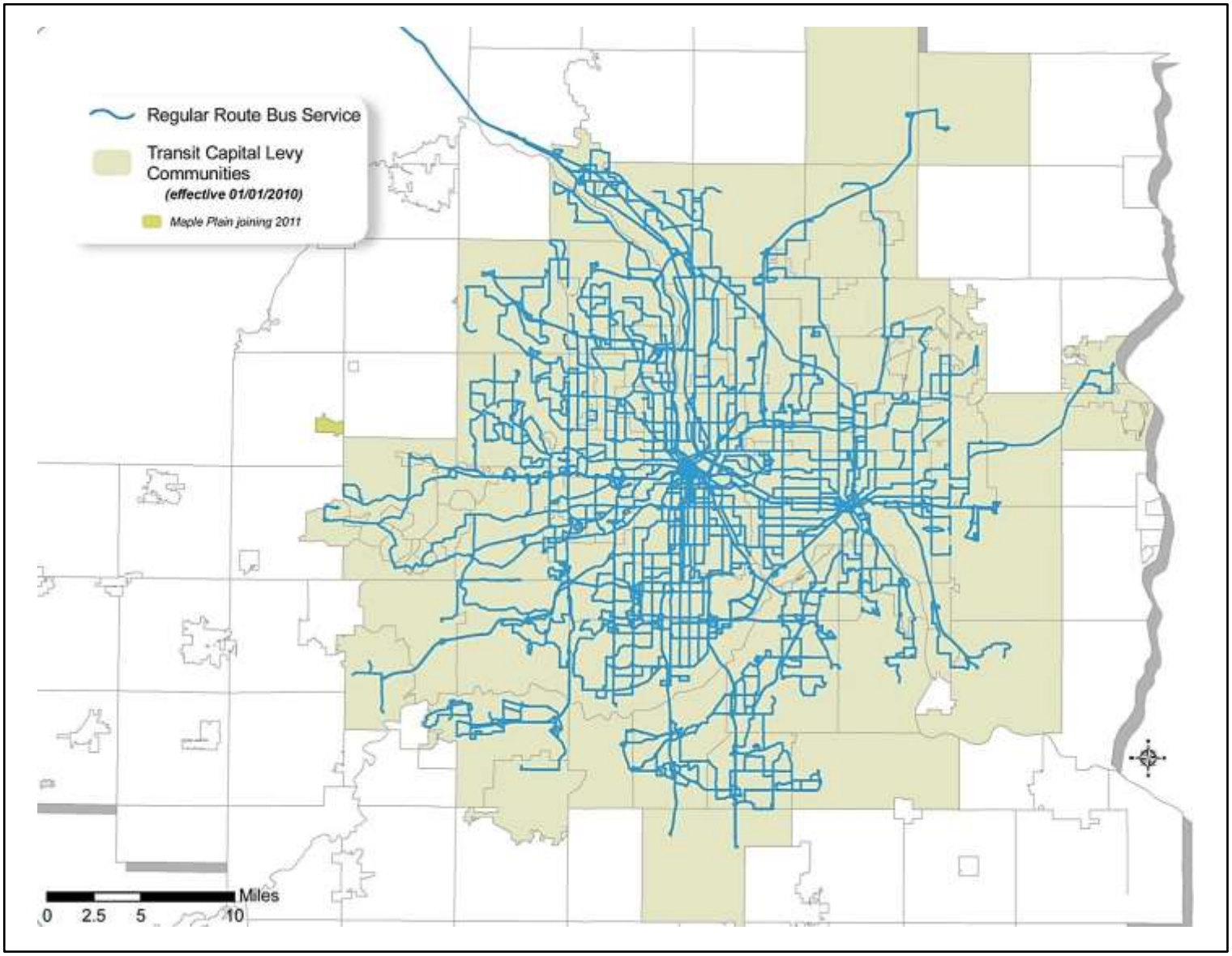
TRANSIT LINK service, also known as dial-a-ride, is a shared-ride minibus or van service for the general public in the seven-county metropolitan area.

METRO MOBILITY, the regional Americans with Disabilities Act (ADA) and Special Transportation Services (STS) para transit program for people with disabilities, contracts with private operators to provide the majority of its service, particularly in the urban core.

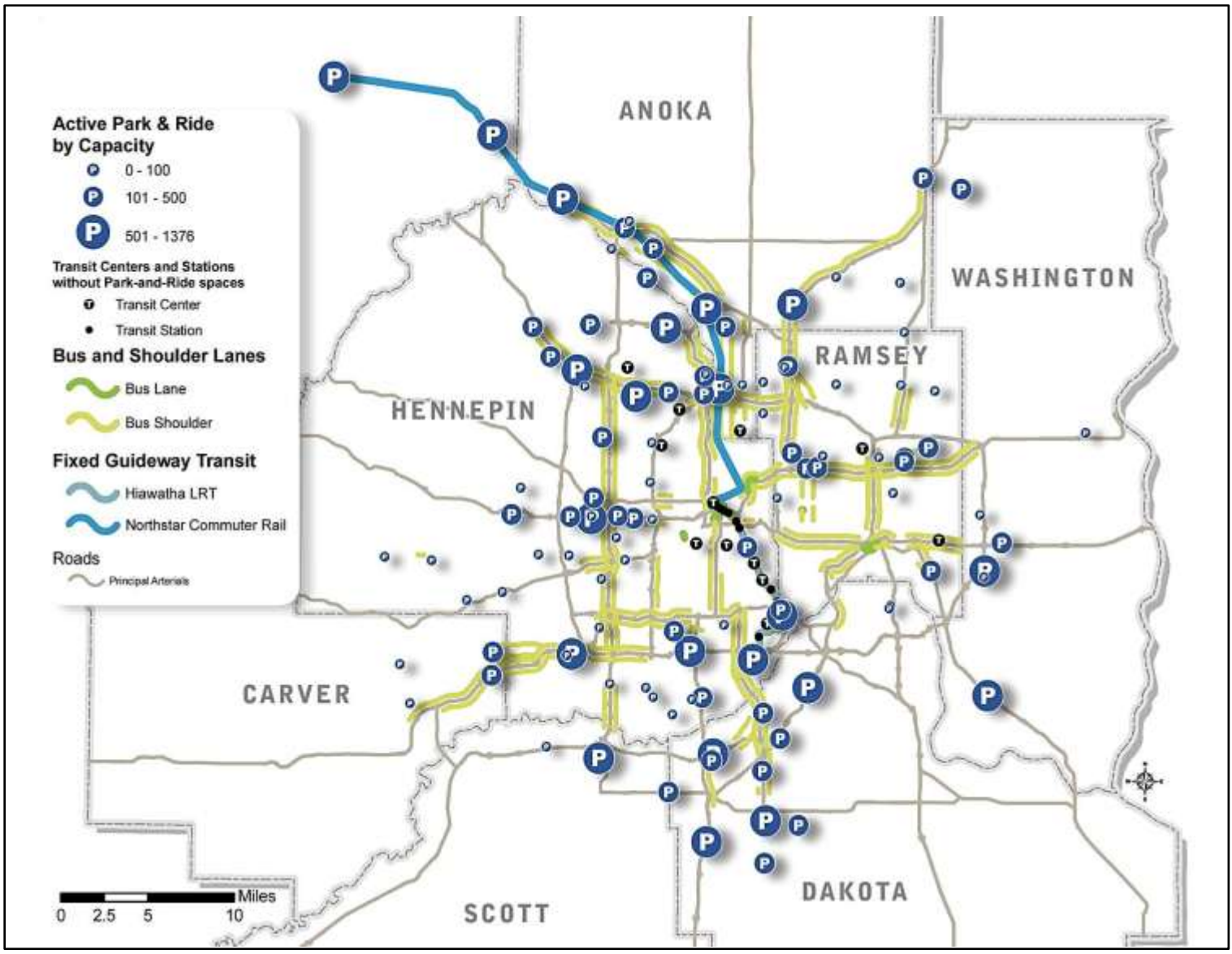
Suburban Transit Systems operate independently, providing critical service during rush hours from outlying areas to the downtowns. These systems include: Southwest Transit, Minnesota Valley Transit, Maple Grove Transit, Shakopee Transit, Plymouth Metrolink, Prior Lake transit and Smart Link (Carver and Scott Counties).

Since 1984, metro-area commuters have taken millions of trips provided by members of the Suburban Transit Association. In fact, from 2003-2007, ridership on STA member buses increased by 40 percent.

EXISTING REGULAR ROUTE BUS SERVICE



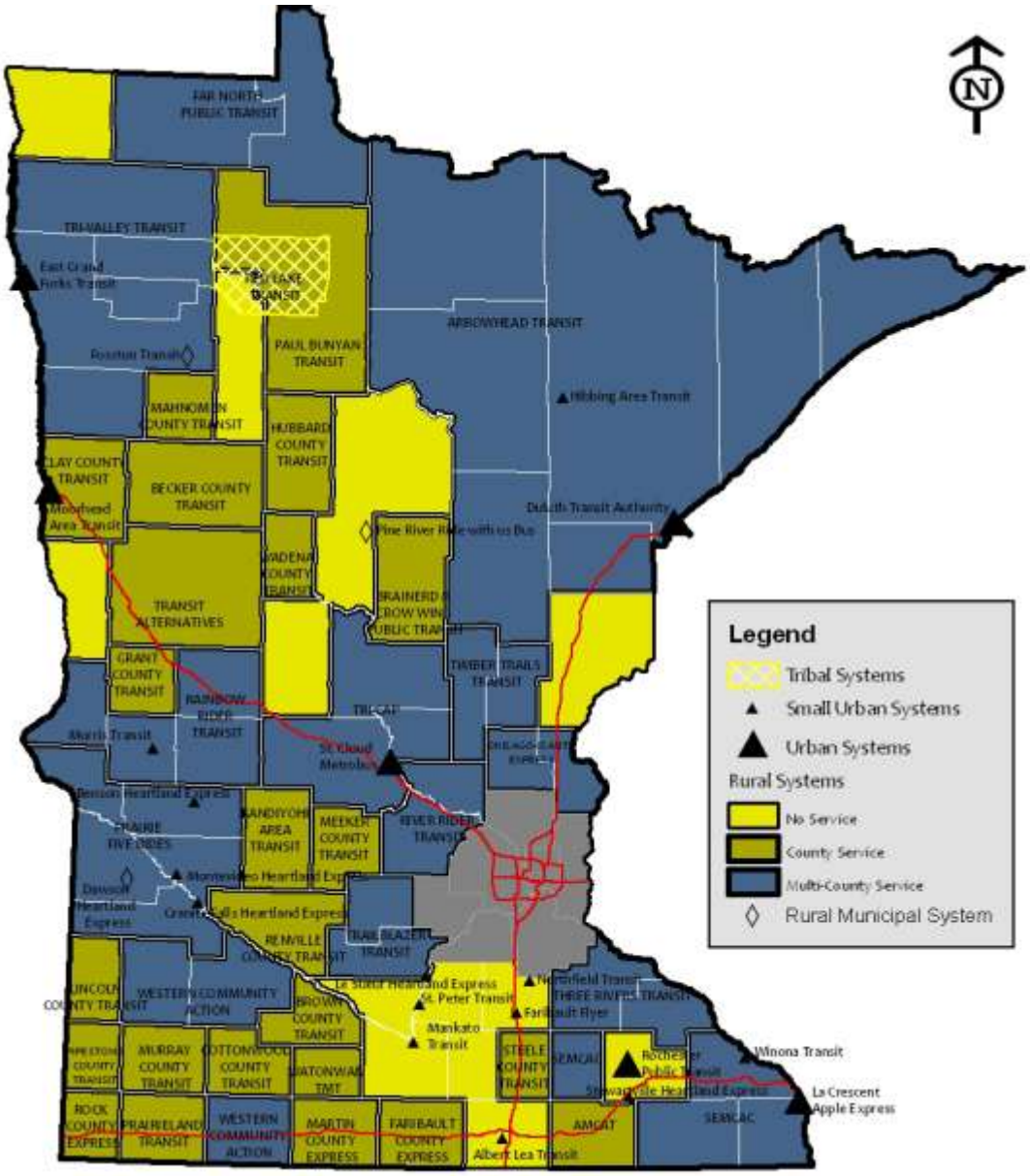
EXISTING TRANSIT INFRASTRUCTURE



GREATER MINNESOTA TRANSIT

Bus service provides a critical lifeline to thousands of residents in Greater Minnesota who need to get to their jobs, to medical services, to school and to other important destinations. Without public transit service, the state would face higher costs for increased human services needs and greater social isolation. In many communities outside the Twin Cities area, there is no taxicab service or other options outside of family and friends for those who cannot or should not be driving themselves. Public transit allows people to remain in rural communities, in their own homes, maintaining independence and a higher quality of life.

2009 Minnesota Public Transit Ridership:



100 million passenger trips

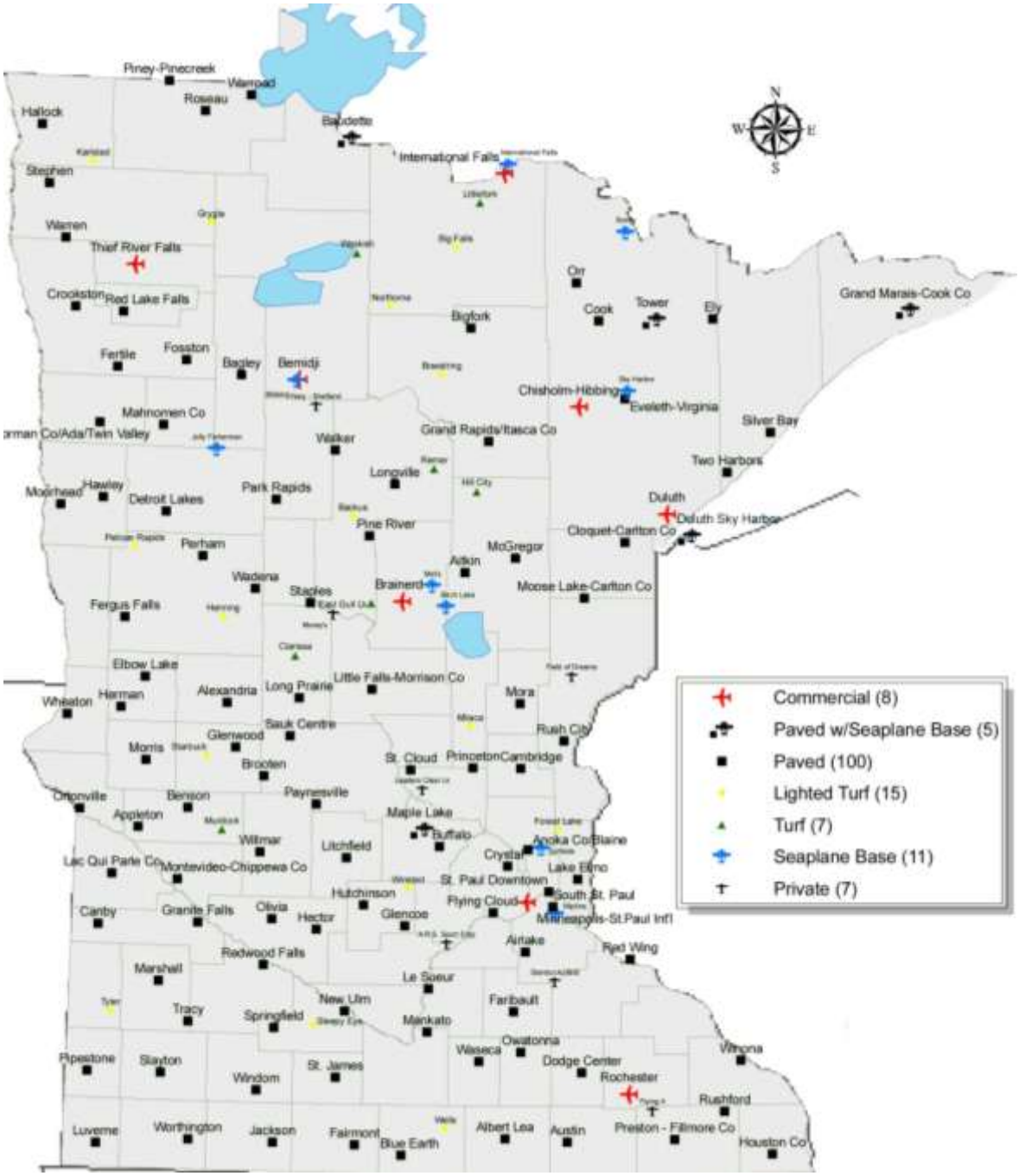
88.9 million Passenger trips - Twin Cities Metropolitan Area

11.1 million Passenger trips - Greater Minnesota

In Greater Minnesota, six urban systems, 41 rural systems and 13 small urban systems provide some level of transit service in most of the state. In 2009, four counties had no public transit service at all and eight counties had service only in certain cities within the county.

AVIATION

Minnesota is home to 136 public general aviation and commercial airports that allow for moving people and freight by air. Most of these airports – 127 of them – are located in Greater Minnesota. Nine airports, including the Minneapolis-St. Paul International Airport and eight general aviation airports are located in the Twin Cities Metropolitan Area.



RAILWAYS/PORTS AND WATERWAYS

The movement of freight forms the backbone of any economy and Minnesota's ability to move commodities and products has been key to its success. Whether it's getting farm products to market or manufactured products to foreign countries, the state's system of highways, rail, ports and waterways and airports allow businesses to operate in our state and compete in a global economy.

By far, most freight is hauled by truck in Minnesota so our roadways will continue to be a critical element of freight movement along with our ports and railroads.

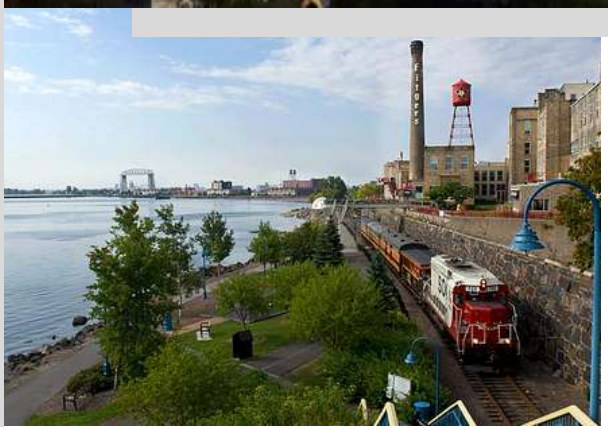
Minnesota has 4,538 route miles of railroads serviced by 22 railroad companies.

Railroad companies are divided into three classes, based on operating revenues and status defined by the U.S. Surface Transportation Board. Minnesota has four Class I railroads, one Class II railroad and 14 Class III railroads.

For over a century, the Port of Duluth-Superior has been the backbone of this region's economy. Long known as the Great Lakes "bulk cargo capital," this port accommodates the maritime transportation needs of a wide range of industries ranging from agriculture, forestry, mining and manufacturing to construction, power generation, and passenger cruising.

Located at the western end of the Great Lakes St. Lawrence Seaway (GLSLS), it is the farthest-inland freshwater seaport and one of the leading bulk cargo ports in all of North America. By far, the largest and busiest on the Great Lakes, the Port of Duluth-Superior handles an average of 46 million short tons of cargo and over 1,100 vessel visits each year...connecting the heartland of the U.S. and Canada to the rest of the world.

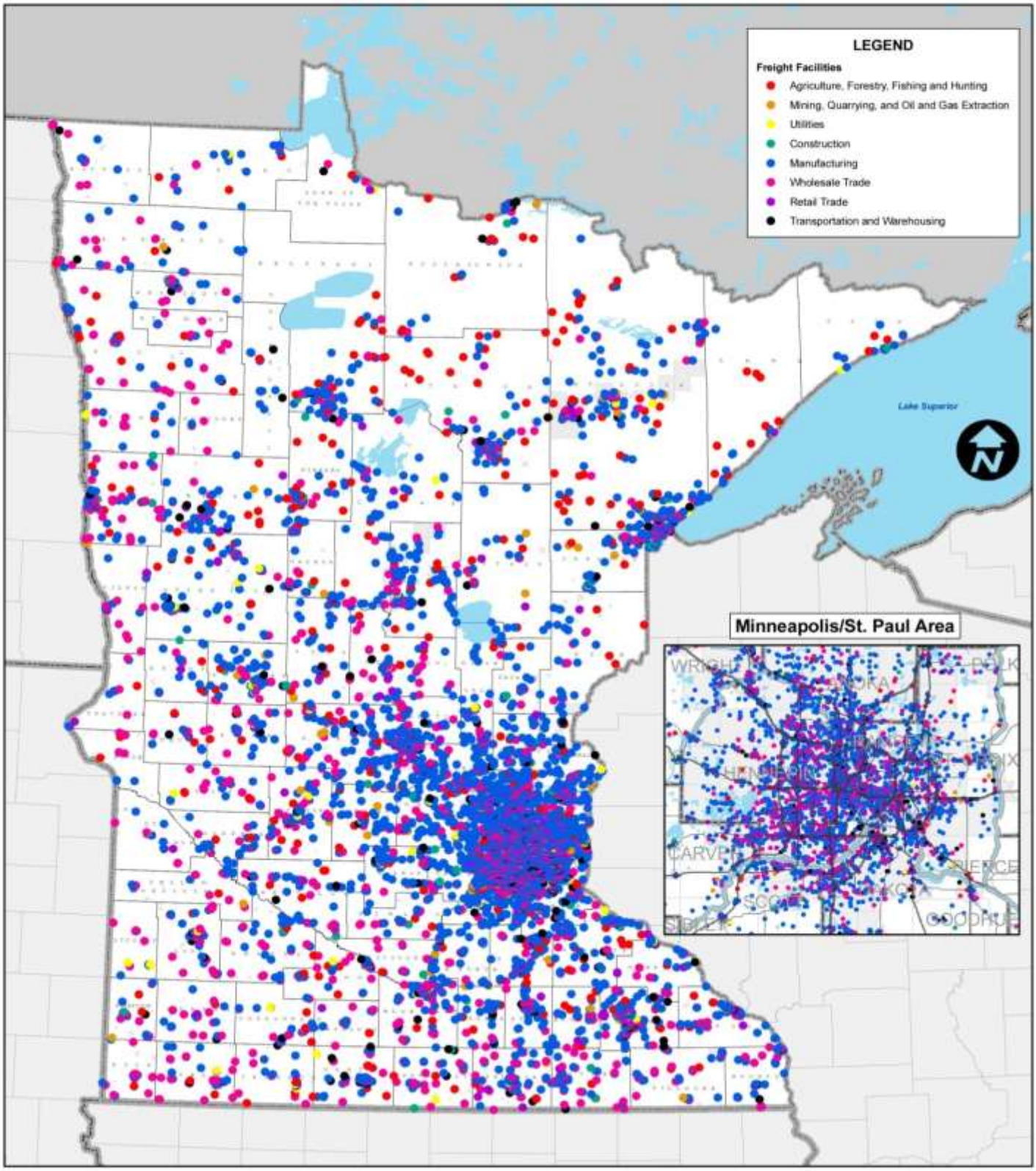
The railroad industry, led by the Northern Pacific Railway and Saint Paul and Pacific Railroad, advertised the many opportunities in the state and worked to get immigrants to settle in Minnesota. James J. Hill, in particular, was instrumental in reorganizing the Saint Paul and Pacific Railroad and extending lines from the Minneapolis-Saint Paul area into the Red River Valley and to Winnipeg. Hill was also responsible for building a new passenger depot in Minneapolis, served by the landmark Stone Arch Bridge which was completed in 1883. During the 1880s, Hill continued building tracks through North Dakota and Montana. In 1890, the railroad, now known as the Great Northern Railway, started building tracks through the mountains west to Seattle. Other railroads, such as the Lake Superior and Mississippi Railroad and the Milwaukee Road, also played an important role in the early days of Minnesota's statehood. Later railways, such as the Soo Line and Minneapolis and St. Louis Railway facilitated the sale of Minneapolis flour and other products, although they were not as involved in attracting settlers.



MINNESOTA FREIGHT FACILITIES MAP

Office of Freight and Commercial Vehicle Operations

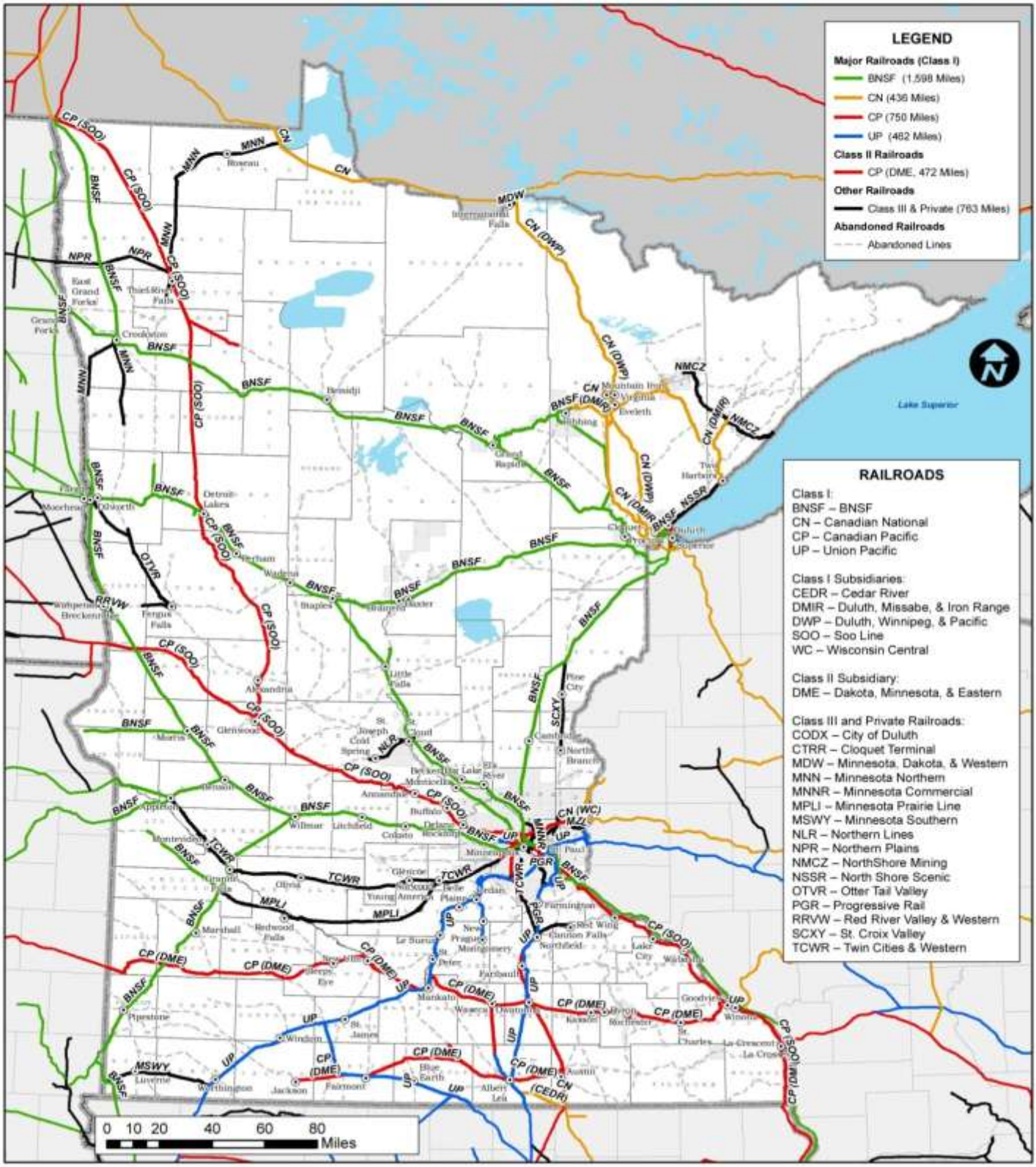
March 2010



MINNESOTA FREIGHT RAILROAD MAP

Office of Freight and Commercial Vehicle Operations

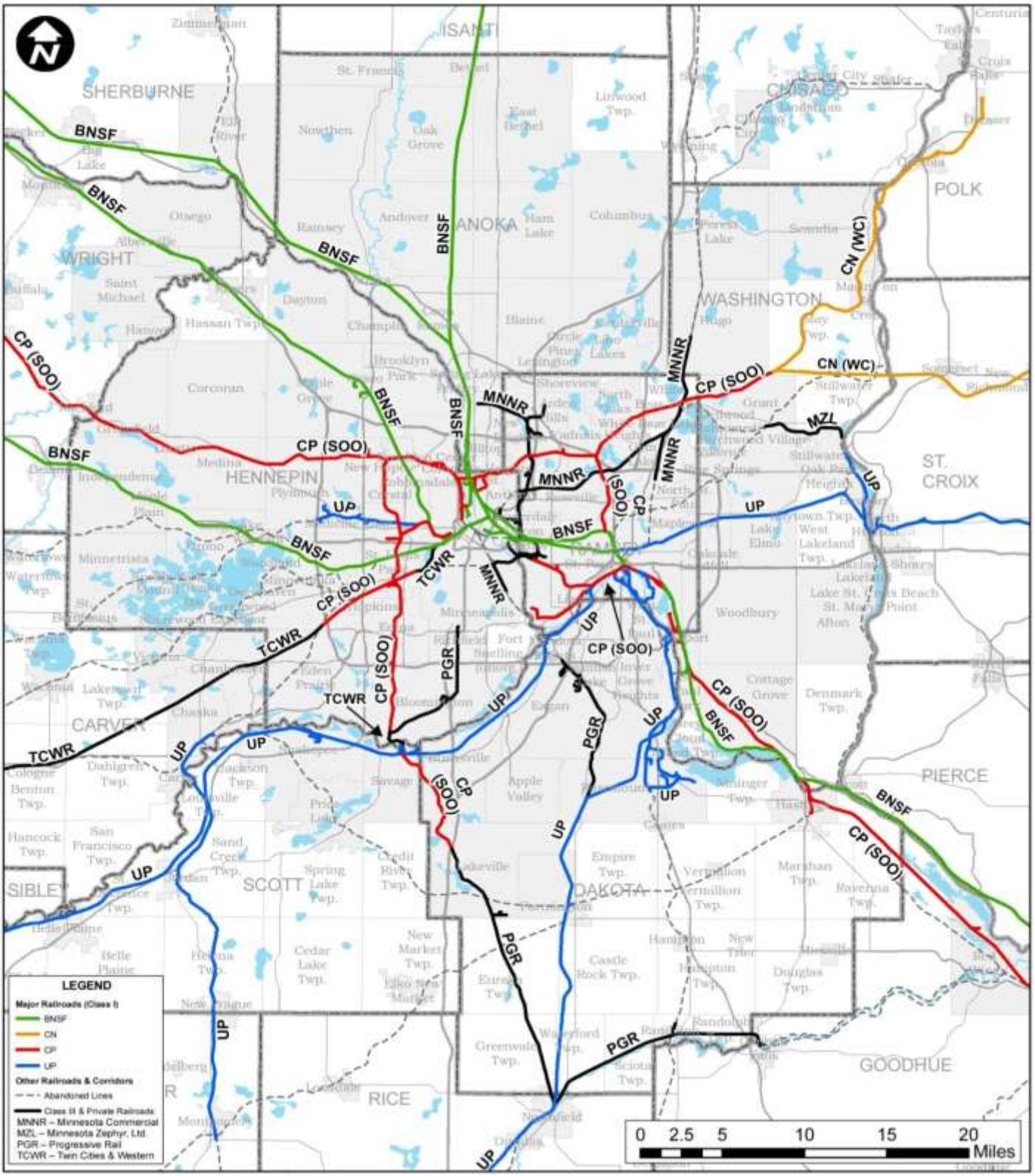
April, 2009



TWIN CITIES AREA FREIGHT RAILROAD MAP

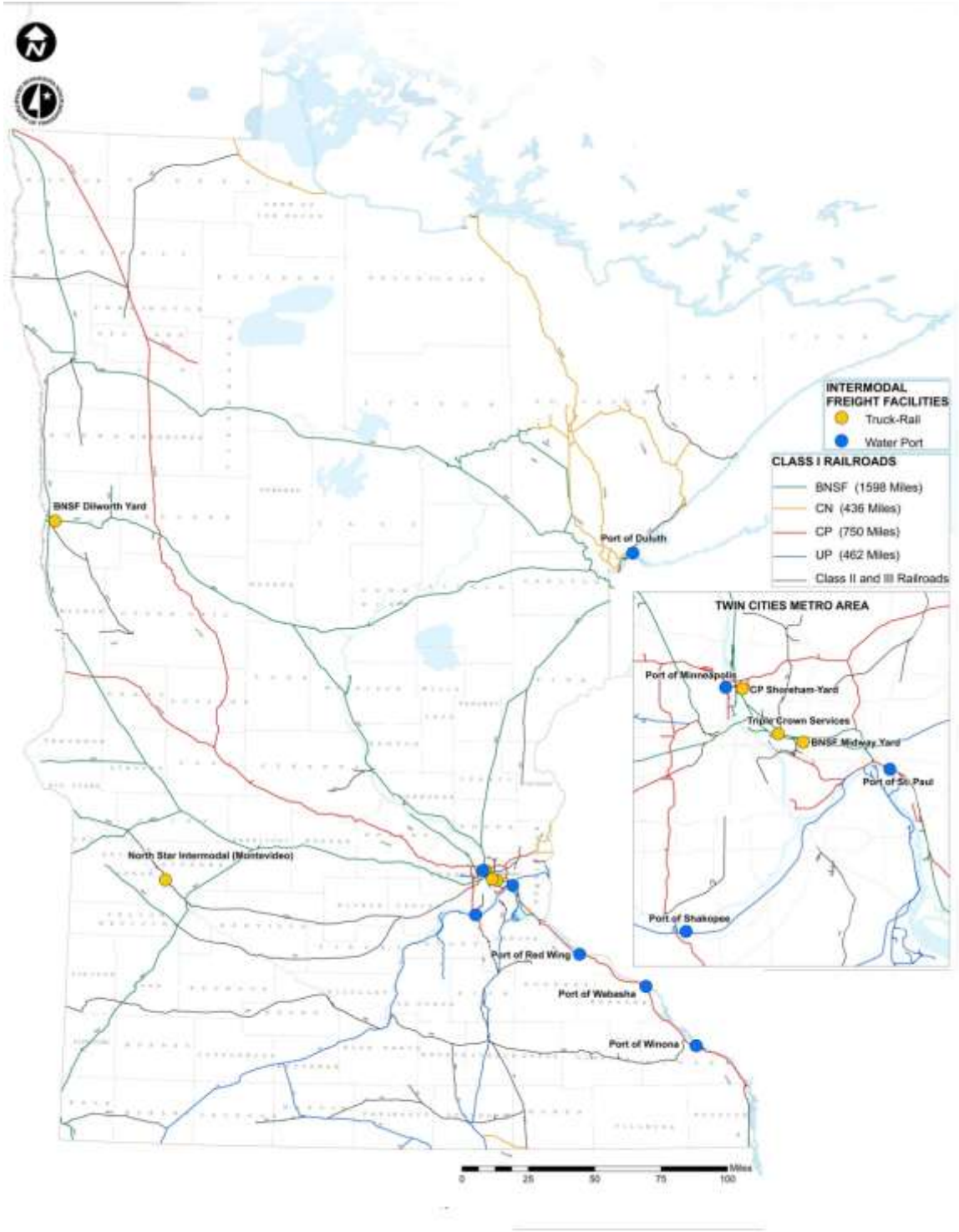
Office of Freight and Commercial Vehicle Operations

July, 2009



TRUCK-RAIL AND WATERWAY INTERMODAL FACILITIES

Minnesota's port and waterways include five ports on the Mississippi River (Savage, Minneapolis, St. Paul, Red Wing and Winona) and four ports on Lake Superior (Duluth, Two Harbors, Silver Bay and Taconite Harbor).



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.

The President signed the Federal-Aid Highway Act of 1956 on June 29, 1956.

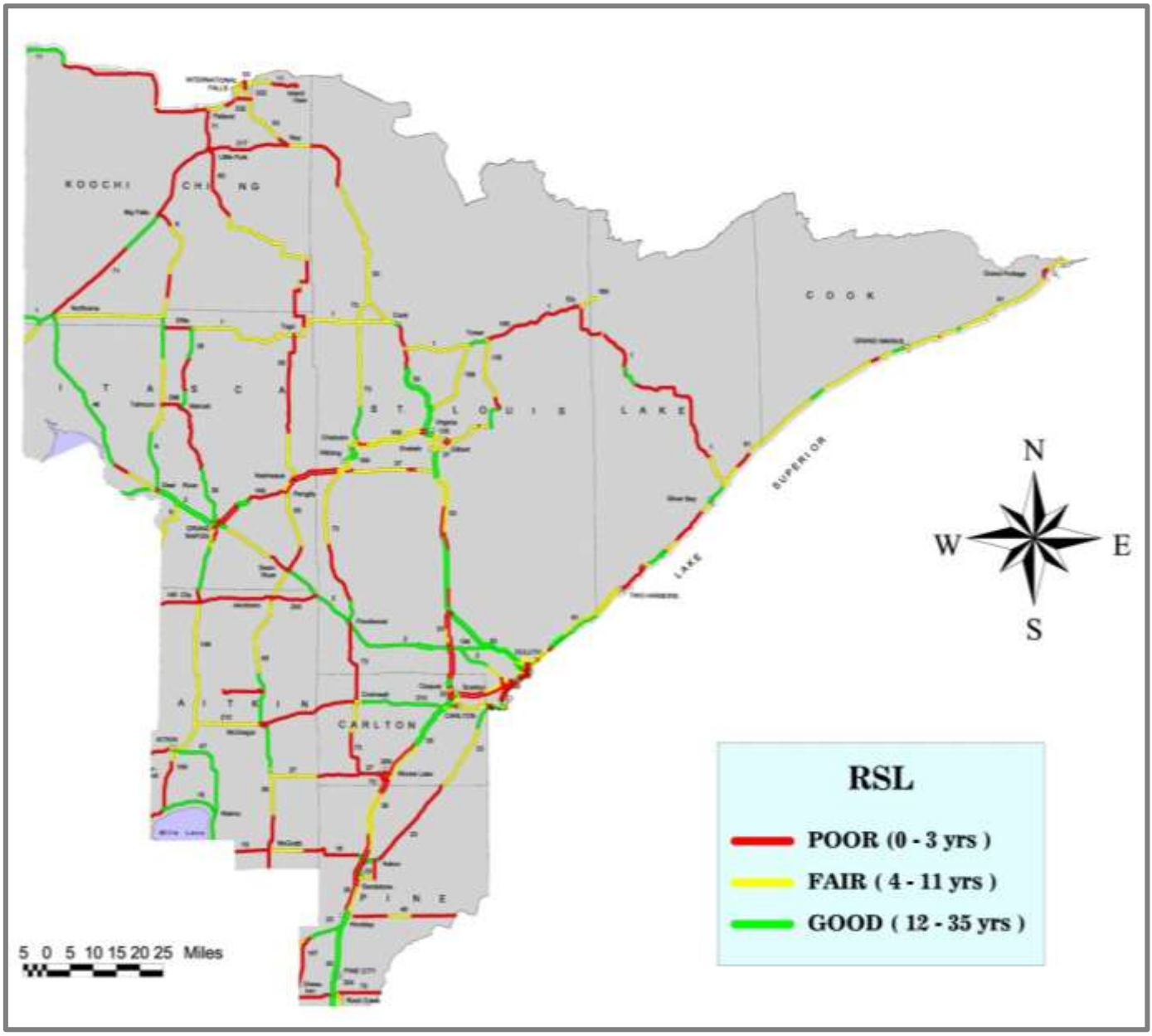
With an original authorization of 25 billion dollars for the construction of 41,000 miles (66,000 km) of the Interstate Highway System supposedly over a 20-year period, it was the largest public works project in American history through that time.

On June 29, President Eisenhower signed the Federal-Aid Highway Act of 1956, guaranteeing full, dedicated funding for the project. The National Highway Defense System (NHDS), as it was initially known, has been referred to as one of the 'Seven Wonders of the United States,' among other such notable structures as the Golden Gate Bridge, the Hoover Dam and the Panama Canal. What sets the NHDS apart from those wonders, and what Eisenhower addressed as one of its greatest selling points, is the fact that it truly has strengthened and enhanced the Union (including noncontiguous states Alaska and Hawaii, as well as the territory of Puerto Rico). Only the Panama Canal, which similarly made the United States more accessible to itself by greatly reducing the time required to ship goods from coast to coast, can claim anything approaching a similar distinction.

Our State Highways – Running out of Life

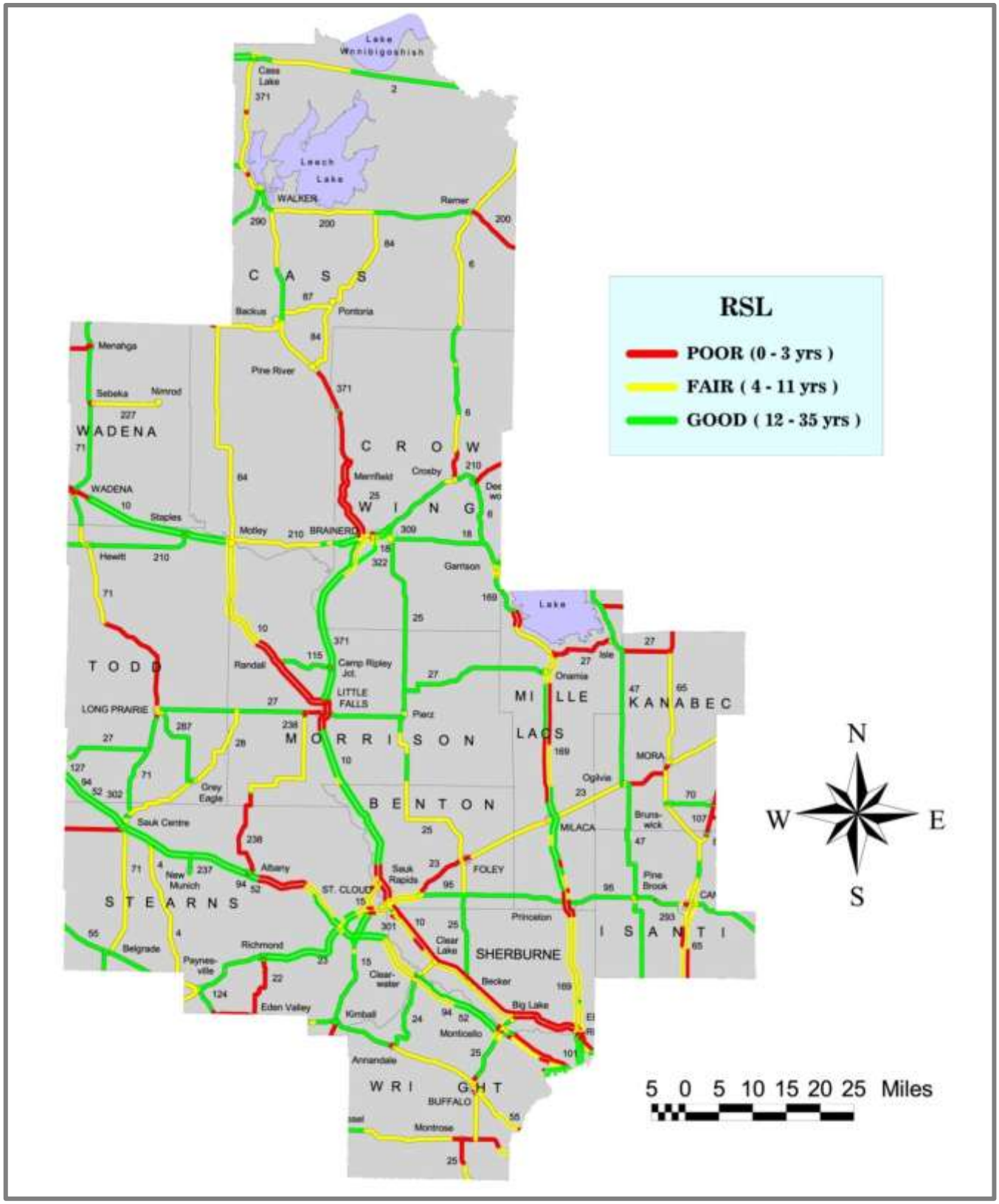
The state estimates the Remaining Service Life (RSL) of state highways each year. The RSL is an estimate, in years, until the Ride Quality Index will reach a value of 2.5, generally considered to be the end of a pavement's design life. Most pavements will need some type of major rehabilitation or reconstruction when the RQI has reached this value. Rehabilitation activities with long service lives will add a considerable number of years to the RSL of a pavement. Short-term fixes, such as patching, may increase the pavement smoothness for a short time, but do not result in many additional years of RSL.

2010 DISTRICT 1 Remaining Service Life

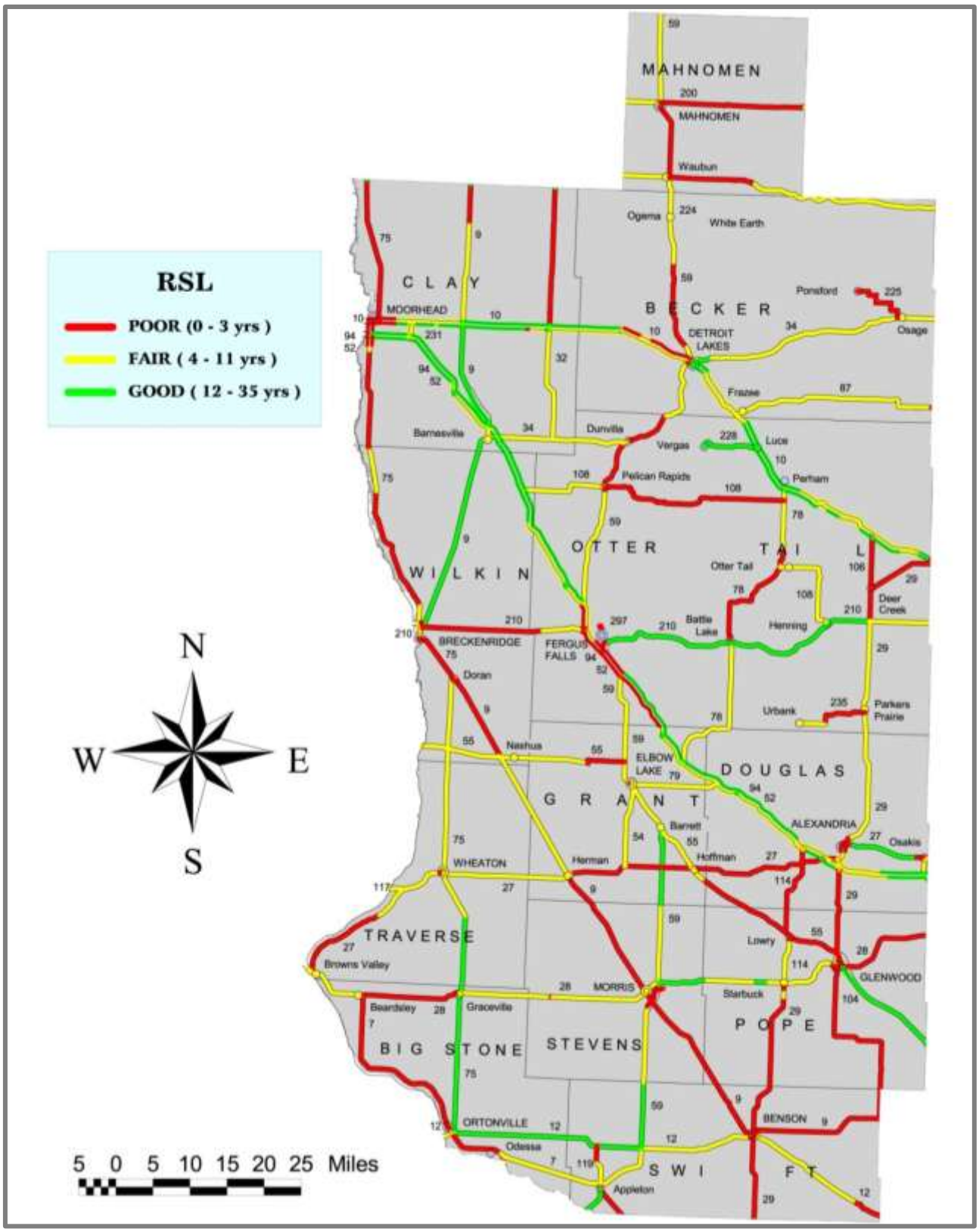


2010 DISTRICT2 Remaining Service Life

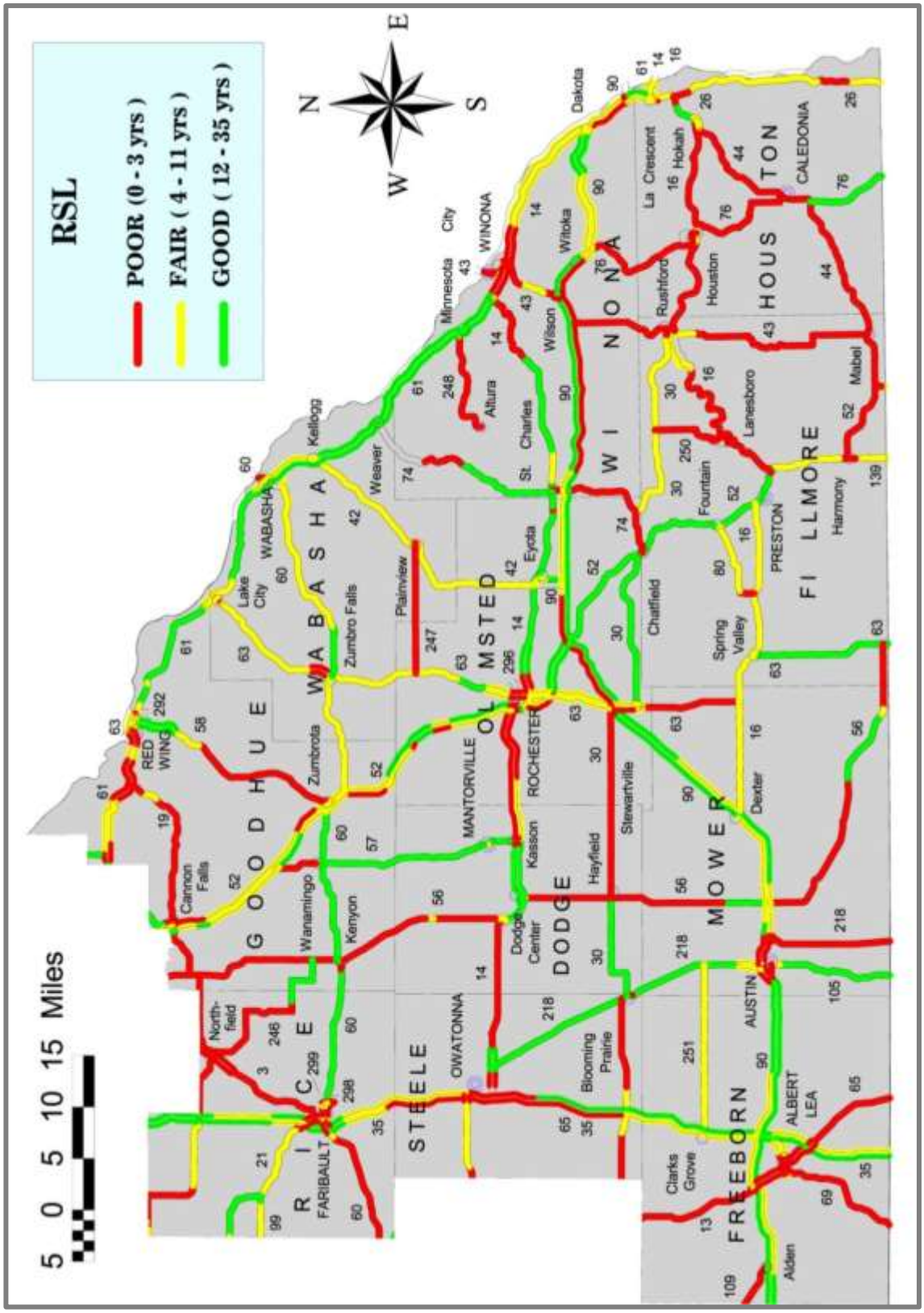
2010 DISTRICT3 Remaining Service Life



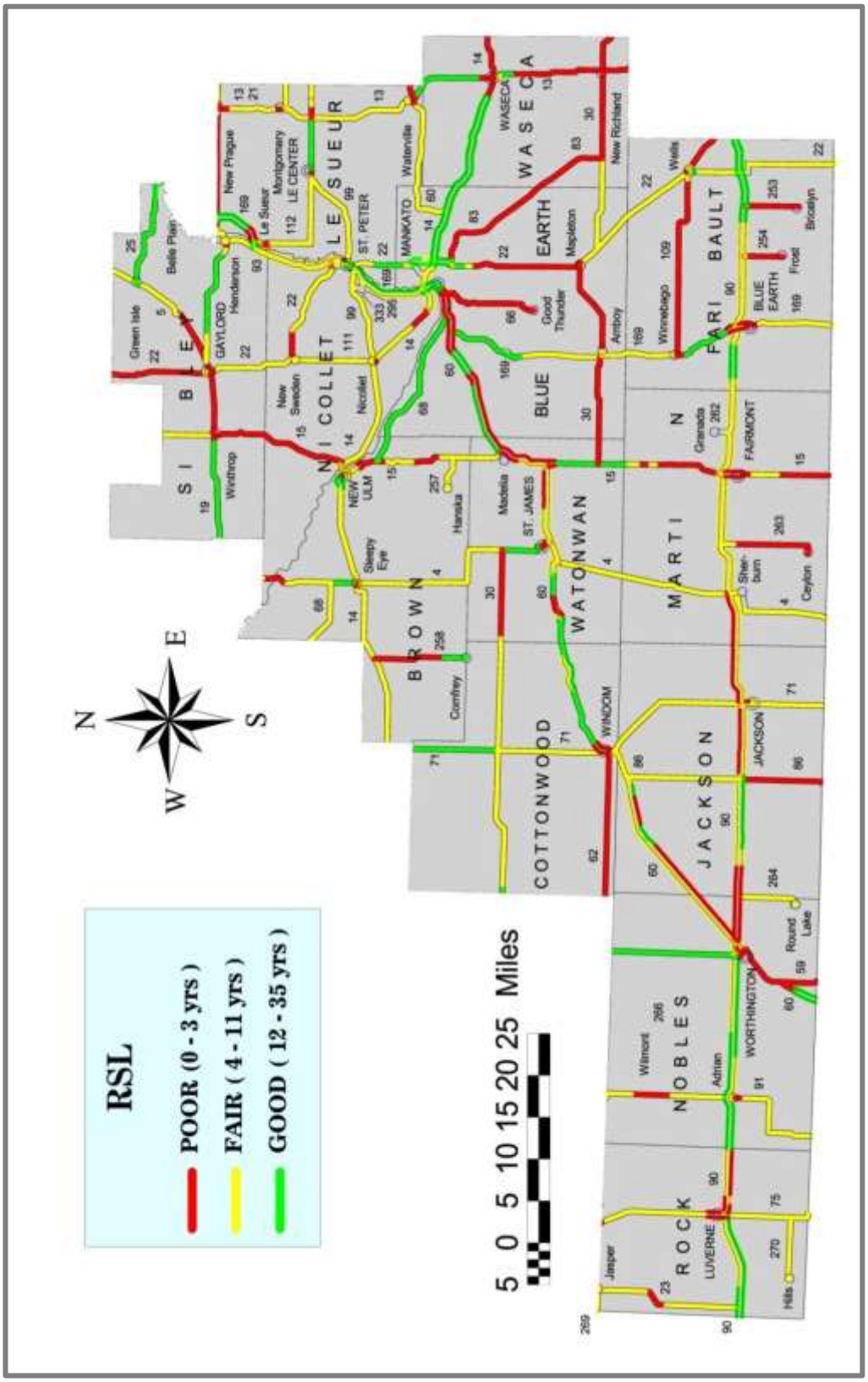
2010 DISTRICT4 Remaining Service Life



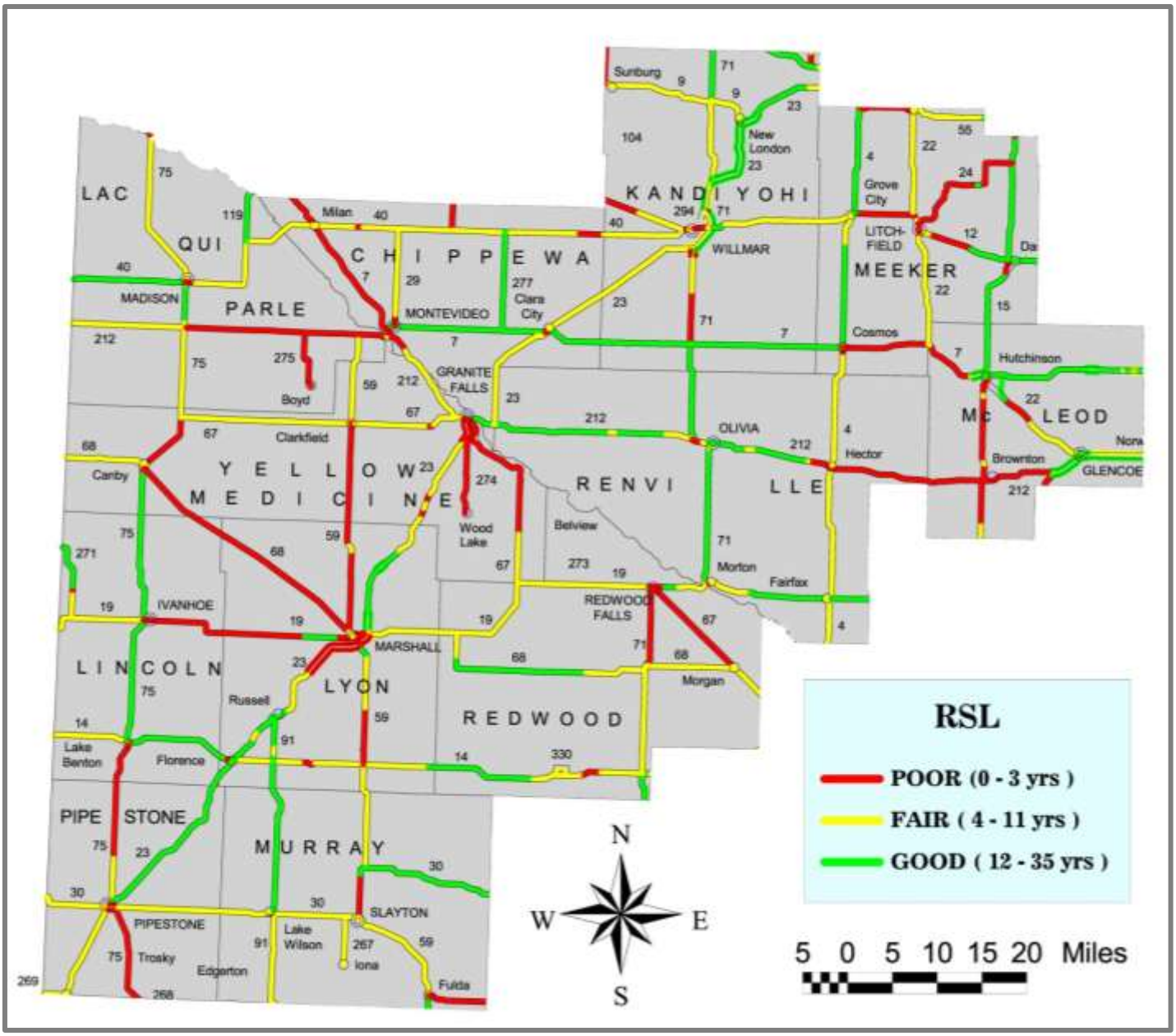
2010 DISTRICT 6 Remaining Service Life



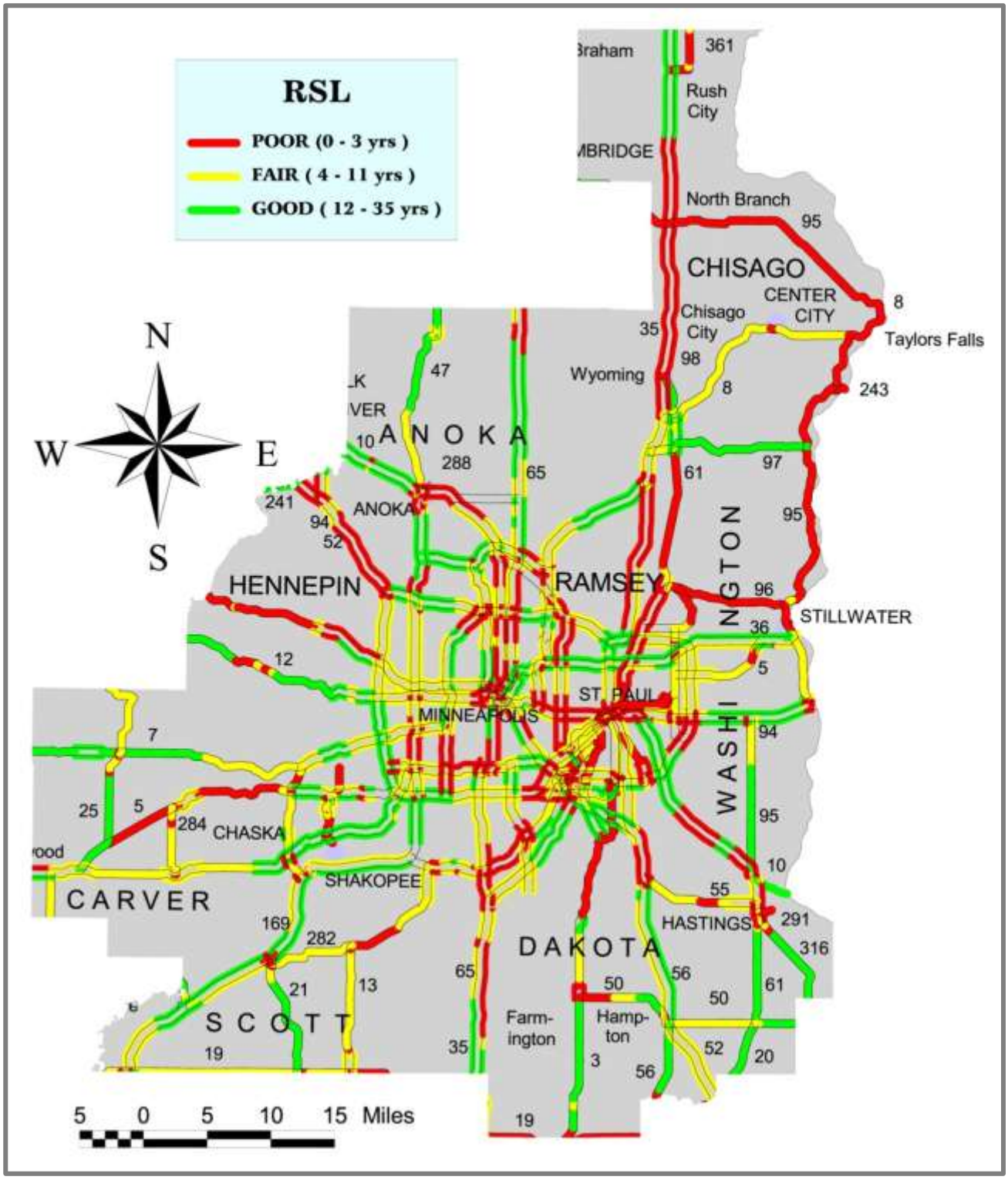
2010 DISTRICT 7 Remaining Service Life



2010 DISTRICT 8 Remaining Service Life



2010 METRO DISTRICT Remaining Service Life



MINNESOTA'S FUTURE SYSTEM

A Roadmap To 2040

By 2040, an estimated 70 million more people will live in US metropolitan regions. Every American accounts for about 40 tons of freight to be hauled each year, requiring an additional 2.8 billion tons of freight to be moved to and from metropolitan areas. Our current transportation system cannot manage the increased load.

As we look toward the future and how to meet the coming challenges, it's also important to look at the history of our transportation system. In the early years of statehood, access to rivers for transporting goods was a critical factor in the location of major cities like Minneapolis and St. Paul. Railroads soon spread across the country, providing people with reliable transportation beyond their own neighborhoods. Transportation played a key role in the location and development of Minnesota communities.

In the coming decades, one million more people will move into Minnesota, generating an additional 4 million trips every day. Freight movement will grow dramatically as businesses reach out to more markets and products are delivered right to our doorsteps. Our transportation system will need to move more people and freight, provide more transportation options and transit service, and more safely and efficiently connect communities.

Good Roads Movement

In the late 1800s, the Good Roads Movement swept the country, including Minnesota. Bicyclists joined forces with farmers to advocate for paved roads in rural areas where dirt or gravel roads often turned to mud or dust and made travel difficult. Good Roads activists worked to educate the public and lawmakers, arguing that good roads were essential to the welfare of the country and that the funding of roads was properly a government function. Citing the commerce clause of the US Constitution, two Supreme Court rulings ended the debate over federal funding for roads, culminating in the signing by President Woodrow Wilson of the Federal Aid Road Act of 1916.

Minnesota Good Roads was organized in 1893 and played a pivotal role in the development of Minnesota's road system.

In 1988, Minnesota Good Roads became the Minnesota Transportation Alliance, a statewide coalition of organizations advocating for a safe and effective transportation system that works for all Minnesotans. Our members, both private and public sector, are all involved in the planning, designing, building and operating of Minnesota's transportation system every day.

The Transportation Alliance continues the legacy of Minnesota Good Roads in advocating for the funding necessary to build a safe and effective transportation system. More recently, the Alliance co-chaired the campaign in 2006 to pass a constitutional amendment dedicating the motor vehicle sales tax to highway and transit purposes. The amendment passed with 59 percent of voters saying "yes" to increased funding for transportation.

A Transportation Plan

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

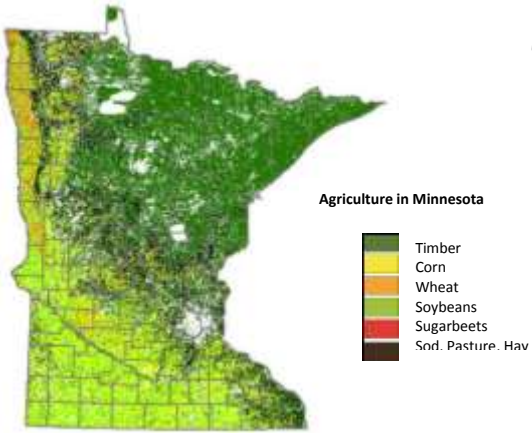
In looking toward the Minnesota transportation system the state will need in 2040, we asked our members to provide their experience and expertise in transportation to identify key investments that will be needed on our transportation system by the year 2040. Local government officials, engineers, planners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

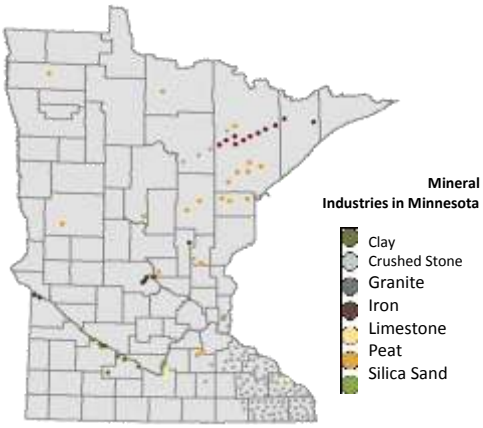
We started with maps generated through agency studies dealing with specific modes and then combined and added to those study efforts.

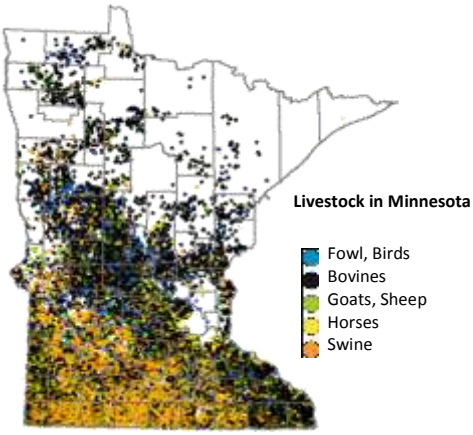
Local Roadmaps Of The Future

Minnesota's future will clearly involve the need to move many more tons of freight. While most of the state trunk highway system has been built to a 10-ton standard, many county highways were not built to that standard, forcing haulers to make more trips with lighter loads. Minnesota also has a patchwork of weight limit exemptions in state law for certain commodities or haulers or certain roadways in the state.

Minnesota's major industries rely on a strong transporation infrastructure. From agricultural interests needing good farm-to-market connections, to mineral industries, livestock, retailers and others, getting people and products moving is key to our state's economic health.







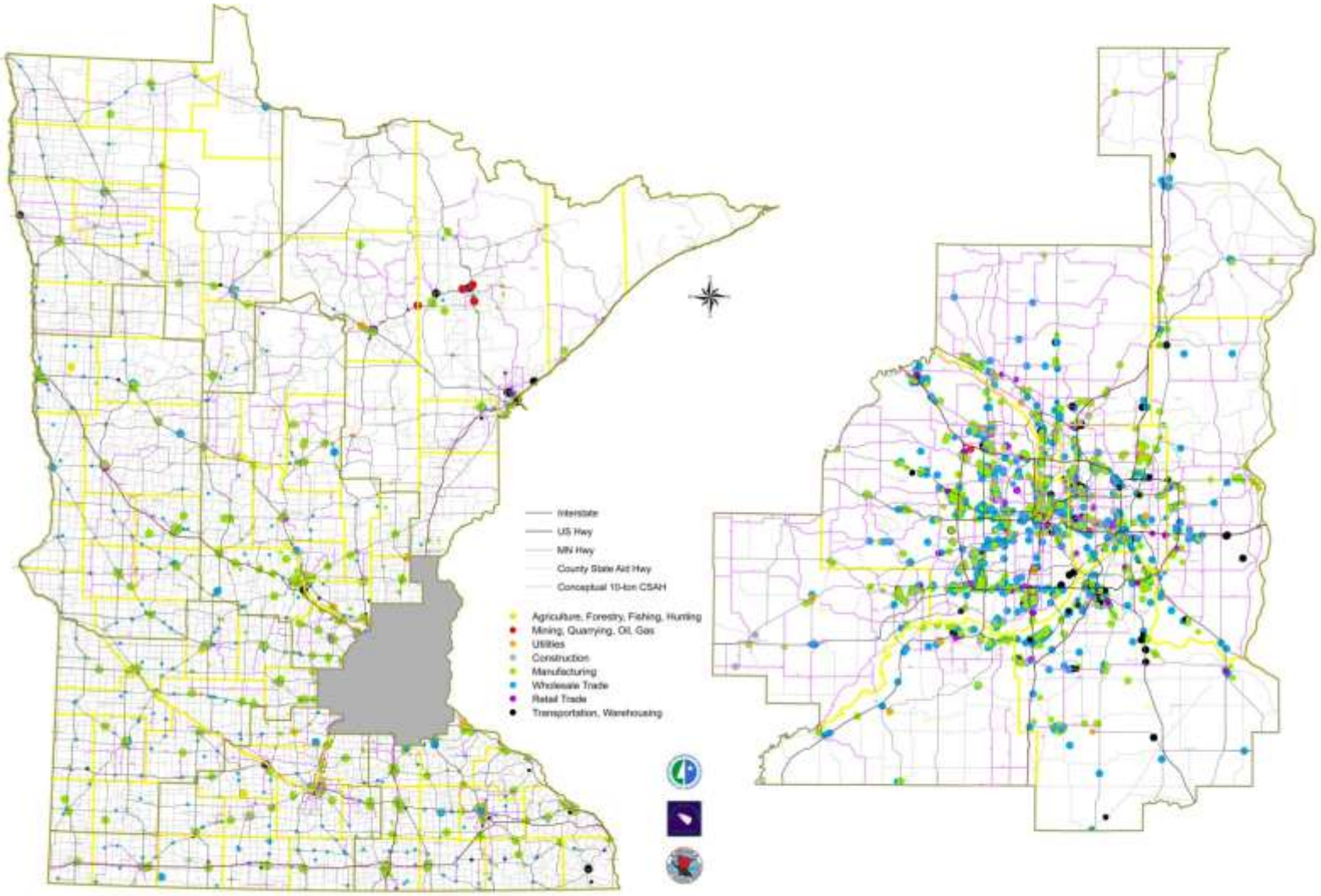
LOCAL FREIGHT CORRIODORS FUTURE NETWORK

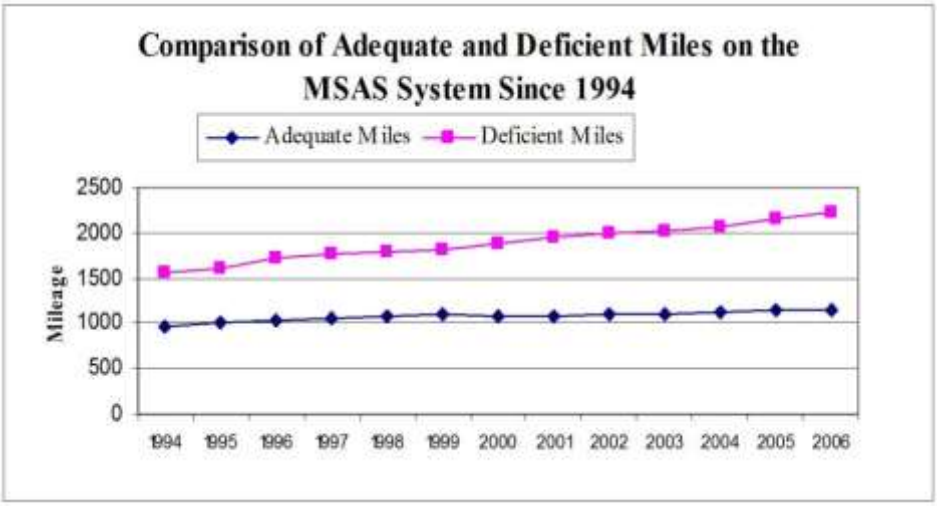
Stronger local roads are needed to facilitate traffic from these industries

Major industries generate freight traffic – most of which occurs on local roads and state highways. The need to haul commodities efficiently necessitates the movement of heavy truckloads of freight on our roadways.

While most of the state highway system is built up to a 10-ton standard, many local roads were not designed to handle heavier weights.

Recognizing the need to strengthen roadways in order to accommodate heavier agricultural equipment and heavier truckloads, Minnesota county engineers have developed a network of local roads that should be at a 10-ton standard that will connect to freight generators and the state trunk highway system.





County/City Roadways

In addition to strengthening roadways, local governments are struggling to improve safety and reduce congestion on their roadways. With limited funding, the condition of local roadways will continue to deteriorate.

State Aid apportionments to cities and counties are declining when adjusted for inflation and increasing needs.

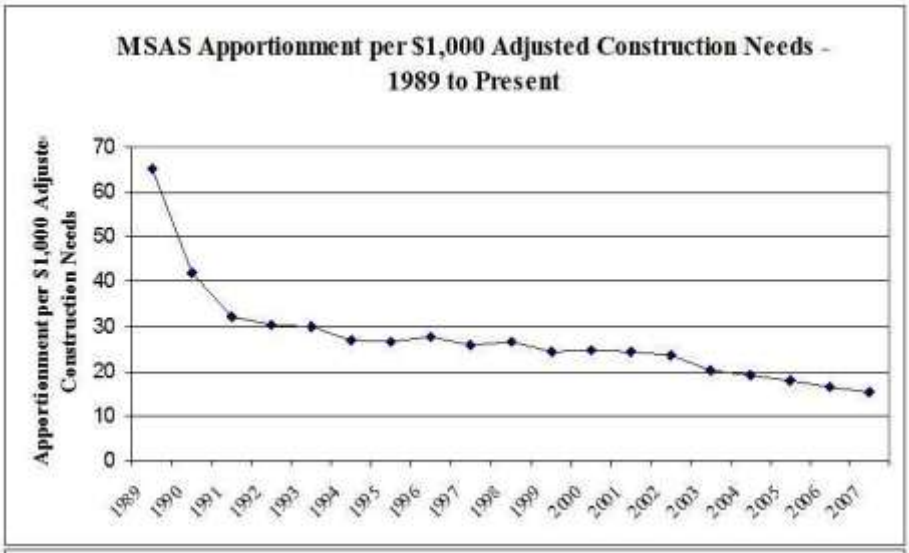
For the MSAS system, apportionment per $1,000 in needs has fallen from a high of $64 in 1989 to $15.

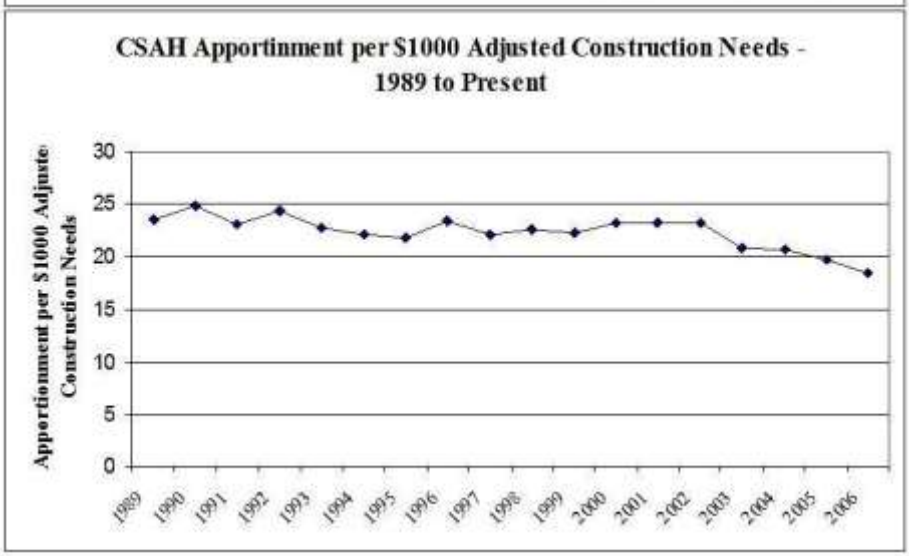
For the CSAH system, the apportionment per $1,000 in needs was $25 in 1990 and is $17 today.

Cities will continue to see demand growth and without additional resources, maintenance will continue to be deferred, increasing the cost to ultimately repair roads. With population growth, more cities reach the population threshold of 5,000 for receiving municipal state aid, meaning that more cities have to share the same pot of state aid funds.

Local governments are dealing with growing traffic volumes and growing truck weights. As congestion grows, commuters seek out "alternatives" to congested freeways, adding more demand on local roadways. Centerline mileage on the CSAH system grew by less than 1% between 1992 and 2004 from 30,142 to 30,401, but traffic increased by 43%.

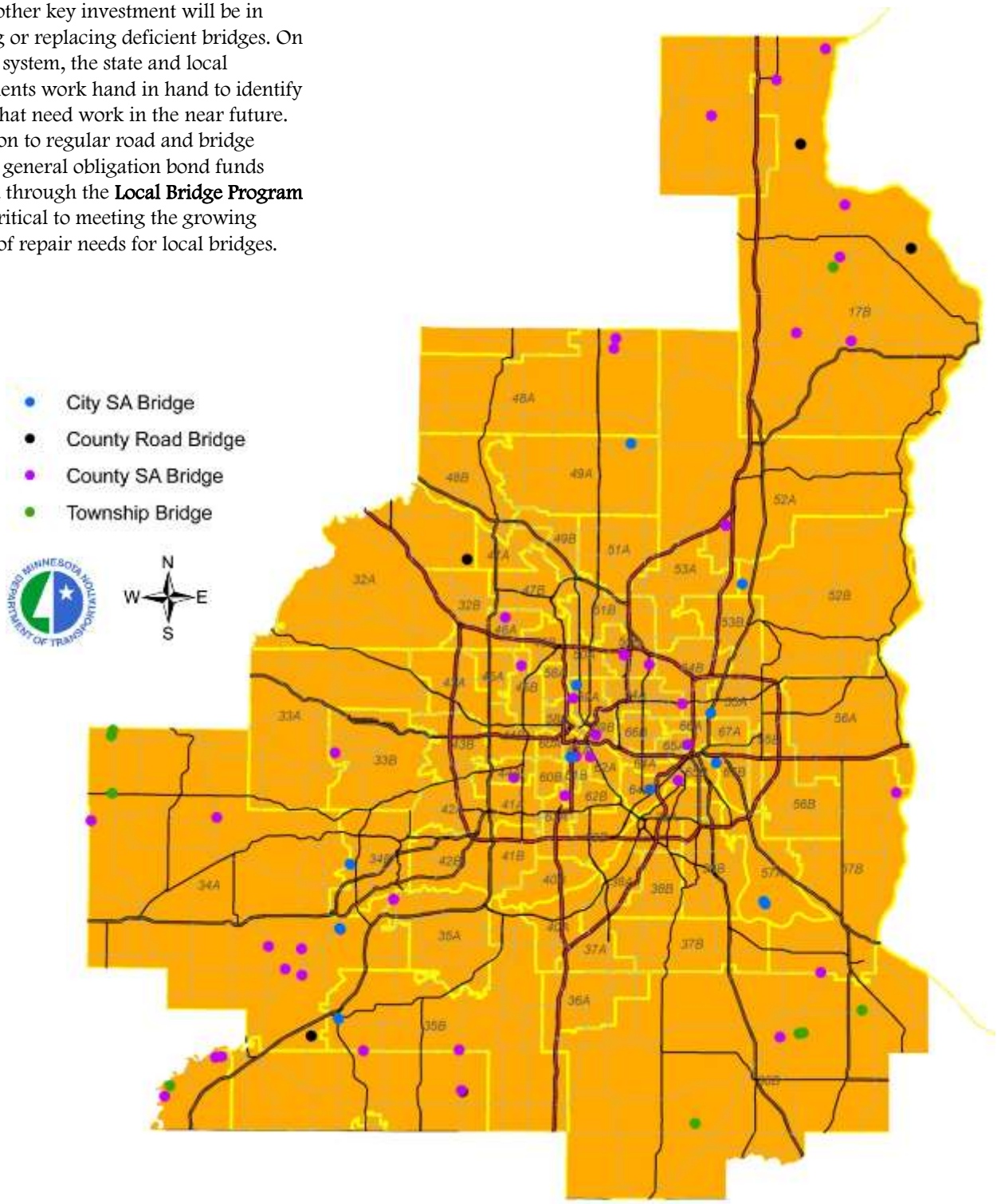
The lack of adequate state funding has led to an increased burden on local property tax payers, increased borrowing by local governments and greater deferral of maintenance work.



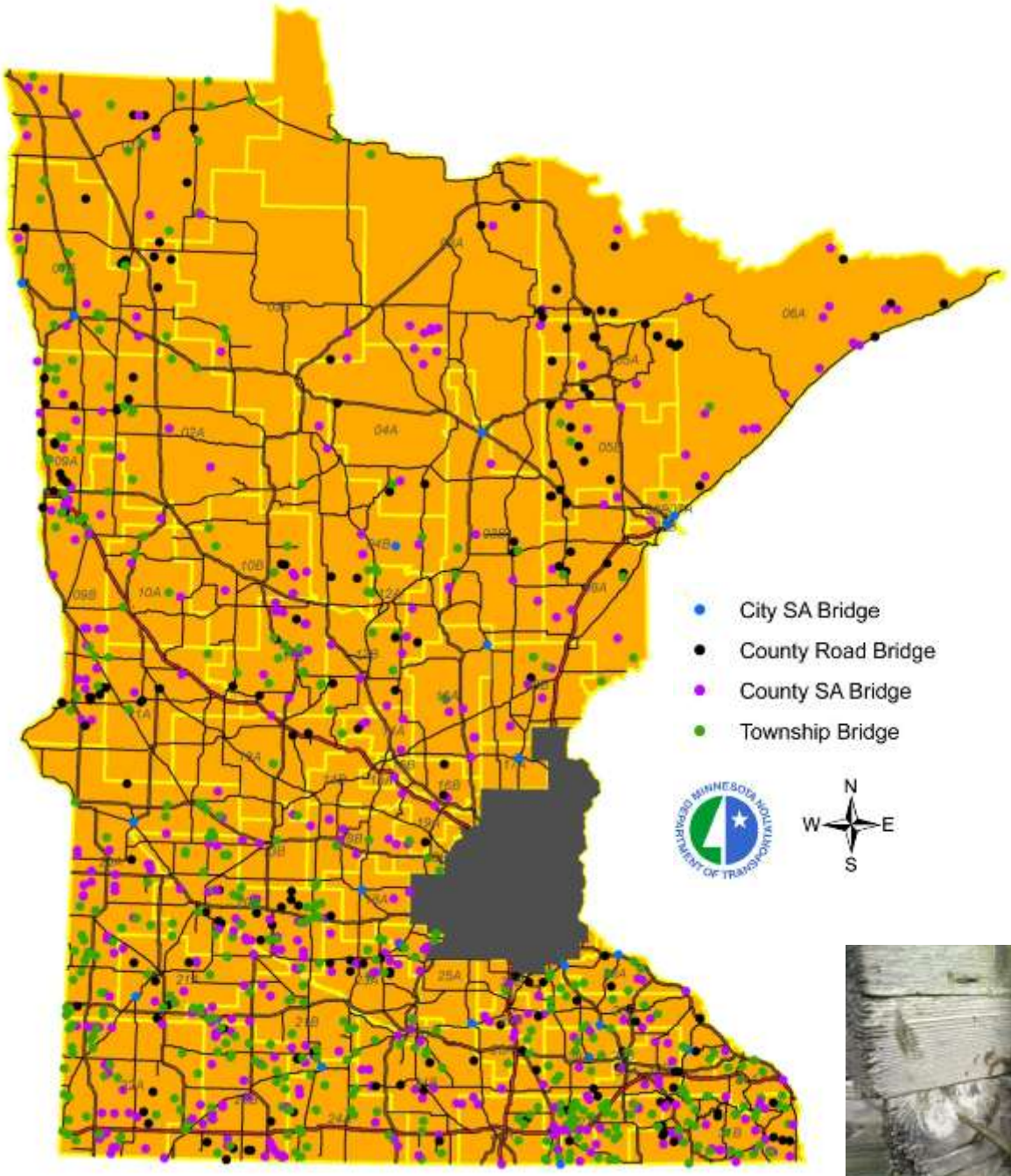


FUTURE METRO LOCAL BRIDGES

With thousands of bridges all across the state, another key investment will be in repairing or replacing deficient bridges. On the local system, the state and local governments work hand in hand to identify bridges that need work in the near future. In addition to regular road and bridge funding, general obligation bond funds provided through the **Local Bridge Program** will be critical to meeting the growing backlog of repair needs for local bridges.



FUTURE STATEWIDE LOCAL BRIDGES

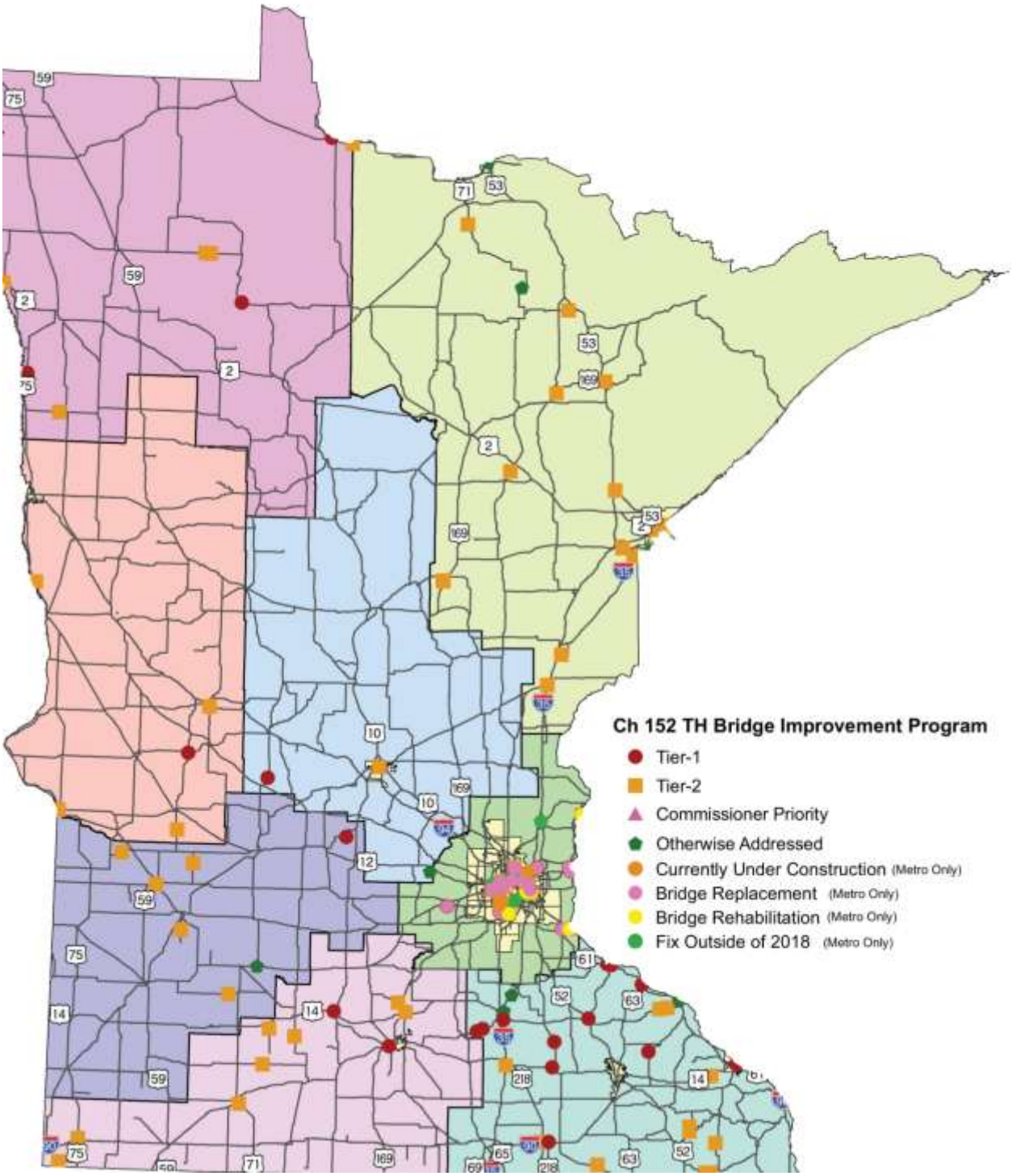


TIMER BRIDGES

Local Bridges continually need repair and replacement as they reach the end of their useful lives. In addition to the types of bridges on the state system, local governments in many parts of the state own timber bridges that are more susceptible to deterioration. A timber bridge can quickly deteriorate to the point where it needs to be closed, causing hardship and additional costs for local residents and businesses.

Minnesota currently has 2,006 timber bridges. Of these, 491 have a rating that indicates extensive decay (26-50%). Given the rapid rate of deterioration, in approximately five years, additional funding of $88 million will be needed to replace these bridges.

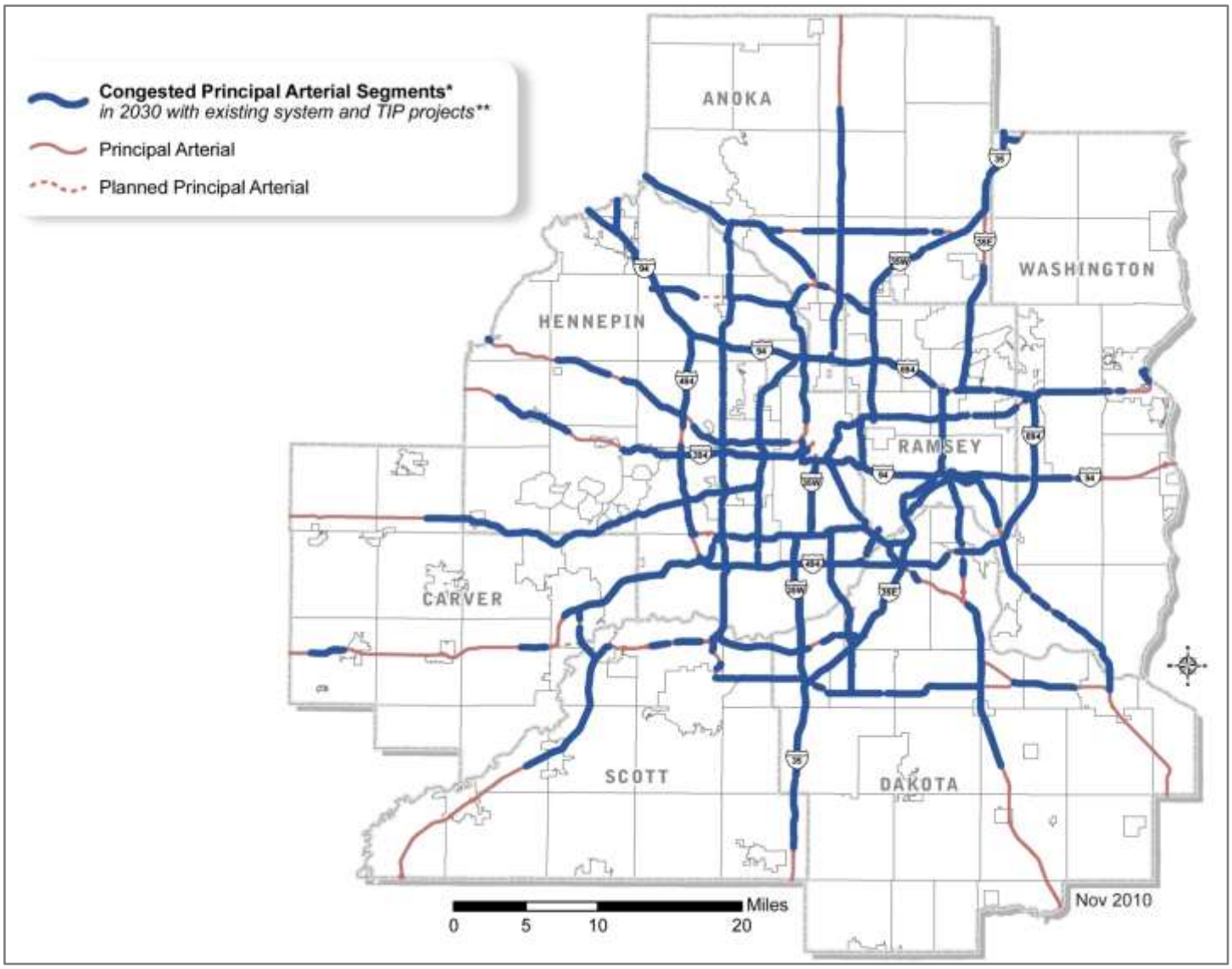
STATE BRIDGE IMPROVEMENT PROGRAM



STATE HIGHWAY SYSTEM

Without additional investments on our state highway system, increased congestion will cost Minnesota residents and businesses significantly more money.

CONGESTION 2030



The Future IRC System

Regional Connectivity

In 2008, 98 percent of the IRC system is operating within two mph of the established speed targets or faster. Taking into account improvements planned in the 2009 to 2012 STIP, performance is forecast to decline to 94 percent of the system performing with two mph of speed target or faster in 2018 and to 91 percent of the system performing with two mph of speed target or faster in 2028.

Despite these investments, the number of IRC miles falling below performance targets will increase from 52 miles in 2008 to 99 miles in 2018.

Typical investments to address corridors performing below the speed targets include:

- Highway Expansion
- Signal Re-timing and Elimination
- Lane Extension
- Alignment changes
- Access Management

Completing Key Corridors

As Minnesota works to position itself to be a competitive state and a leader in the Midwest, we need to complete work on our critical interregional corridors and improve safety by eliminating dangerous switches from two to four lanes and back again.

Highway 60 is a medium priority interregional corridor. It is a diagonal primary route connecting Iowa and Mankato and by way of Highway 169, the Twin Cities. Worthington is a regional trade center for southwestern Minnesota. Highway 60 carries a high volume of trucks.

The change from four lanes to two lanes and back again a short distance later is not consistent with the good design practice of providing a predictable system for motorists. To maintain system continuity, a bypass was constructed to the east of Bigelow. The existing route is being expanded to four lanes in Worthington.

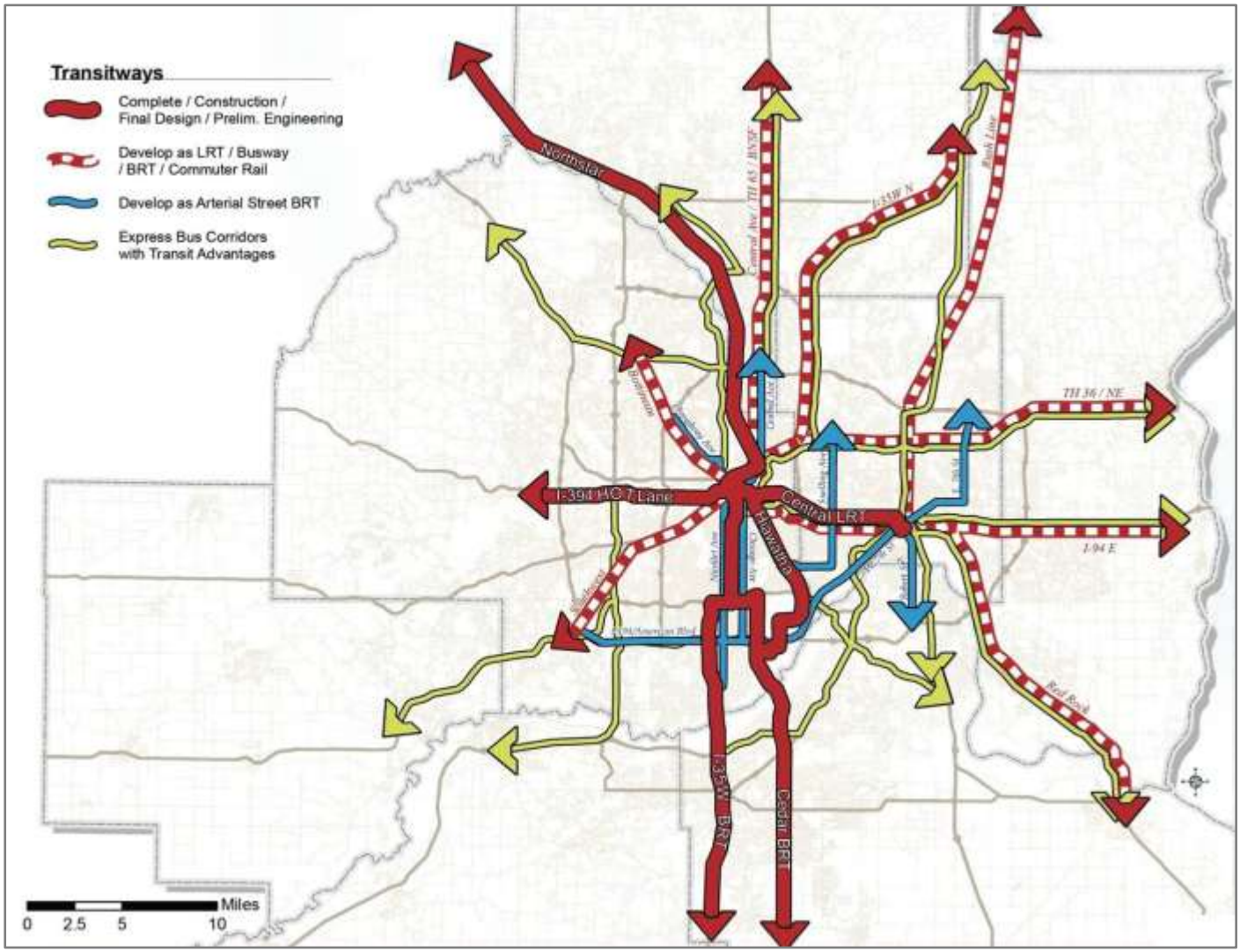
U.S. Highway 14 travels in an east-west direction through southern Minnesota. The Minnesota Department of Transportation has designated U.S. Highway 14 as a medium priority interregional corridor that connects the regional trade centers of New Ulm, Mankato, Waseca, Owatonna, Rochester and Winona. These communities along the U.S. Highway 14 corridor rely on U.S. Highway 14 for commerce and the safe movement of people throughout the region and to other parts of the state and nation.

This highway has higher than average crash rates, numerous blind intersections, through-city driving and growing congestion from short sections of four-lane merging into a dangerously narrow two-land road. Since expansion first began in the 1960s, state and federal funding to fix Highway 14 has been piece-meal and inadequate, resulting in perpetual delays. This highway needs to be completed.

U.S. Highway 212 from the Twin Cities to Glencoe has been designated a High-Priority Interregional corridor. Unfortunately, this major corridor connecting the Twin Cities Metropolitan Area to the western half of the state has not been upgraded to a continuous four-lane facility to Glencoe. The state has invested millions of dollars to improve this highway and yet two segments remain unfinished, leaving Highway 212 as the only high-priority interregional corridor in the Metropolitan District that is not four lanes.

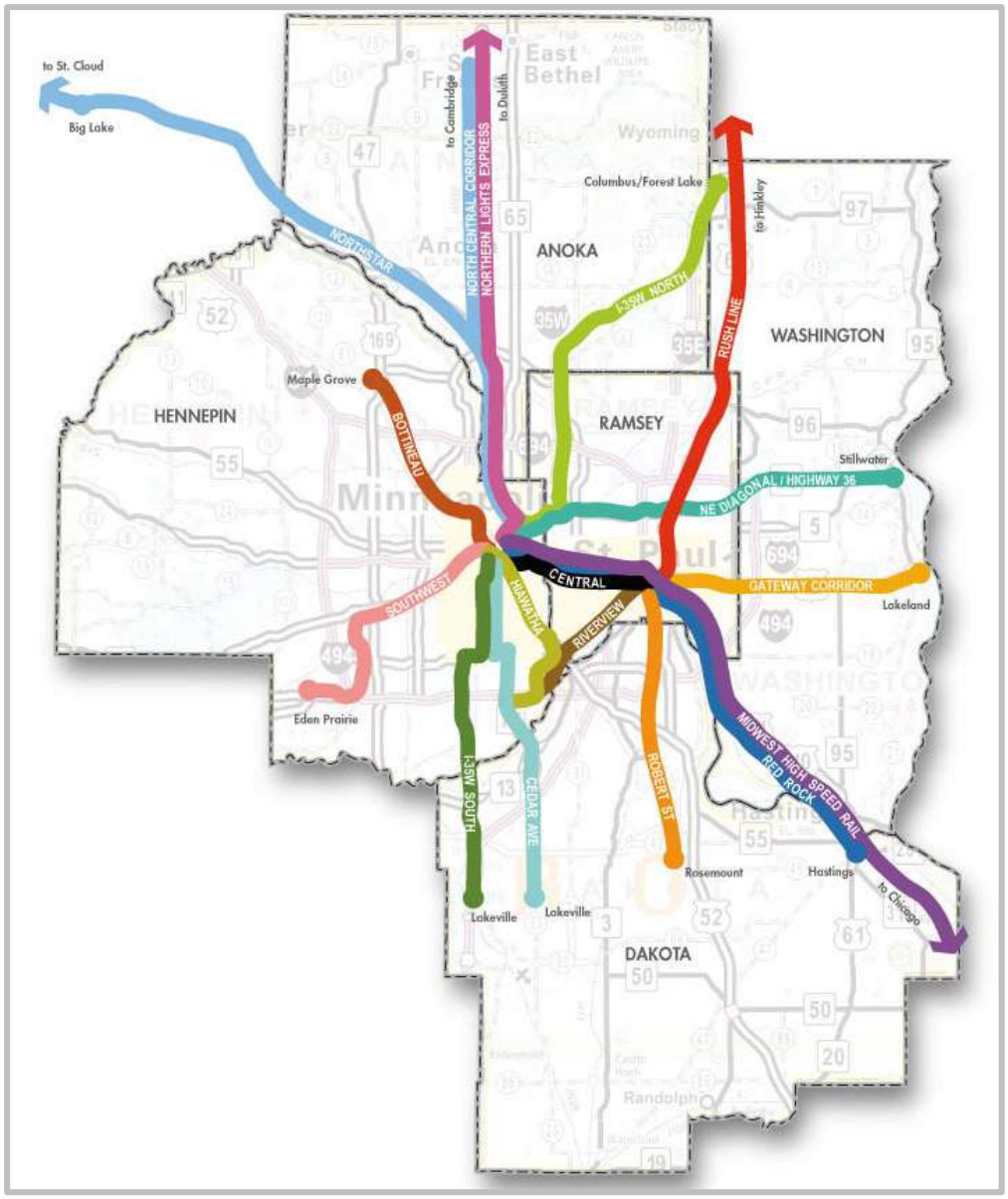
TRANSIT IN THE FUTURE

Future population growth in the state is expected to concentrate in the Twin Cities Metropolitan Area. Given the level of development in the region, additional transit service will be critical for managing travel and reducing congestion. The Metropolitan Council has established a goal of doubling transit ridership by 2030. Reaching this goal involves expanding the bus system and developing a network of transitways.



FUTURE TRANSITWAYS

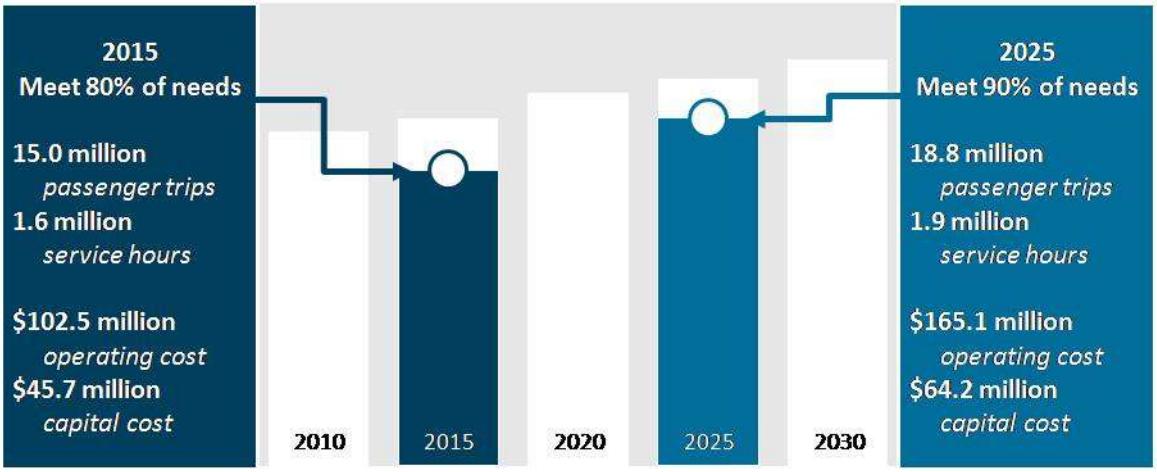
The Counties Transit Improvement Board (CTIB) has developed a plan for a future network of transitways in the region that will benefit from funding generated by the local sales tax levied by CTIB members. With the state and federal governments as partners, local counties are planning and building a future that will allow for continued development and a higher quality of life.

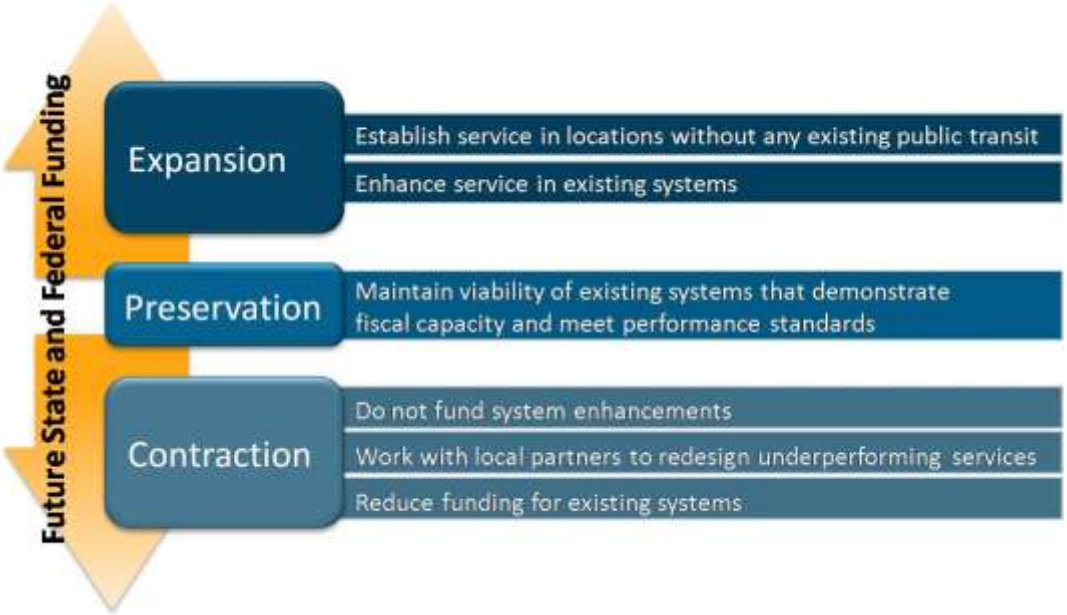


FUTURE GREATER MINNESOTA TRANSIT

In Greater Minnesota, changing mobility needs of individuals and the workforce will place larger demands on public transit systems. The population is expected to increase by over 30% by 2030, with the largest gains in residents over the age of 65. With an aging population, transportation options will be critical for maintaining a high quality of life.

The Greater Minnesota Transit Investment Plan adopted by the Minnesota Department of Transportation, identifies the level of service needed to meet 80 percent of the need in 2015 and 90 percent of the need in 2025. According to the plan, Greater Minnesota transit should provide 15 million passenger trips or 1.6 million service hours in 2015 and 18.8 million passenger trips or 1.9 million service hours in 2025 in order to meet these goals





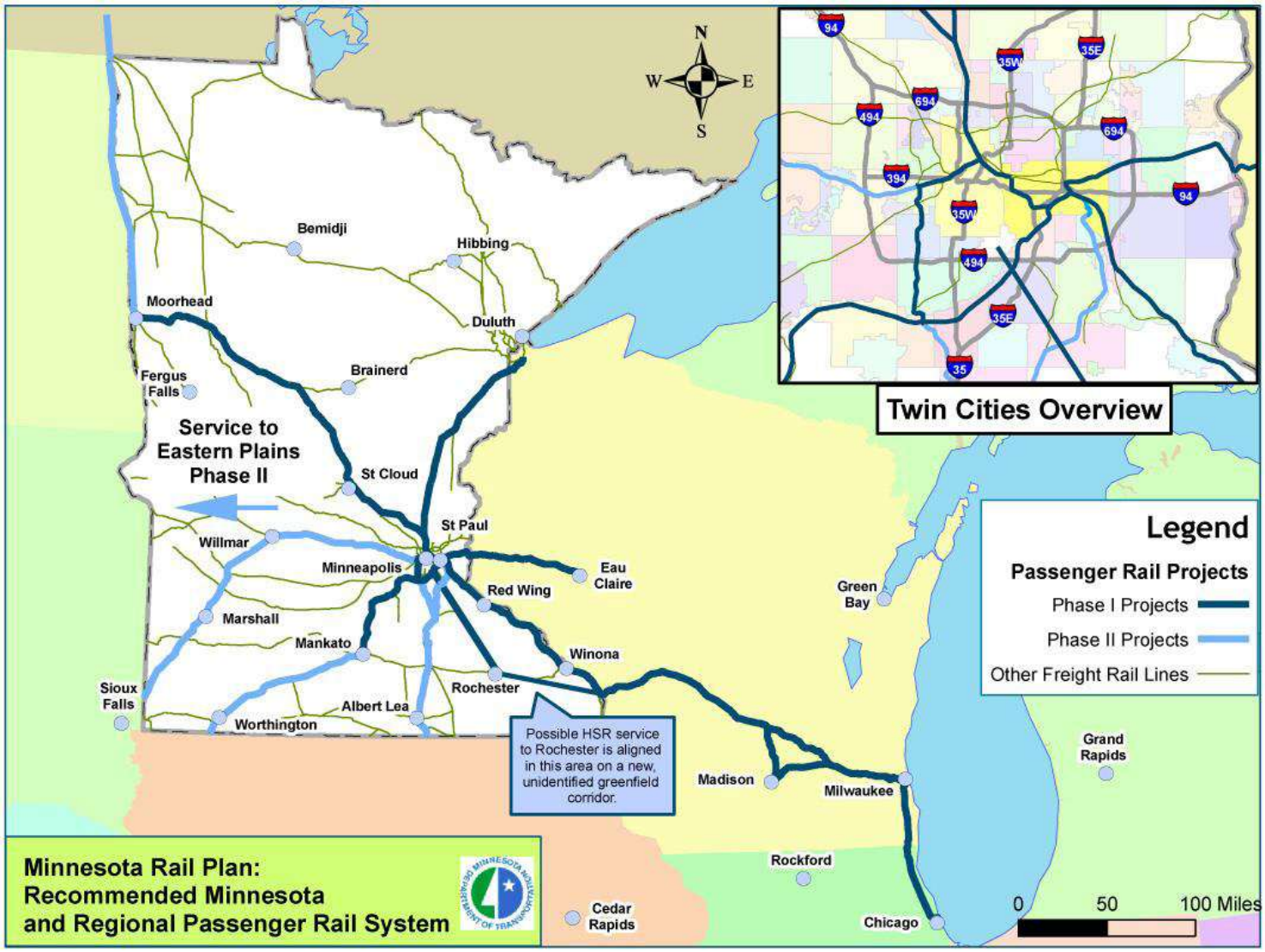
With increased funding, MnDOT's highest priority for Greater Minnesota service expansion is to establish service in locations without any existing public transit. The next highest priorities are to expand service hours, expand multi-county services, provide service on more days of the week and expand service frequencies and coverage.

PASSENGER AND FREIGHT RAIL

In 2010, the Minnesota Department of Transportation approved the State Rail Plan, a plan that effectively integrates Minnesota's efforts with a national resurgence of interest in high speed and intercity passenger rail. The Plan has determined that the option for high-capacity, high-speed rail transportation is not only desirable, but affordable and even preferable as fuel prices rise and larger volumes of travelers shift to an available rail system here and around the nation. These services have the potential to offer faster, more economical alternatives to automobile and air travel in intercity corridors up to 500 miles in length that have sufficient density and demand.

Minnesota will positively benefit economically and in our style of life from these expanded transportation options, including high speed trains that tie into the emerging national rail system using the best available technologies, designs, and operating methods.

The vision for freight rail is that Minnesota should develop a balanced multimodal freight system which can respond to increased regional and international economic competition, constrained highway capacity, environmental challenges, a diverse customer base, and rising energy costs.



Improving Ports To Meet Future Demands

Minnesota's economy depends on access to ports and waterways that move tons of freight to markets every year. Maintaining our ports will be critical in an increasingly global economy.

The Minnesota Ports Association works with individual ports around the state to identify improvements needed to maintain and enhance the quality of port facilities. The following needs had been identified at the beginning of 2011:

Immediate Needs

• Red Wing Port Authority – Little River Bulkhead improvement	$ 350,000
• St. Paul Port Authority – Rehab dock walls, buildings, stormwater management	$8,100,000
• Duluth Seaway Port Authority – Garfield dock terminal, repave, electrical work	$6,450,000
Total	$14,900,000

Long-Term Needs

• Red Wing Port Authority – Barge fleeting improvements	$ 3,000,000
• St. Paul Port Authority – Access to Southport, Reclaim fleeting area Red Rock	$ 4,800,000
• Winona Port Authority – Salt storage building, dock site improvements	$ 1,500,000
• Duluth Seaway Port Authority – Garfield dock terminal, new warehouse, etc.	$24,915,000
Total	$32,215,000

Critical Airport Improvements

Air transportation provides a national and global reach for the fast movement of people and time-sensitive freight, offering significant advantages for long-distance travel and transport.

Airports contribute $12.1 billion to the state economy and 165,000 jobs producing $6.5 billion in labor income within the state. Small and medium airports contributed $433 million to the state's economy with 4,000 jobs and $184 million in labor income.

Critical Initiatives for airports include improving safety, maintaining and enhancing air service, creating greater awareness of general aviation, making better use of available high tech systems and creating a statewide aviation system that makes the best use of limited aviation dollars. An example would be the large gap in radar coverage in the central part of the state. This lack of coverage negatively impacts aviation in many ways, especially safety and efficiency.

The trend line for funding is flat. However with the inflationary increase in construction, equipment and operations at airports, the net result is decreased buying power. Many of our airports were constructed 30 to 50 years ago. They are reaching a critical point in their life cycle and need major investments in order to preserve the system we have today. A long-term funding bill is one of the keys to assisting airports in implementing strategies that will allow the state have the aviation system it needs for the future.

VISION FOR 2040

STATEWIDE PLAN

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.

Listed below are the policy priorities of the state and the performance measures used to judge the quality of the transportation system and to guide investment decisions. The estimate of unmet needs on the transportation system is derived by quantifying the cost of meeting these performance measures.

Safety

- Fatalities on All Roads
- Severe or Incapacitating Injuries on All Roads
- Share of Fatal and Severe or Incapacitating Injuries on Urban and Rural Roads
- Motorcycle-Related Fatalities and Severe or Incapacitating Injuries on All Roads
- Heavy Commercial Vehicle-Related Fatalities and Severe or Incapacitating Injuries on All Roads
- Bicycle- and Pedestrian-Related Fatalities and Injuries
- Railroad Crossing-Related Fatalities and Crashes on all Roads
- Dollars Spent on Highway Safety Improvement Program (HSIP) Stand Alone Safety Projects
- Transit Incidents in the Twin Cities Metropolitan Area
- General Aviation Fatalities
- General Aviation Accidents
- Passenger Carrier Safety

Developmental Measures

• Miles of Highway with Edge Treatments
• Greater Minnesota Public Transit Safety
• Train Derailments

Infrastructure Preservation

• Structural Condition of State Highway Bridges
• Ride Quality Index (RQI) for State Highway Pavements
• Remaining Service Life (RSL) for State Highway Pavements
• Physical Condition of Safety Rest Areas
• Remaining Service Life (RSL) for State Highway Signage
• Pavement Condition for Public Airports in Greater Minnesota
• Remaining Service Life (RSL) for Transit Fleets in Greater Minnesota
• Average Bus Age for Metro Transit's Fleet
• Ride Quality Index (RQI) for County Highway Pavements
• Structural Condition for Local Road Bridges

Developmental Measures

• Track Speed on Class 2 and 3 Railroads
• Drainage System Condition
• Condition of State Highway Signals and Lighting
• Port Conditions

Maintenance and Security

• Bridge Inspection
• Bridge Reactive Maintenance
• Bridge Preventive Maintenance
• Snow and Ice Removal
• Pavement Patching
• Pavement Markings Meeting Life Expectancy and Retro-Reflectivity Standards
• Customer Satisfaction with State Highway Maintenance

Developmental Measures

• Road Drainage Infrastructure Maintenance and Repair
• Guardrail and Median Barrier Repair
• Retro-Reflectivity of Pavement Markings
• Traffic Signal, Lighting, and ITS Maintenance

National and Global Connections

• Number of Destinations Served by Nonstop Flights from Minnesota
• Minnesota Enplanements

Developmental Measures

• Freight Mode by Weight and Value
• Cost of Goods Movement and Transit Time in Key National Modal Corridors
• Regional and Shortline Rail with 286,000 Pound Rating
• Delays through Minnesota Locks and Dams

Statewide Connections

The IRC System is the backbone of Minnesota's highway system. It provides high-level connections between regions and major trade centers throughout the state. Traffic volumes on IRCs have risen by 50 percent in the last 10 years causing congestion and safety concerns especially near large Regional Trade Centers. As such, Mn/DOT and its local transportation partners have made significant investments in many corridors including improvements to TH 212, TH 52, TH 169, and TH 101. However, mobility challenges continue to exist, especially on corridors approaching the Twin Cities Metropolitan Area (TCMA) and on key corridors in central Minnesota. Maintaining and/or improving mobility on these and other IRCs is important to the state.

The IRC System provides the main connections between RTCs and carries the majority of truck volumes; however, there are a number of areas within the state where IRC coverage is limited. In these areas, there is concern about inadequate support for the movement of freight on highways. The identification and designation of supplemental truck routes and development of corresponding performance measures could enhance the safety and reliability of freight movements. Mn/DOT should work with its transportation partners to identify candidates for truck routes to supplement the IRC System and develop performance measures.

• Travel Speed on Greater Minnesota Interregional Corridors (IRC)
• Access to Intercity Bus Service
• Access to Scheduled Air Service
• Access to Airports with a Paved and Lighted Runway
• Airports with Reported Cargo Service

Developmental Measures

• Access to Intercity Rail Service

Twin Cities Mobility

•Travel Time Index (TTI) and National Ranking
• Duration and Extent of Congestion on Freeways
• Transit Ridership
• Bus-Only Shoulders
• Incident Clearance
• Metro Signal Retiming on Arterial Routes
• FIRST Route Coverage
• Instrumented Principal Arterial Routes
• Regional Park-and-Ride Spaces

Developmental Measures

• Person Throughput
• Duration and Extent of Congestion on Arterials
• Arterial and Freeway Travel Time Reliability
• Vehicle Throughput
• Metro Area Delay Estimates for Freight

Greater MN Metropolitan and Regional Mobility

Conclusions and recommendations from regional freight studies should be considered in updates to local, regional, and statewide plans and they should be incorporated into future investment plans.

Congestion in Regional Trade Centers
• Greater Minnesota Public Transit Bus Service Hours
• Greater Minnesota Transit Coverage
• Non-Auto Commuter Trips

Community Development and Transportation

•Airport Airspace and Land that is protected

Energy and the Environment

Compliance with Criteria Air Pollutant Standards
• Mn/DOT use of Cleaner Fuels
• National Pollution Discharge Elimination System Compliance – Erosion Control
• Wetlands Affected and Replaced
Developmental Measures
• Carbon Dioxide Emissions from the Transportation Sector

Transparency and Accountability

Transparency means achieving accountability for public expenditures by proactively and regularly involving stakeholders. Transparency is achieved when an agency's planning process, investment decision making criteria, program status, and performance results are accessible and understandable to the Legislature, transportation stakeholders, and the general public.

Transparency at Mn/DOT includes providing stakeholders with information, engaging them in the decision making process, and working collaboratively with them to identify and refine the objectives of the agency and to develop strategies to meet these objectives.

Mn/DOT will expand and standardize reporting to the Legislature and the public. Mn/DOT will present regular reports to the Legislature on the internal performance management practices and reports developed over the last 15 years. Reports will provide status on the condition and performance of the transportation system, fiscal needs, and key issues and the progress on key initiatives (e.g., bonding projects, legislatively mandated projects and programs). Mn/DOT will present to the Legislature at least annually and to legislative staff biannually or quarterly.

•Projects Let on Schedule, STIP Projects, Current Year
• Projects Let on Schedule, STIP Projects, Fourth Year
• Construction Cost Overruns
• Customer Satisfaction with Reliability of Mn/DOT Communications
Developmental Measures
• Variation in Total Project Cost
• Number and Value of Contract Amendments (Supplemental Agreements) During Construction

Measuring Multiple Benefits

While some improvements provide benefits in only one category of performance measures, others can provide multiple benefits. For example, a highway expansion project will not only improve mobility, it will improve pavement condition, safety, and in many cases, positively impact economic growth in the area.

IMPROVEMENTS NEEDED FOR THE FUTURE

LOCAL ROAD AND BRIDGE NEEDS

The local transportation system is under the jurisdiction of counties, cities and townships with some state aid provided through the Highway User Tax Distribution Fund and general obligation bonds. In addition to managing the local system, local governments participate in the cost of highway projects on the trunk highway system and sometimes provide revenue upfront for trunk highway projects in order to have them completed years earlier. In those instances, local governments are paid back in the year of scheduled construction.

County and city engineers base their estimate of needs on the local highway system by calculating the cost of replacing existing roadways once every 50 years – the anticipated life of a new roadway. However, current funding levels will not provide adequate revenue to meet this schedule. Some cities cannot meet a 100 year schedule leaving a funding gap for the next several decades as described below:

- 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

FREIGHT RAIL, PASSENGER RAIL, AIRPORTS

According to the recently adopted Minnesota Comprehensive Statewide Freight and Passenger Rail Plan, the rail system has long played a significant role in the movement of freight in Minnesota, carrying an estimated thirty percent of all freight tonnage – more so than many comparable states. Minnesota has the eighth highest number of track miles in the U.S. At the same time, intercity passenger rail service has been minimal in recent decades. In recent years, Minnesota has experienced a dramatic renewal of interest in passenger rail, with Northstar commuter rail service initiated in December 2009 following the introduction of Hiawatha light rail service several years earlier. Numerous counties, cities, regional rail authorities, other supporters, and Mn/DOT have been actively engaged in planning new passenger rail services.

The State Rail Plan established a long-term vision for Minnesota's rail system that integrates the freight rail and passenger rail systems, recommends priority investments for the next 20 years and recommends potential approaches to funding those investments. The table below details the possible costs of implementing the State Rail Plan.

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.

GREATER MINNESOTA AIRPORTS

2006 Minnesota Aviation System Plan was developed to help Mn/DOT determine the type, extent, location, timing, and cost of aviation-related development needed to insure that Minnesota has a viable system of airports. Currently there are 127 airports in the Greater Minnesota airport system.

The 2006 study's demand projections indicate that most Greater Minnesota airports should have ample operational capacity to accommodate projected demand. On a case by case basis, through the airport master planning process, a few airports may identify the need for projects over the next 20-years to boost their operational capacity. Most airports will need additional aircraft storage capacity to meet growing demand from based aircraft.

The Minnesota Department of Transportation (MnDOT) Office of Aeronautics is working on a new Minnesota State Aviation System Plan (SASP). The SASP is a comprehensive 20-year plan for the development of airports and aviation in Minnesota. The 2011 SASP will develop usable planning tools to assist in making informed and cost-effective decisions guiding the development of Minnesota's system of airports.

TWIN CITIES METROPOLITAN AIRPORTS

The Twin Cities region is served by one commercial airport and ten general aviation airports for various business and recreational users. Airports are classified according to their system role as a Major, Intermediate, Minor or Special Purpose facility. Most of these facilities are owned and operated by the Metropolitan Airports Commission (MAC). The system focus until 2010 has been to complete a $3.1B expansion of Minneapolis-St. Paul International Airport (MSP), and to make improvements to several of the reliever airports

According to the Metropolitan Council:

- Total enplanements will grow over the forecast period at an annual rate of between 1.2 and 3.0 percent.
- High fuel costs results in the lowest number of enplanements and significantly constrains international traffic.
- Low fuel prices and high economic growth are the greatest stimulants of traffic.
- Declining connections is the second most important contributor to lower enplanements.

Table 10-47: Cost Estimates for Capital Projects

(in millions)

Airport	2010-2015	2016-2020	2021-2025	2026-2030
MSP International				
CIP			$112	
LTCP (cost range)	$377 - $444	$819 - $964	$666 - $783	$191 - $224
St. Paul Downtown	$10		$5	
Anoka County-Blaine	$7		$1	
Flying Cloud	$6		$2	
Crystal	$3		negligible	
Lake Elmo	$4		$3	$1
Airlake	$5	$1	$7	$0.9
So. St. Paul	$4		negligible	
Forest Lake	$6	Short-term funding needs likely to shift into out years unless federal funding under NPIAS		

• Degree of uncertainty is very high and forecasts project a wide band of possible futures. For total enplanements, by 2030, the difference between a prolonged period of high fuel cost or low fuel cost is almost 10 million passengers or a 45 percent difference.

• There is a 75 percent difference or 1.5 million passengers between highest and lowest international passenger forecast.

• The originating passenger forecast exhibits the smallest range of possible outcomes. This scenario effectively sizes the market as a local origin and destination market (no hubbing). In 2030 the local MSP market is forecast to be between 14.2 and 18 million originations.

GREATER MINNESOTA TRANSIT

The Greater Minnesota Transit Investment plan identified the service levels and costs of meeting 80 percent of the identified need by 2015 and 90 percent of the identified need by 2020.

The table below shows the projected cost of meeting the demand for both operating costs and capital costs. Estimating future revenue is difficult with changing budgets, but looking at past and anticipated future funding, the gap between the costs identified below and the expected level of funding available from all sources for operating costs is about $58 million in 2015, about $75 million by 2020, about $98 million in 2025 and by the year 2030, the state will be short approximately $126 million in revenue needed to meet the identified need for transit service in Greater Minnesota.

	2010	2015	2020	2025	2030
Total Passenger Demand (millions of trips)	18.1	18.8	20.2	20.9	22.0
Service Hours to Meet Demand (millions)	1.8	2.0	2.1	2.1	2.2
Annual Operating Cost (millions)	$103.7	$128.1	$153.8	$183.4	$216.9
Capital Cost - Vehicle Replacement (millions, five-year totals)	--	$50.2	$57.9	$66.7	$76.6
Capital Cost - Additional Vehicles (millions)	$33.5	$6.9	$4.3	$4.6	$4.4

STATE HIGHWAYS

Mn/DOT develops a 20-year investment plan for state highways every four to five years. The latest published plan was developed in 2009 and estimates the needs and planned investments for 2009-2028. Listed below are the performance-based needs identified for 2009-2028 along with the planned spending between 2009 and 2028 based on projected available resources.

STATE HIGHWAYS

District 1			
Performance-based investments 2009-2028		Highway Investment Plan 2009-2028	
Traveler Safety	$263M	$90M	
Infrastructure Preservation	$2.35B	$1.3B	
Mobility	$76M	$13M	
RCIPs	$500	$ 68M	
Total	**$2.69B**	**$1.5B**	**gap: $1.19B**

District 2			
Performance-based investments 2009-2028		Highway Investment Plan 2009-2028	
Traveler Safety	$118M	$44M	
Infrastructure Preservation	$1.368B	$835M	
Mobility			
RCIPs		$44M	
Total	**$1.49B**	**$930M**	**gap: $928.5M**

District 3			
Performance-based investments 2009-2028		Highway Investment Plan 2009-2028	
Traveler Safety	$804M	$296M	
Infrastructure Preservation	$1.413B	$1.072B	
Mobility	$3.653B	$ 12M	
RCIPs	$ 259M	$0	
Total	**$5.870B**	**$1.420B**	**gap: $4.5B**

District 4		
Performance-based investments 2009-2028		Highway Investment Plan 2009-2028
Traveler Safety	$249M	$ 34M
Infrastructure Preservation	$1.468B	$ 748M
Mobility	$ 45M	$ 40M

RCIPs	$ 75M	$ 14M	
Total	**$1.760B**	**$ 850M**	**gap: $848M**

District 6

Performance-based investments 2009-2028		Highway Investment Plan 2009-2028	
Traveler Safety	$260M	$ 241M	
Infrastructure Preservation	$2.489B	$1.790B	
Mobility	$ 35M		
RCIPs	$ 600M	$ 103M	
Total	**$2.780B**	**$2.160M**	**gap: $800M**

District 7

Performance-based investments 2009-2028		Highway Investment Plan 2009-2028	
Traveler Safety	$276M	$ 132M	
Infrastructure Preservation	$1.128B	$ 646M	
Mobility	$ 11M	$ 5M	
RCIPs	$ 650M	$ 201M	
Total	**$1.410B**	**$1.020B**	**gap: $840M**

District 8

Performance-based investments 2009-2028		Highway Investment Plan 2009-2028	
Traveler Safety	$198M	$ 70M	
Infrastructure Preservation	$1.171B	$ 630M	
Mobility	$ 6M	$ 51M	
RCIPs	$ 160M	$ 30M	
Total	**$1.370B**	**$ 793M**	**gap: $928M**

Metro District Needs

Highways

Performance-Based investments for safety:

- For corridors: adding right, left or center turn lanes, improving sight distances, adding passing lanes, constructing a median or adding lanes
- For intersections: altering intersection geometrics or control including roundabouts or continuous flow intersections, grade separation or new interchanges.

Metro District Safety needs total almost $1 billion

Performance-Based investments for preservation

Bridge needs, pavement investments and other infrastructure such as lighting, signs, ITS, rest areas and drainage
Total: $5 billion

Performance-Based investments for Mobility

- To really deal with congestion, the region needs investments of more than $40 billion. An additional $3-4 billion in mobility investments have been identified that would allow for the anticipated completion of the managed lane vision plus additional funding for Active Traffic Management and lower-cost/high-benefit projects.
- In 2009, 12 major expansion projects proposed in 2004 estimated to cost $3 billion were removed from the plan. Some of these projects, at a reduced scope and cost, could be easier to implement within projected highway revenues. This will require coordination of different types of improvements to achieve multiple investment objectives.
- Congestion will never be eliminated but congestion impacts can and must be mitigated to the fullest extent possible in order to preserve mobility levels essential to the region's economic vitality and quality of life.

Investment Strategies:

- Active Traffic Management
- Lower-cost/high-benefit highway improvements
- Managed lanes
- Strategic Capacity Expansion
- Non-Freeway Trunk Highway Improvements

Mobility Needs Total: $9-10 billion

Regional and Community Improvement Priority (RCIPs)

Total: $1-2 billion

Total Needs for District: $10-$12 billion

Estimated Spending: $3.8 billion **gap: $6.17B-$8.17B**

METROPOITAN AREA TRANSIT

The Council's 2011-2013 capital improvement program projects approximately $70 million a year is needed to maintain the existing transit system (in 2010 dollars). Based on this, approximately $700 million is needed to maintain the transit system between 2011 and 2020 and $700 million between 2021 and 2030, in 2010 dollars. It is projected that these revenues will primarily come from federal formula funds and regional transit capital bonds.

It is assumed that for rail projects, the region will secure federal New Starts funds for 50% of the cost. The remainder of rail transitway costs is projected to be funded 30% with CTIB sales tax revenues, 10% from the state and 10% from benefiting counties. It is also assumed that only one New Starts project is under construction at a time.

Capital costs for bus-based program expansion is projected to be funded from existing federal programs (including federal formula funds, congestion mitigation/air quality grants, discretionary funds or small starts grants) state revenues and regional transit capital funds. Bus transitways are also eligible for CTIB funding.

Transit operating costs include labor, fuel, vehicle maintenance, facilities operating costs (including routine facilities maintenance, cleaning, snowplowing, and utility costs), overhead costs and other operating costs to deliver transit services. The 2010 regional transit operating expenditures are over $400 million, with $385 million included in the Metropolitan Council budget. The estimated net subsidy (when fares are deducted) is $280 million in 2010.

It is projected that the net costs (after fares) of rail system or dedicated busway operations and expanded service for highway bus rapid transit would be funded 50% from CTIB sales tax grants and 50% from state revenues

This plan projects that increased operating funding of $45 - $70 million annually will be needed by 2020 and $135 - $160 million annually by 2030 for the expanded bus system.

Potential funds include additional sales taxes, additional state revenues, new local sources and other revenues.

Table 7-50: Summary of Estimated Capital and Operating Costs

Incremental Costs	Maintain Existing System	Expand System	Total
Capital Needs 2011 – 2020	$700 M	$2,400 - $2,850 M	$3,100 - $3,550 M
Capital Needs 2021 – 2030	$700 M	$2,300 - $2,650 M	$3,000 - $3,350 M
2020 Annual Operating Subsidy	$280 M	$75 - $105 M	$355 - $385 M
2030 Annual Operating Subsidy	$280 M	$195 M - $235 M	$475 - $515 M

2010 dollars in millions

BRINGING ALL MODES TOGETHER

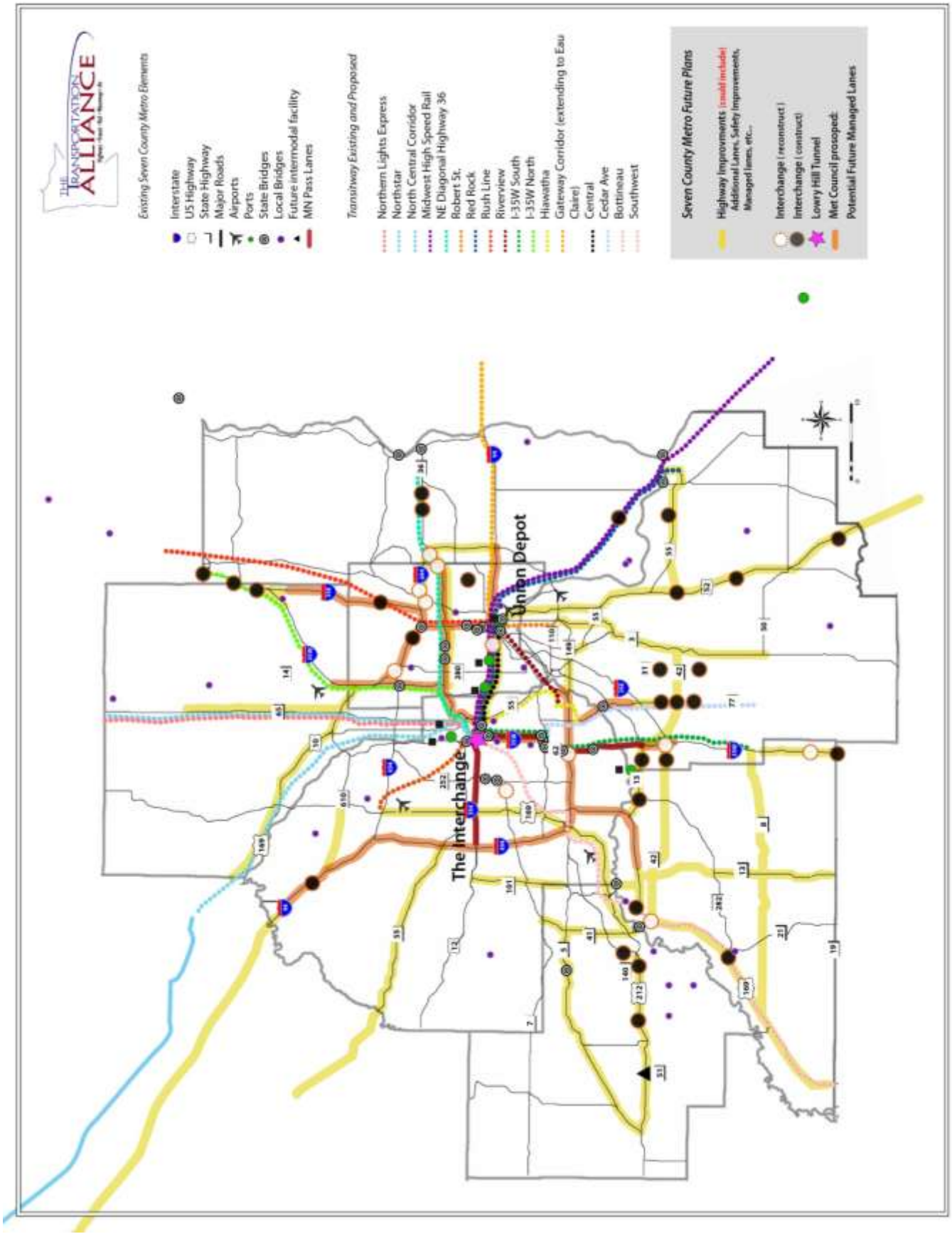
Minnesota state agencies have developed important plans for the future for various modes of transportation. We often deal with different modes of transportation in isolation, developing plans for each mode. The Transportation Alliance wanted to bring all these maps of the existing transportation system and future plans together to show how the various modes work together and to present a vision for what the system could look like if we were to address the needs and develop a transportation system for the future.

Bringing together all the plans and gathering input from our members and other stakeholders, we developed maps that identify:

- Key highway corridors for improvement – this could involve safety and access improvements, additional turn lanes, lane expansion, etc.
- State and local bridges needing repair and replacement;
- Interchanges needing construction and replacement;
- Transitways needing construction;
- Passenger and freight rail service needing development;
- Port and airport improvements needed and
- The need to expand bus service throughout the state

The Alliance has a vision for the system we need by 2040 to meet safety, mobility and economic development goals. Some of the improvements will be accomplished by 2040 but most of the improvements needed are not funded and without additional resources this vision will not become reality.

2040 METRO MAP



2040 GREATER MN MAP

TRANSPORTATION ADVOCACY GROUPS

Minnesota community leaders in many part of the state are committed to advocating for a stronger transportation system in our state. In certain areas, elected officials, business owners, local government staff and other advocates work together under the umbrella of corridor groups to study, plan and advocate for needed safety and mobility improvements in certain corridors or parts of the state. Thanks to the resources, time and effort of these advocacy groups, Minnesota has successfully improved key highways, built transitways and educated the public regarding the importance of transportation investments for local economic development.

ID	Coalition Name	Website
TH 53	Trunk Highway 53 Long Range Improvement	http://www.aaroads.com/high-priority/corr41.html
TH 61	TH 61, Two Harbors to Grand Marais	
TH 38	Trunk Highway 38 Leadership Board	http://www.byways.org/explore/byways/2455/
TH 70	Safe Roads for Pine Co; Highway 70 Coalition	http://www.co.pine.mn.us/ then click on "Community Links" then click on "Highway 70 Coalition"
TH 73	TH 73 Coalition	
TH 169	TH 169 North Improvement Task Force	
TH 169	TH 169 Cross Range Expressway	www.arrowheadplanning.org
TH 65	North TH 65 Corridor Coalition	http://th65cc.org/
TH 11	Trunk Highway 11 Task Force	
TH 371	TH 371 Highway Corridor Coalition	http://www.rogers-mn.com/index.html
St. Cloud	Central Minnesota Transportation Alliance	www.cmtamoves.com
TH 15	Highway 15 Coalition	www.rndc.org/highway15.php
TH 55	Highway 55 Corridor Coalition	www.highway55.org
TH 65	North TH 65 Corridor Coalition	www.th65cc.org
TH 52	Highway 52 Freeway Partnership	http://www.co.dakota.mn.us/Enviro
US 14	US Highway 14 Partnership	www.ushighway14.com
TH 60	SW MN Highway 60 / Action Corporation	
US 169	US Highway 169 Corridor Coalition	www.us169corridorcoalition.com
TH23	Highway 23 Coalition	
TH36	Coalition St. Croix River Crossing	www.stcroixrivercrossing.com
US 212	Southwest Corridor Transportation Coalition	http://southwesttransportation.org/
TH 15	Highway 15 Coalition	http://www.rndc.org/documents/dec_06.pdf
Scott County	Scott County Association for Leadership and Efficiency Development Committee	www.scaleinfo.org/
I-35	I-35 W/E Coalition	
I-94	Gateway Corridor	http://thegatewaycorridor.com
US 169	US Highway 169 Corridor Coalition	www.us169corridorcoalition.com
I-35W	I-35W Solutions Alliance	
TH 8	TH 8 Task Force	http://www.dot.state.mn.us/metro/projects/th8/faq.html
I-94	I-94 West Corridor Coalition	www.i94coalition.com
TH 55	TH 55 Coalition	www.highway55.org

IMPROVING MINNESOTA'S TRANSPORTATION SYSTEM

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.

Strategies need to be tailored to specific roadway conditions and specific parts of the state. In some instances highway expansion will clearly improve safety while in other areas more enforcement or improvements to roadway edges are effective strategies.

Toward Zero Deaths

Minnesota has experienced a significant decline in traffic crashes over the last decade, thanks in large part to the Toward Zero Deaths Initiative. Toward Zero Deaths (TZD) is a data-driven, multi-disciplinary approach to highway safety that implements best practices in the "four E's": education, engineering, enforcement and emergency medical, and trauma services. TZD is a multi-agency partnership composed of representatives from the Minnesota departments of Transportation, Public Safety and Health; Minnesota State Patrol; Federal Highway Administration; Center for Transportation Studies at the University of Minnesota and other local safety partners, including counties and cities. The goal is to raise awareness of traffic safety issues and develop tools to reduce the number of deaths and injuries resulting from traffic crashes in Minnesota.

The accomplishments of TZD include:

- Achieved goal of fewer than 500 fatalities by 2008 two years early
- Established new goal of fewer than 400 fatalities by 2010
- Continued downward trend for traffic fatalities and serious injuries
- 20 percent reduction in fatalities since 2001 (from 568 to 455)
- 45 percent reduction in serious injury crashes since 2001 (from 2,274 to 1,248)
- Sustained annual fatality rate has been below 1.0 for the last four years

The 2007 Strategic Highway Safety Plan required under the federal surface transportation authorization act (SAFETEA-LU) analyzed crash data and confirmed that the state was focused on the appropriate Critical Emphasis Areas (CEAs).

The recommendations from that plan include:

Greater Minnesota Districts

- Establish a goal to spend at least 70% of the safety investment on low cost proactive strategies (in response to low crash densities).
- Invest in rural roads (90% of the fatalities occur on roads classified as rural)
- Invest in two-lane facilities (67% of the fatalities).
- Invest in low cost and proven strategies that can be widely deployed across the system.
- Develop a process to aid implementation of safety projects on the local road system.
- Focus investments in improving the edges of roadways (paved shoulders, safety wedge, rumble strips/stripes).
- Build partnerships with law enforcement to address alcohol-related, speeding related and unbelted vehicle occupant fatalities and injuries.

Metro District

- Establish a goal to spend 70% of the safety investment on reactive strategies at identified high crash locations. (Currently, Metro District's safety program is almost exclusively reactive.)
- Continue investing in safety projects on the local road system.
- Invest in freeway and multi-lane facilities (70% of the fatalities).
- Focus investments in road edges and median barriers on freeway facilities and intersection improvements on multi-lane arterials.
- Build partnerships with law enforcement to address serious crashes related to speeding and red-light running.

County Roadway Safety Plans

By October of 2012, all 87 counties will have developed county safety plans that establish safety emphasis areas, high priority safety strategies, at-risk locations and safety investment options.

While there are specific programs and pools of funding for safety improvements (Highway Safety Improvement Program, federal High Risk Rural Roads program, Minnesota Central Safety Funds, Rural Road Safety account with the Local Road Improvement program) all transportation investments include the consideration of improving safety and in fact, many specific safety improvement are included in reconstruction and construction projects.

Given the critical need to reduce fatalities and injuries, additional funding is needed to meet all of the identified safety needs and improve the safety of the roadway system, especially the condition of two-lane, rural highways where the majority of fatalities are occurring.

Transparency and Accountability

Minnesota State Capital St. Paul,

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. In addition, the legislature should track the work the Department has begun to craft a financial management system that should result in maximizing spending, and provide accurate reporting of public funds. The project FIGS (Financial Integrity Gold Standard) is just getting underway and has laudable outcomes such as conducting and recording business in the most efficient, accurate, and transparent manner. The state needs financial information that is timely, accurate, verifiable, comparable, and consistent; and, establishes a foundation for effective financial management in MnDOT.

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

Gov. Mark Dayton and Republican U.S. Rep Michele Bachmann tour the Stillwater lift bridge Friday March 18, 2011.

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.

Perhaps the most widely recognized example of cost increase for a project is the proposed new St. Croix River Crossing near Stillwater. The estimated construction and right-of-way cost for the new river crossing in 1995 was $89 million. The updated estimate for construction and right-of-way for the bridge is now $538 million. When contingency funds, mitigation and engineering are added in, the total cost is $680 million.

Cost Shifts Can Increase Overall Costs

In addition, the planning process needs to take into account the impact of one jurisdiction on another. Decisions made to improve or not improve a state highway have an impact on county highways, city streets and possibly township roads. While seeking to reduce the need to acquire right-of-way and lower the investment level on the trunk highway system may seem appropriate in some areas on the state system, that decision can lead to the need to acquire even more right-of-way and spend more funds for county highway authorities to adequately handle traffic.

For example, Anoka County has determined that if the state does not make needed investments on TH10 and I-35 by 2030, 246 lane-miles of county road would need to be added to 17 highway segments, versus 157 lane-miles added to 14 highway segments in order to maintain the level of congestion experienced in Anoka County in the year 2000.

The largest road and bridge project is $288 million rebuilding of the Crosstown commons in south Minneapolis entering its third construction season

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 TH62 Crosstown Commons area had been the most notorious bottleneck in the Metropolitan Area. Plans to "unweave" and expand this section of roadway to improve traffic flow have come and gone for many years, frustrating the 200,000 drivers who use it daily.

The State Legislature abruptly halted the start of a new interchange at Crosstown Hwy. 62 and Interstate Hwy. 35W which was to start in late 2001, when legislators discovered that the design would not provide enough new road capacity and that traffic would be disrupted for years. A new design was developed and the project was expected to start in 2006 at a cost of $250 million. Even after borrowing $50 million from other projects, a lack of funding led MnDOT to the unusual step of asking contractors to cash flow the project. With uncertainty over future funding, no bids were submitted. A successful bid was finally submitted in 2007 for $288 million – one of the largest highway construction projects in the state's history.

Completed in 2010, the design of the project, featuring three through-lanes for I35W in each direction and two separate through-lanes for Highway 62 in each direction is projected to provide enough capacity to keep traffic flowing through the interchange for 20 years.

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

Highway 169 in the metro area has been gradually changing from an expressway to a freeway but the slow pace has left commuters to suffer through years of dangerous and costly congestion. A new Highway 169 interchange with County Road 81 and 85th Avenue North in Brooklyn Park – known as the Devil's Triangle – fixed an area that took commuters 20 to 30 minutes to traverse during rush hour and saw 300 crashes in two years. The project -- four years in the making -- unclogs another of the Twin Cities' biggest traffic bottlenecks, one that 56,000 vehicles travel through daily.

Work is currently being done to build a new interchange on Highway 169 and I-494, another long-awaited project that was delayed due to a lack of funding. Once the set of signals is removed at that interchange, Highway 169 will finally be a freeway from Highway 610 to Shakopee.

Another bottleneck that required fixing was the reconstruction of the interchanges on I-694 and I-35E in Little Canada and Vadnais Heights. The "unweave the weave" project finally increased freeway traffic capacity, increasing driver safety and limiting the weaving and lane changes that occurred, causing accidents and congestion.

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.

Rural counties around the country have been assessing the costs and benefits of turning low-volume paved roads into gravel roads in an era of rising material costs and stagnant funding. An evaluation needs to be performed to determine if it is cost beneficial for a particular road segment to be converted to gravel. Considerations include: cost to maintain or reconstruct the road as paved versus the cost of graveling and maintenance, safety, average daily traffic, percentage of trucks, distance to other paved roads and number of homes on the road.

MnDOT and local governments work on ways to achieve more efficiency through partnerships or agreements involving things like equipment and facility sharing, snow plowing agreements, etc. These kinds of efforts should be supported and encouraged where appropriate.

Innovative Partnerships

Better coordination of public transit service with other community service providers is another area that has been studied and should be supported. Coordination between transportation providers and service agencies can help fill transportation gaps. That's because coordinated transportation can help agencies provide more rides using the same or fewer resources, make transportation easier to use, and give customers more options of where and when

to travel. What's more, coordination can help providers and agencies use their vehicles and other resources more efficiently.

The Minnesota Council on Transportation Access (MCOTA) was established by the Minnesota Legislature in 2010 (MN Statute 2010 174.285) to "study, evaluate, oversee, and make recommendations to improve the coordination, availability, accessibility, efficiency, cost-effectiveness, and safety of transportation services provided to the transit public."

The Mn/DOT Office of Transit and Minnesota Department of Human Services partnered with local planning organizations throughout Minnesota to carry out the planning process. In areas without a local planning organization, the Mn/DOT district assumed this role. These plans were developed in 2005, and are being updated in 2011.

Through the work of agencies, transit service providers and local planners, rules, regulations and other barriers to better coordination can be identified and resources provided to reduce duplication of equipment and services.

Duplication and overlap of transit planning and delivery of service was a topic of study by the Legislative Auditor in 2010. The report: Governance of Transit in the Twin Cities Metropolitan Area, published in January, 2011 found that the Twin Cities region's transit system has performed well on most measures of efficiency, effectiveness, and impact in comparison with 11 peer regions. However, the governance of transit in the Twin Cities region is complex.

The Office of the Legislative Auditor (OLA) recommended that the Legislature restructure the Metropolitan Council so that it has a mix of appointed and elected Council members, all serving staggered terms and that the Council should coordinate with stakeholders to prioritize potential transitways for future development based on the needs of the region. Given the current structure of the Metropolitan Council, the OLA does not recommend eliminating other organizations involved with transit, such as the Counties Transit Improvement Board or the Transportation Advisory Board. The OLA does not recommend eliminating the suburban transit providers, although there are opportunities for some consolidation.

The issue of governance is one that will need ongoing attention to deal with future challenges as the Twin Cities Metropolitan Area grows and develops.

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.

Delay can occur in any of the five major phases of a project:

- Planning
- Preliminary design and environmental review
- Final design
- Right-of-way acquisition and utility relocation
- Construction

The overwhelming majority of highway projects are deemed to have no significant impact on the environment and require no or limited environmental review or documentation. Only about 4 percent of all projects funded through FHWA programs require an EIS.

EMERGENCY CASES

Some high-profile emergency projects have led to questions regarding the length of time for transportation projects to be completed. The reconstruction of the I-35W bridge in Minneapolis in just over a year, the rebuilding of the I-580 connector in San Francisco in 26 days after a truck crash and the rebuilding of the I-40 bridge at Webber Falls Oklahoma in 65 days have been seen as examples of how to accelerate project delivery. However, emergency situations are just that and they often do not face the biggest obstacles: lack of funding, lack of prompt agency responses, local controversy and insufficient political support.

"Lessons Learned" from the I-35W Bridge Contract Decision and Environmental Review Process: Are They Applicable Elsewhere?

The praise for the rapid construction of the I-35W bridge has been nearly universal since it opened on September 18, 2008, less than 14 months after the tragic collapse. Only the most optimistic would have predicted that the bridge would be rebuilt and operational in such a short span of time, given the typical complexity of the bidding, financing, and environmental permitting processes usually required for a project of this scale.

Some observers were eager to apply the "lessons learned" from the project to other, "traditional" major projects. The reasoning seemed to be that if a project the scale of the I-35W bridge reconstruction could be done that fast, why can't they all be done that fast? Not all projects can be treated like emergencies.

Congress should consider the following strategies for accelerating project delivery:

- Create an Office of Expedited Project Delivery in the Department of Transportation
- Certify states to use their own procedures to protect dislocated property owners and tenants
- Reduce the number of steps in the transit New Starts program and eliminate the alternatives analysis
- Provide the Federal Transit Administration with the ability "fast-track" New Starts projects that are low-risk
- Create an Integrated Planning Pilot Project under the Special Experiment Program authority that exists for the Federal Highway Administration
- Adopt a programmatic approach to oversight rather than one based on a project by project review
- Make permanent the Surface Transportation Project Delivery Pilot Program and expand it to allow delegation of NEPA authority for highway projects to any state.

Streamline Permitting/Approval Processes

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.

A review of rules and regulations should be undertaken to identify potential ways to reduce barriers and speed the process including simultaneous processes rather than a linear progression from one permit to the next.

During the 2011 Legislative Session, important changes were enacted into law that should make the permitting process work more efficiently in Minnesota. The new law sets a goal of 150 days for the issuance or denial of permits by the Department of Natural Resources and the Pollution Control Agency. The agencies must also notify applicants within 30 days of any deficiencies in the permit application or the application is deemed complete. Final decisions on all permits must be made within 30 days of the final approval of an Environmental Impact Statement (EIS).

Innovative Solutions/Delivery Methods

Road Closures

Strategies for completing projects more quickly should be explored and used where appropriate including total road closures where local businesses will not be negatively impacted. Successful examples of the use of this strategy include the TH36 project in Ramsey County. The TH-36 project in North St. Paul, MN, was the biggest Full Closure of a major urban arterial Mn/DOT had ever planned and executed. The benefits from the full closure were found to be higher than the 15% savings generally reported.

Design-Build

Other strategies that can speed up the completion of projects include the design/build process that combines final design with the start of construction, reducing the total time over the design/bid/build method. Examples of successful projects include ROC52 project in Rochester, New Highway 212 project in Carver County and I-494 expansion (Minnetonka to Eden Prairie).

The Anoka County Highway Department is the first local government in the state to use design-build to reconstruct Main Street from east of Crane Street in Coon Rapids to west of Ulysses Street Northeast in Blaine. With one entity accountable for the budget, schedule and performance, the project is more likely to be completed on time and on budget in addition to facilitating innovation by giving the contractor/design team more flexibility.

The Main Street reconstruction project includes expanding the roadway to four lanes with a median down the center, along with protected right and left turn lanes, construction of bike and pedestrian trails and an overpass at the railroad crossing between Avocet Street and Foley Boulevard.

Right-of-way Acquisition

Preserving future right-of-way is an important strategy for reducing project costs. As plans develop to construct a transportation project, interest in the property and land values increase. Planning for the long-term can allow for cost savings by setting aside needed right-of-way and protecting from development, thereby reducing the need to take property from business owners and residents in the future.

Recycling Construction Materials

Most major inputs for transportation projects are priced on a national or more often global market. This means that materials costs for projects in Minnesota will go up when China increases demand for steel or world oil prices climb. One avenue that can be used to reduce cost is recycling and reuse of construction materials.

Both the asphalt and concrete industries work to recycle construction materials. Used concrete can be recycled into road base material and used asphalt into new asphalt.

In a Washington state recycling program, one county found that early planning can yield an 80-90 percent job site recycling rate and significant cost savings.

In addition to cost savings, there are significant environmental benefits. In Washington County, the 70th Street S from TH 95 to Oakgreen Avenue project was successfully completed incorporating "tear-off" shingles in the bituminous road mix. "Tear-off" shingles are shingles that come from existing roofs. These are more difficult to recycle into road mix than manufacturer scrap so this was an important step. The project incorporated 300,000 pounds of shingles for a total of 5 percent of the total bituminous mix. There was no increase in cost over regular bituminous mix, and based on an average size home, the county kept the equivalent of shingles from 96 homes from going to a landfill.

We are making great progress in this area, but Minnesota can do more to reduce costs and protect the environment by stepping up recycling efforts.

Every Day Counts

The Federal Highway Administration (FHWA) is currently working with industry and other stakeholders to identify strategies for delivering transportation projects more efficiently through an initiative called Every Day Counts (EDC). EDC is designed to identify and deploy innovation aimed at shortening project delivery, enhancing the safety of our roadways, and protecting the environment.

Some Of The Areas FHWA Is Exploring:

- **EXPANDING USE OF PROGRAMMATIC AGREEMENTS**

The continued and expanded use of programmatic agreements (PAs), where procedures have been standardized and agreed upon, has been very effective in saving time. When prior agreements exist for avoiding, minimizing, and mitigating impacts, projects are reviewed quicker and trust is developed that results in improved relationships between DOTs and regulatory agencies. The goal of this initiative will be to identify and assist in the expansion of new and existing programmatic agreements to a regional or national level.

- **ROW FLEXIBILITY**

The Right of Way (ROW) process is currently a major part of the project development process. Significant time savings can be achieved by employing flexibilities already provided for in statute and FHWA regulations. Opportunities are available for improved coordination of ROW activities with other key project development actions in preliminary design; land acquisition for utilities accommodation and relocation project activities; NEPA mitigation land needs; and a number of other areas where streamlined approaches may prove beneficial.

- **UTILITY ACCOMMODATION AND RELOCATION**

The often–conflicting priorities of state transportation agencies and utility companies can adversely affect the timely completion of transportation projects. Potential utility conflicts exist on most transportation projects. It is estimated that half of all highway and bridge projects eligible for Federal funding involve the relocation of utility facilities, and construction generally takes longer and costs more when utilities need to be relocated. The initiative will spotlight existing flexibilities currently in place under Federal law and regulations and describe techniques that foster effective utility coordination during project development which warrant more widespread use.

- **Prefabricated Bridges**

Bailey Bridge is one kind of prefabricated bridge, which is composed of panels and assembled together to withstand various lengths and strengths allowing the crossing of vehicles.

With Prefabricated Bridge Elements and Systems (PBES), many time–consuming construction tasks no longer need to be done sequentially in work zones. An old bridge can be demolished while the new bridge elements are built at the same time off–site, then brought to the project location ready to erect. Because PBES are usually fabricated under controlled climate conditions, weather has less impact on the quality, safety, and duration of the project. The use of PBES also offers cost savings in both small and large projects. The ability to rapidly install PBES onsite can reduce the environmental impact of bridge construction in environmentally sensitive areas.

- **Warm Mix Asphalt**

Warm–Mix Asphalt (WMA) is the generic term for a variety of technologies that allow asphalt to be produced and then placed on the road of at lower temperatures than the conventional hot–mix method. WMA production is at temperatures ranging from 30 to 120 degrees lower than hot mix. In most cases, the lower temperatures result in significant cost savings and reduced greenhouse gas emissions because less fuel is required. WMA also has the potential to extend the construction season, allowing projects to be delivered faster. By 2009, more than 40 States constructed WMA projects, with 14 adopting specifications to accommodate WMA.

The successful deployment of warm-mix asphalt on roadways in Yellowstone National Park in August 2007 provided valuable experience in using this environmentally beneficial technology for the Federal Highway Administration's (FHWA)

- **Safety Edge**

The Safety Edge is a simple but extremely effective solution that can help save lives by allowing drivers who drift off highways to return to the road safely. Instead of a vertical drop-off, the Safety Edge consolidates the edge of the pavement at 30 degrees. Research has shown this "transition from on-roadway surface to shoulder and back is so smooth it defies assignment of any degree of severity". The Safety Edge provides a strong, durable transition for all vehicles. Even at higher speeds, vehicles can return to the paved road smoothly and easily. By including the Safety edge detail while paving, this countermeasure can be implemented system-wide at a very low cost. The Safety Edge provides a more durable pavement edge that prevents edge raveling. FHWA's goal is to accelerate the use of the Safety Edge technolworking with States to develop specifications and adopt this pavement edge treatment as a standard practice on all new and resurfacing pavement projects.

Pavement wedge sample with a Safety Edge (Federal Highway Administration) A Plumas County Department of Public Works resurfacing project using the 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.

Table 6-3: Freeway Management System Investments *

Count	Investment
400	Miles of fiber optic cable
470	Cameras
146	Dynamic Message Signs
174	Intelligent lane controls (there are also 19 older model lane controls in operation)
4500	Loop detectors
424	Ramp meters
101	Ramp meter bypasses for transit and HOV use
257	Miles of bus-only shoulders (there are 320 miles if other highways are included)
220	Miles of FIRST coverage (Freeway Incident Response Safety Team)
10	Miles of I-394 MnPASS lanes (13,600 transponders sold – as of 5/2010)
15	Miles of I-35W MnPASS lanes ** (4,500 transponders sold – as of 5/2010)
	511 Traveler Information Call Number

** Generally, the investments recorded here are made on Metropolitan Highway System freeways*

*** When project is completed through the Crosstown*

Minnesota has been a leader in intelligent transportation systems (ITS) technologies. Minnesota Guidestar, a partnership of public and private interests, has performed a broad range of ITS activities including needs assessments, research and development, full-scale operational testing, and deployment of ITS strategies and technologies. Minnesota Guidestar has been a key player in advancing ITS technology and programs to help achieve statewide and local transportation objectives.

Increased deployment of ITS technologies throughout the state will be needed in the future to improve mobility and increase safety while conserving energy and other resources.

Active Traffic Management applications including traveler information systems, incident response programs, dynamic signing and shoulder lanes, speed harmonization and queue warnings which increase the overall capacity and travel time reliability of the system while reducing accidents will be increased in the Twin Cities Metropolitan Area.

Other strategies such as travel demand management – staggered work hours, telework, carpools, etc – and land use changes can reduce demand and help mitigate congestion, improving the efficiency of the existing highway system.

- ## 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. Since it began producing energy in December 2008, the 594 panels making up the Solar Highway have produced more than 141,000 kilowatt hours of renewable electricity. ODOT approached PGE, the main power utility in the Portland Metro area and developed a unique public/private partnership whereby electricity produced during the day is sent to the grid for PGE's use and at night PGE returns an equal amount of power to ODOT to light the highway.

First U.S. Solar Highway Demonstration Project

The 594 solar panels produce nearly 112,000 kilowatt hours annually and use the utility grid as a battery, supplying energy during the day to light the interchange at night. The project was completed December 19, 2008, just 135 days after agreements were signed. The prototype project cost $1.28 million. The project demonstrates that solar arrays can complement and not compromise the transportation system.

- **Reduce Congestion**

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 modes 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.

- **Use Materials Slated for Landfills**

Concrete producers are also major consumers of recycling 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.

The cost to build roads, runways and bridges would increase by an estimated $104.6 billion over the next 20 years if coal fly ash is no longer available as a transportation construction building material according to a new study by the American Road and Transportation Builders Association Foundation.

FUNDING/FINANCING

FEDERAL FUNDING

The Federal Highway Administration estimates that every $1 billion spent on transportation infrastructure design and construction creates close to 28,500 jobs, and up to $5 billion in additional gross domestic product. Investments in transportation infrastructure provide the foundation for economic expansion by creating links to domestic and global markets. And investments in transportation infrastructure can reduce our dependence on foreign oil and promote sustainability and a cleaner environment.

> 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.

The Importance of Federal Funding to Minnesota

Of course, Minnesota relies on the federal government to support a substantial share of its transportation infrastructure needs, and Minnesota has benefited from steady, significant increases in federal funding in recent years. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the federal transportation funding Act in place since 2005 that expired in September, 2009, provided significantly more in formula funding and dedicated High Priority Project funding than its predecessor, TEA-21. ***Without support from federal funds, literally hundreds of projects across the state would not have been completed. Some of the higher profile projects include:***

The I-35W Bridge

The new I-35W bridge is truly a "state of the art" facility. The bridge was designed and constructed to meet the travel needs of this community for the next 100 years, including the potential to add light rail. Embedded within the spans of the new bridge are over 300 sensors that will collect data on how the bridge is reacting to loads and vibrations and how expansion and contraction is occurring due to Minnesota's extreme climate changes.

I-694 "Unweave-the-Weave"

In 2008, construction was completed on the Unweave the Weave project in Little Canada and Vadnais Heights. The project rebuilt the interchanges of I-35E and I-694 along with the two interstates' common section in Little Canada and Vadnais Heights. The project features widening a 3.2 mile segment of I-35E and a 2.8 mile segment of I-694 from 4 lanes to 6. The project also included construction of eight highway bridges, storm water ponds, noise walls and other aesthetic enhancements.

I-35W / Cedar Avenue Urban Partnership Agreement Program

In 2007 the U.S. Department of Transportation awarded Minnesota an Urban Partnership Agreement grant aimed at improving traffic and measurably reducing congestion in the Twin Cities on two main corridors: I-35W and TH 77 (Cedar Avenue). Transit enhancements, advanced technology and telecommuting are being employed in both corridors. In addition, road pricing will be used in the conversion of the high occupancy vehicle lane on I-35W to a high occupancy toll lane becoming the region's second MnPASS facility.

Funded by $133.3 million in federal funds and $55.2 million in matching state funds, this innovative partnership allows Minnesota to leverage federal dollars and keep project costs low while pioneering news ways to move traffic. Building this project created jobs and ultimately increased safety on the road and improved the quality of life for motorists traveling a vital section of a national Interstate.

Hiawatha LRT

The Hiawatha line provided 9.1 million rides in 2006, an average of 27,000 per weekday. Current ridership is exceeding estimates for the year 2020 made prior to construction. The line has also proven to be a powerful catalyst for transit related development. Since 2000, nearly 7,700 new housing units have been built along the line, with another 8,100 units planned by 2010.

Highway 14 Reconstruction from Janesville to Owatonna

The four-lane expansion of TH 14 from Janesville to Waseca was completed in 2006. This expansion is presently continuing from Owatonna to Waseca with completion anticipated in 2012. The project will provide four-lane continuity from Mankato to Owatonna.

While the primary goal of the project is to enhance safety and mobility, improvements will also foster economic development along this key rural corridor and throughout the region.

TH 62 Crosstown reconstruction

This project addressed congestion and safety concerns along one of the metro areas most severe bottlenecks. Improvements include reconstruction and additional capacity through the I-35W/Highway 62 Commons Area and placement of a High Occupancy Vehicle (HOV) lane between 46th Street in Minneapolis and I-494 in Richfield/Bloomington and a general purpose lane on I-35W between Highway 62 and 46th Street. The project also includes a safer access to the mainline, including a ramp to westbound Highway 62 from Lyndale Avenue and closure of the existing access to westbound Highway 62 from Portland Avenue.

Highway 53 reconstruction from Virginia to Cook

TH 53, also known as the "Falls to Falls" corridor, is currently being expanded from two to four lanes from one mile north of the north junction of TH 169 in St. Louis County to the four miles south of TH 1. The next phase of expansion on TH 53 is anticipated to begin in 2012. Once completed, TH 53 will provide four-lane continuity from Virginia to Cook.

The project is a key element of the “Falls-to-Falls Corridor” which was given the moniker because the long range vision for the corridor is to provide a four-lane highway extending from International Falls to Chippewa Falls, Wisconsin.

Highway 52 (ROC 52) Design-Build Best Value

This 12 mile long project is located in Rochester and extends from the junction of 85th Street to the junction of Highway 63. The project was Mn/DOT's first design-build highway project and Mn/DOT estimates that the ability to advance this project saved an estimated $30 million in project costs. Additional savings will result by avoiding future right-of-way acquisition.

Federal Transportation Funding – How it works

The federal government collects a federal fuel tax (18.4 cents per gallon of highway gasoline fuel plus 24.4 cents per gallon for diesel fuel, kerosene, and alternative fuels), the retail sales tax on heavy highway vehicles, the tax on heavy truck tires and the annual usage tax for heavy highway vehicles.

Revenues are deposited into the Highway Trust Fund. The Fund has two accounts: the Highway Account and the Transit Account. Federal funding for transit is also supplemented with an appropriation from the general treasury.

Revenue in the fund is distributed to all the states through programs that rely on formulas and through programs that are discretionary or competitive in nature. For Minnesota, the funds allocated to the state have been fairly consistent with the

Motor fuel taxes			
		Distribution of tax	
Type of Excise Tax	**Tax rate (cents)**	**Highway Account**	**Mass Transit Account**
Gasoline	18.3 per gallon	84%	16%
Diesel	24.3 per gallon	88%	12%
Gasohol	18.3 per gallon	84%	16%
Liquefied petroleum gas	13.6 per gallon	84%	16%
Liquefied natural gas	11.9 per gallon	84%	16%
M85 (from natural gas)	9.15 per gallon	84%	16%
Compressed natural gas	48.54 per thousand cubic feet	80%	20%
Truck-related Taxes - All proceeds to Highway Account			
Tires	9.45 cents for each 10 pounds (so much of the maximum rated load capacity thereof as exceeds 3,500 pounds)		
Truck and trailer sales	12 percent of retailer's sales price for tractors and trucks over 33,000 pounds Gross Vehicle Weight (GVW) and trailers over 26,000 pounds GVW		
Heavy-vehicle use	Annual tax for trucks 55,000 pounds and over GVW: $100 plus $22 for each 1,000 pounds (or fraction thereof) in excess of 55,000 pounds. Maximum tax: $550		

amount of revenue paid into the fund by Minnesotans purchasing fuel. 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 transportation dollars are allocated through a two-step process: surface transportation and aviation authorization acts and annual appropriations bills. The authorization legislation provides the legal authority to collect and spend the revenue with broad parameters for allocation of the revenue. The annual appropriations bills are then passed to set the exact appropriation for each federal fiscal year. In the past, annual appropriations bills have also contained funding for specific projects or "earmarks" whereby a small amount of the overall available funding is directed by members of Congress to projects that have gone through a screening process.

In the last couple of years, competitive programs have become more popular in which individual projects compete for program funds among projects submitted nationwide. The Transportation Investment Generating Economic Recovery or TIGER program is the best known competitive grant program.

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 SAFEATEA-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 country's infrastructure continues to decline and our economy needs job creation.

American Recovery and Reinvestment Act of 2009

On Feb. 17, 2009, Congress passed the American Recovery and Reinvestment Act of 2009, a $787 billion plan that included $275 billion in loans and grants for investments that would:

- Create new jobs and save existing ones
- Spur economic activity and invest in long-term growth
- Foster unprecedented levels of accountability and transparency in government spending

Minnesota received funding through ARRA for hundreds of transportation infrastructure projects: highways, bridges, transit investments, aviation and port improvements. As of July, 2011, MnDOT reported:

Projects put out to bid:	228	$505,780,307
Projects under contract:	227	$505,607,075
Projects underway:	227	$505,607,075
Projects complete	197	$382,849,923

In the August, 2011 report to Congress, MnDOT reported 14,794 direct, on-project jobs created or sustained and $84,325,025 in total payroll for job hours created or sustained with recovery act funds.

United States Capital

Congressional Action

SENATE LEGISLATIVE PROPOSAL

Congressional leaders have been working to develop a new surface transportation authorization act. In the Senate, the main committee charged with passing this legislation is the Environment and Public Works Committee. The Banking Committee in the Senate handles the transit portion of the act.

The Senate Environment and Public Works (EPW) Committee released a three-page outline of its portion of a larger, two-year surface transportation bill. The outline covers sections that would have to do with the federal highway program and follows many of the parameters that have been discussed by EPW Committee Chairman Barbara Boxer (D-Calif.), including holding funding at current levels. Highlights include the following:

- Maintains funding at current levels and provides a two-year authorization act rather than the traditional six-year authorization bill. The proposal would extend the program for two years at a cost of $109 billion or about $54.5 billion per year. The Highway Trust Fund is expected to receive no more than $75 billion over the next two years in revenue so the funding shortfall would be reduced by drawing down the fund balance in the Trust Fund ($14.8 billion in the highway account and $6.9 billion in the transit account). However, this still leaves an unfunded shortfall of $12 billion.

• Consolidates the core highway programs into five categories:

o The National Highway Performance Program (which would combine current Interstate Maintenance, National Highway System and part of the Highway Bridge Programs);

o Transportation Mobility Program (which would merge several current programs to fund all Federal-aid highways and all bridges and tunnels);

o National Freight Program (would provide formula funds to all states for goods movement projects);

o Congestion Mitigation and Air Quality Program (similar environmental and enhancement responsibilities as current program);

o and Highway Safety Improvement Program.

• Expands the Transportation Infrastructure Finance and Innovation Act from current levels of $122 billion per year to $1 billion per year. This program provides credit assistance and backing for larger scale projects.

• Establishes performance standards for states, steps to accelerate the project delivery process and ways to improve the statewide and metropolitan planning methods.

HOUSE LEGISLATIVE PROPOSAL

House Transportation and Infrastructure Chairman John Mica (R-Fl) held a hearing on July 7, 2011 to introduce an outline of his proposed 6-year surface transportation authorization act. The House proposal does not authorize any spending over the amount estimated to be brought in by the current gas tax level. Tax receipts deposited in the Highway Trust Fund are expected to amount to $37 billion in FY 2011 according to the Congressional Budget Office (CBO)— $31.8 billion to be credited to the Highway Account and $5.1 billion to the Transit Account Projecting this flow of revenue into the future, the Highway Trust Fund could be expected to receive approximately $220-230 billion over the next six-year period, 2012-2017— assuming CBO's projection of a modest one percent annual growth in HTF revenue due to an increase in travel.

Under this scenario, transportation funding will be cut from current levels by about 35 percent for all states. For Minnesota, the impact would be very damaging:

Minnesota Federal Funds under House Proposal

	FY2011 Funding	Proposed FY2012	Cut		Jobs Lost
Highways	$603 million	$382 million	$ -220 million	-36.56%	7,675
Transit	$147 million	$92 million	-$54 million		2,034

The House proposal contains:

□□ Provides $230 billion over six years or about $38.3 billion per year from the Highway Trust Fund – consistent with the amount of revenue deposited into the Highway Trust Fund during that time frame.

□□ Funds the TIFIA program at $1 billion per year and provides incentives for states to create and capitalize State Infrastructure Banks.

□□ Consolidates or eliminates nearly 70 duplicative programs or programs not in the federal interest.

Surface Transportation Funding Options Matrix – Source: AASHTO

(Revenue Estimates in $millions)

Funding Mechanism	Per Unit Yield	Illustrative Rate	2010 Revenue	Est. Total Revenues 2010-2015
Federal Fuel Tax	1¢ = $1,800	10¢	$18,000	$305,944
Index Fuel tax to CPI	N/A	N/A	$800	$2,500
Transit ticket tax	1% = $130	1%	$130	$780
Highway Miles Traveled Fee	1¢ per VMT = $32,447	1.5¢	$48,671	$300,000
Highway User Vehicle Fee	$1 = $263	$1	$263	$1,652
Carbon Tax or Cap and Trade Auction Proceeds – all modes	1¢ per gallon or equivalent = $277	10¢	$2,771	$17,283
Container Tax	$1 per TCU = $57	$10	$569	$4,000
Diesel Tax increase plus Indexing	1¢ per gallon = $411	13¢	$5,337	$35,856
Gas Tax increase plus Indexing	1¢ per gallon = $1,380	10¢	$13,796	$90,489
General Fund support for intercity passenger rail	N/A	N/A	$3,000	$18,000
General Fund transfers for transit	N/A	N/A	$3,167	$19,000
Index existing Highway Trust Fund sources beginning in 2010	N/A	N/A	$791	$18,192
Index Heavy Vehicle Use Tax retroactive to 1997	N/A	N/A	$411	$3,217
Interest on Highway Trust Fund Balances	N/A	N/A	$200	$1,200
Motor Fuel Tax exemption reimbursement (retroactive and future)	N/A	N/A	$1,057	$6,593
Sales tax on Motor Fuels	1% of sales = $6,136	2.5%	$15,340	$93,949
Share of US Customs Revenues	1% of receipts = $314	5.0%	$1,570	$10,904
Tax Credit Bonds for Highways and Transit	N/A	N/A	$8,333	$50,000
Tax Credit Bonds for Intercity passenger rail	N/A	N/A	$4,167	$25,000
Ton Freight Charge – all modes	1¢ per ton = $162	10¢	$1,617	$10,804
Ton Freight Charge – truck only	1¢ per ton = $111	10¢	$1,115	$7,452
Ton-Mile Freight Charge – all modes	1¢ per ton-mile = $42,763	1¢	$4,276	$28,579
Ton-Mile Freight Charge – truck only	1¢ per ton = $12,516	1¢	$1,252	$8,365
US Freight Bill – all modes	1% of sales = $7,708	1%	$7,708	$51,513
US Freight Bill – truck only	1% of sales = $6,497	1%	$6,497	$43,420
Vehicle Sales tax on new passenger cars/light duty trucks	1% of sales = $4,853	2%	$9,707	$64,870
Vehicle Sales tax on new passenger cars/light duty trucks	1% of sales = $9,012	2%	$18,024	$120,461
TOTAL				**$1,340,023**

STATE FUNDING

Efficiency in Using Resources

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.

In Minnesota, we have three constitutionally-dedicated revenue sources for transportation:

- gas tax
- license tab fees
- Motor vehicle sales tax.

Voters clearly intended that those funds be used directly for transportation projects. The state needs to carefully review uses of transportation funds that are questionable in terms of serving "a highway purpose" or funding transit service.

Administrative costs, regulatory costs, diversions of funds for paying state sales tax, tort claims, and other purposes need to be kept to a minimum or eliminated. For example, case law clearly shows that the payment of state sales tax from the Trunk Highway Fund is unconstitutional and yet this practice continues.

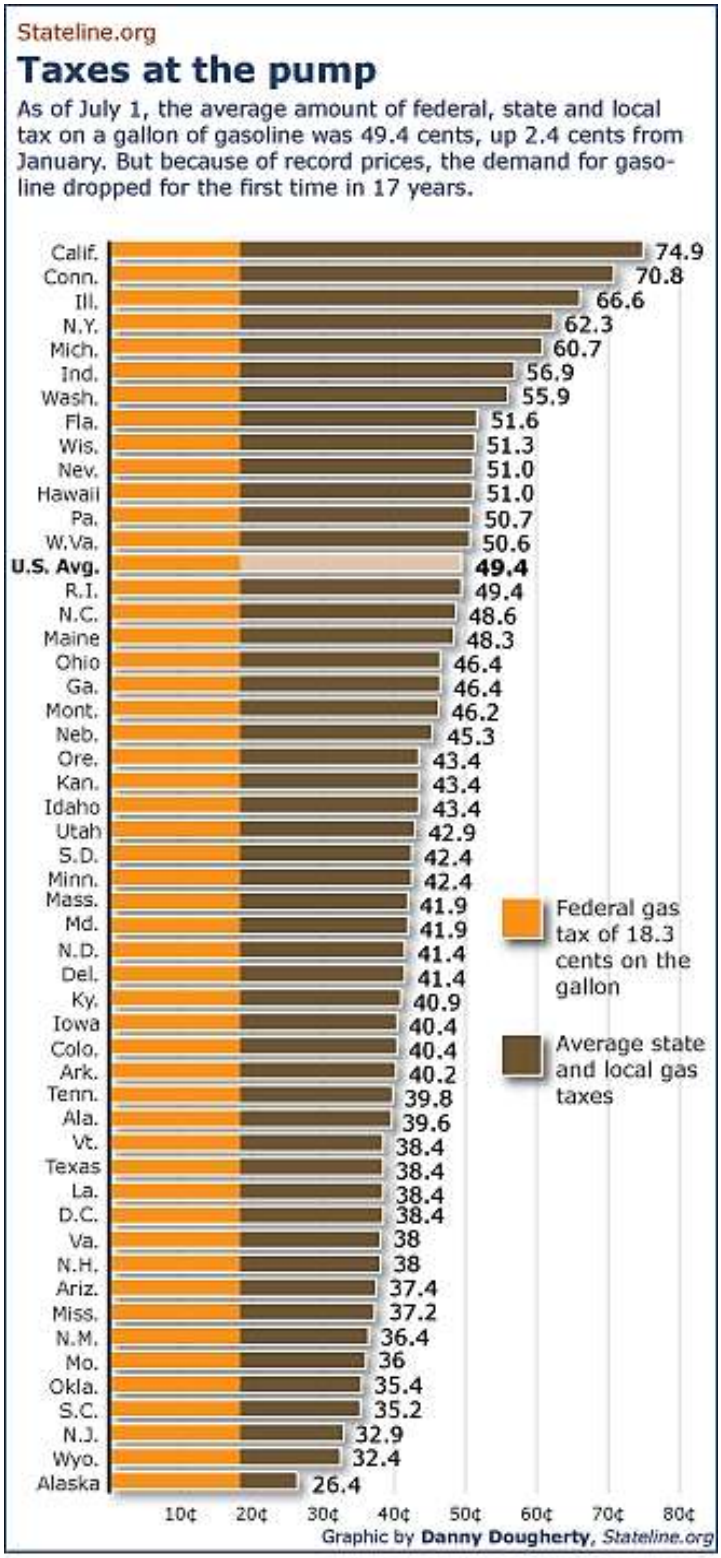
Loopholes in Tax Policy

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. For example, gifts between individuals are not subject to sales tax payment, corporate and partnership transfers, and vehicles acquired by inheritance. In addition, a flat tax is used for older cars and collector vehicles while the tax is calculated on the reduced price after allowing for a trade-in for both dealer sales and sales between individuals. All of these exemptions reduce the revenue collected by over $100 million per year – reducing the revenue available for needed improvements that benefit all users of the transportation system.

REVENUE OPTIONS

Motor Fuel Excise Tax (Gas Tax)

The state currently charges a motor fuel excise tax assessed on cents per gallon of fuel basis that is not adjusted for inflation. The Minnesota Constitution requires that this revenue be deposited in the Highway User Tax Distribution Fund and that the dollars be used for a highway purpose. The gas tax is basically a user fee as those who drive more and use the highway system more pay more in fuel taxes.



- This revenue source has traditionally increased gradually each year and has provided stable funding. The traditional increase in the number of vehicle miles traveled has been tapering off in recent years leading to questions about future sales of fuel. The collection system is simple – the tax is collected from 424 wholesalers with very low administrative and compliance costs so that a very high percentage of the dollars collected is used for highway work. This revenue source has very high public acceptance.

- Future trends indicate that sales of gasoline and diesel fuel will decrease with better fuel economy and increased use of alternative fuels and increased use of other modes of transportation including transit, biking and walking. Alternative fuels can also be taxed to pay for the transportation system. A per-mileage fee may need to eventually replace the per gallon fuel charge.

- Indexing the motor fuel excise tax to the Consumer Price Index or Construction Inflation Index would protect the value of the per gallon tax from inflation. Other states have all or part of the motor fuel excise tax indexed to inflation. This would provide additional revenue with very low administrative costs and the revenue would be constitutionally dedicated to highways.

Motor Fuel Sales Tax

In addition to the motor fuel excise tax, some states also charge a sales tax on motor fuels. Currently, Minnesota law exempts motor fuel sales from the general sales tax. A sales tax on motor fuel purchases would provide increasing revenue as prices increase, allowing revenue to keep pace with rising construction costs. The tax would be easy to administer with low administrative costs. There is some question as to whether or not proceeds from this tax fit the constitutional requirement that fuel tax revenue be deposited in the Highway User Tax Distribution Fund.

Motor Vehicle Sales Tax (MVST)

In 1981 the legislature passed a law dedicating 100% of the motor vehicle sales to highways and transit phased-in over 10 years. Budget constraints prevented that law from being fully enacted, but by 2005, about 54% of the MVST had been statutorily dedicated by the legislature to highways and transit. In 2006 voters approved a constitutional amendment phasing-in the full dedication of all motor vehicle sales tax revenue to transportation by 2012 with at least 40% of the revenue for transit and no more than 60% of the revenue for highways.

- Revenue keeps pace with inflation as this tax is charged as a percentage of the total price of motor vehicles. This revenue source has low administrative costs and is an accepted, existing tax. The constitutional dedication provides assurance that funds will be used for transportation.

- Vehicle sales follow the ups and downs of the economy so there is some volatility. Future shifts to alternative transportation modes could impact the number of vehicles sold.

Petroleum Tank Release Cleanup Fee

In addition to the gasoline and special fuel taxes, a petroleum tank release cleanup fee is occasionally added and charged at the pump. The fee is imposed at a rate of $0.02 per gallon of fuel and in recent years has "blinked on" for four months out of the year. Revenue from the fee is deposited in the Petroleum Tank Release Fund and is used to reimburse businesses and individuals for the cost of cleanup from underground storage tank spills.

Maintaining this fee year-round and depositing the additional proceeds not needed for underground storage tank cleanup into the Highway User Tax Distribution Fund would provide an additional $30 million per year for needed repairs on our roads and bridges.

Motor Vehicle Sales Tax On Leased Vehicles

The language on the ballot approved by voters in 2006 to constitutionally dedicated revenue from the sale of motor vehicles did not include language specifically including those motor vehicles that are leased rather than purchased. The principle is the same for cars leased – revenue paid by vehicle owners or leasers should be dedicated to improving the transportation system. All revenue from both purchases and leases should be directed to highways and transit. In 2008, the legislature statutorily dedicated ½ of the revenue from leases of motor vehicles to a gas tax refund for low-income taxpayers and the other ½ of the revenue to both Greater Minnesota Transit and county highways in the Twin Cities Metropolitan Area. In 2010, the legislature repealed the low-income gas tax refund.

- Statutorily dedicating all of the revenue from the sales tax on leased motor vehicles would provide an additional $40-$50 million annually for transportation purposes.

Motor Vehicle Registration Tax (Tab Fees)

The motor vehicle registration tax is an annual fee paid by motor vehicle owners. The fee consists of a $10 fixed fee and a charge of 1.25% of the price of the vehicle with a depreciation schedule that adjusts the percentage of the price calculated down as the vehicle ages to reflect the corresponding loss of value. All revenue collected from the motor vehicle registration tax is constitutionally required to be deposited in the Highway User Tax Distribution Fund and all proceeds must be used for a highway purpose. In 2008, a cap of $99 for new cars and $89 for older vehicles was removed but vehicles previously registered in the State of Minnesota were grandfathered in and remain under the previous caps.

- Revenues are based on the number and value of motor vehicles which makes it relatively stable and easy to predict. This long-standing revenue source is generally accepted and has low administrative costs. All vehicle owners who use the transportation system pay this fee. The constitutional dedicated ensures that all revenue is used for highways.

Gaming Revenue

Increasing interest in expanding gaming to other venues has led to proposals for funding some of the state's infrastructure needs through an economic development or infrastructure fund that would receive revenue raised from the expansion of gaming. The estimate for potential annual revenue from proposals discussed during the 2011 legislative session was approximately $250 million per year.

General Fund Appropriations

An annual appropriation from the general fund is used to provide some of the operating dollars for transit systems in Minnesota. Other sources of operating funds for transit are the motor vehicle sales tax (MVST), farebox recovery and local funds including local property tax dollars.

- For the FY 2012-13 biennium $125,658,000 or about 0.34 % of the general fund budget was allocated to transportation.
- In 2000, the legislature provided an appropriation of $350 million from the general fund to the Trunk Highway Fund to accelerate the completion of highway projects.

Sales Tax on Auto Repair Services/General Sales Tax

A portion of the state's general sales tax could be dedicated to transportation. In past years proposals have been introduced to expand the existing state sales tax to certain services or products such as auto repair and parts with the proceeds dedicated to transportation.

- Expanding the base for the state's current sales tax would provide additional revenue with low administrative costs.

Mileage-Based Tax

A mileage-based tax or Vehicle Miles Traveled (VMT) tax would charge users based on the number of miles driven. The tax could be collected at the fuel pump, during an annual inspection or through monthly charges. This tax has been discussed as a possible replacement for the current motor fuel tax to maintain revenue given the expected increase in fuel-efficiency and in the number of vehicles running on alternative fuels including electric-only vehicles that would not pay the current fuel tax.

- This tax could be comparable to current motor fuel collections depending on the rates charged and future travel patterns.
- The tax could be phased-in with new vehicles but will require some new infrastructure to collect the tax. Administrative costs could be significant as the state would be moving from collecting the motor fuel tax from 424 distributors to collecting VMT taxes from millions of drivers.
- No states are currently using the mileage-based tax. A few states have tried pilot projects to test technology and public opinion.

Surcharge On DWI And Moving Violations

Surcharges added to moving violations or fines for driving while intoxicated are used in many states to provide additional revenue for meeting needs on the transportation system. This charge added to the fines in Minnesota would make these violations more costly for those engaging in this behavior on the roadways.

Weight/Distance Tax

Weight-distance taxes are a type of highway user fee assessed on trucks. Under this system, the tax rate increases with the weight of a truck and it is paid per mile of truck operation in the state. To the extent that a vehicle's fuel use correlates with its road use and wear, a fuel tax is an equitable way to charge for use of the road system. Variations in vehicle fuel economy, however, weaken the correlation between a fuel tax and road wear. This is true for all vehicles, but especially for heavy vehicles. An increase in truck weight that nearly doubles road wear may only increase fuel use by 10%. A weight-mile tax can be structured to more accurately assess for costs of wear.

Hot Lanes

High-Occupancy Toll (HOT) lanes charge a fee for single-occupant vehicles to drive in the high-occupancy vehicle only lane. Typically the fee varies by time of day or capacity of the lane in order to keep traffic free-flowing in the HOT lane. Some installation of electronic equipment is necessary. If a brand new lane were constructed, the cost of construction would be considerably more than the HOT lanes currently in use.

- Minnesota converted the High-Occupancy Vehicle (HOV) lane on I-394 to a HOT lane as well as the former HOV lane on I-35W. Based on past experience, variable tolls on a new lane will likely generate enough revenue to cover operating costs and potentially some of the capital costs to construct the lane.

Tolling

Charging for the use of existing general purpose lanes has been given more attention in recent years at the federal level. Tolling is prohibited on the Interstate System with the exception of the toll pilot projects provisions included under SAFETEA-LU the federal surface transportation authorization act. Constructing new lanes and charging a toll for their use is allowed under federal law.

Minnesota law (Session laws 2008 – Chapter 152) currently prohibits charging a toll on existing general purpose lanes. MnDOT recently completed a study of potential new MnPASS lanes where a fee would be charged for use of the new lane and identified one project as a Tier I with good potential several other projects as Tier II and Tier III projects.

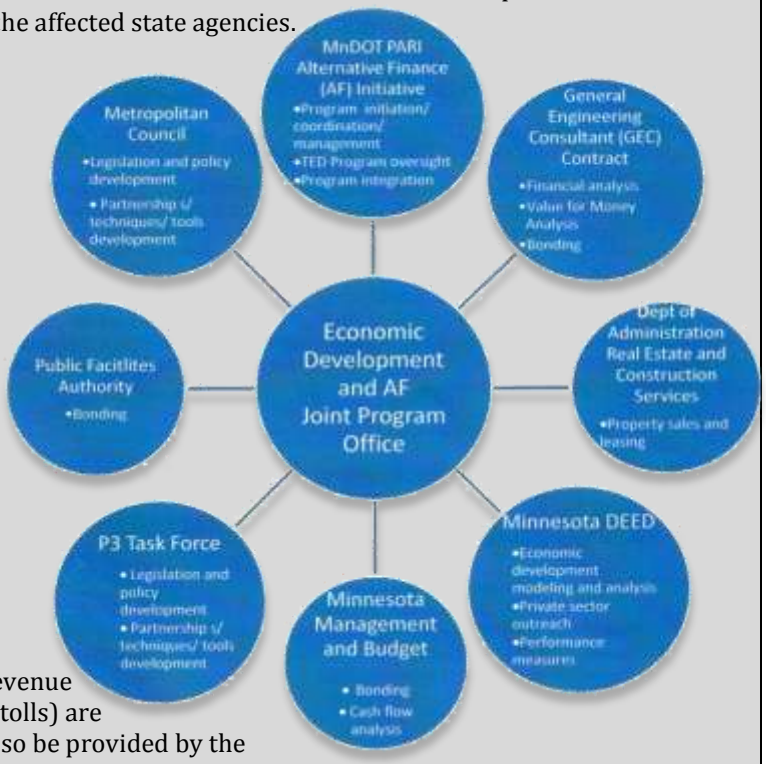
This summer, the Georgia Department of Transportation will complete construction of the high-occupancy toll lane that is going to run 16 miles north of the city parallel to I-85, the most heavily trafficked lane in Atlanta.

By converting carpool lanes to HOT lanes, governments could bring in revenue for transit while easing congestion.

Public/Private Partnerships

Public-private partnerships (P3s) are contractual agreements formed between a public agency and a private sector entity that allow for greater private sector participation in the delivery and financing of transportation projects. Traditionally, private sector participation has been limited to separate planning, design or construction contracts on a fee for service basis - based on the public agency's specifications.

In order to ensure technical capacity for complex P3 projects, Minnesota should establish an Economic Development and Alternative Finance Joint Program Office comprised of staff from the affected state agencies.



P3 projects are often undertaken to supplement conventional procurement practices by taking additional revenue sources and mixing a variety of funding sources, thereby reducing demands on constrained public budgets. Some of the revenue sources used to support P3s include:

- Shareholder equity;
- General obligation bonds;
- State infrastructure bank loans;
- Direct user charges (tolls and transit fares) leveraged to obtain bonds; and,
- Other public agency dedicated revenue streams made available to a private franchisee or concessionaire: - Leases,- Direct user charges from other tolled facilities, - Shadow tolls

Not all P3 projects involve direct user charges, however, any P3 project that involves private sector financing needs a dedicated revenue source to repay any underlying project debt. Direct user charges (tolls) are not the only potential source of debt repayment. Payments may also be provided by the government from either general revenues or specific taxes. Debt service payments can also be met through leasing arrangements.

National Experience

P3s do not provide project funding, they provide project financing: borrowed money that must be reimbursed – at a profit – to the lender. Generally, potential investors are not looking to participate in smaller, less expensive new construction projects or routine maintenance where governments and their traditional contracting partners deliver a high level of service.

P3s are often the preferred option for delivery of large, complex projects that add new capacity in heavily-travelled corridors or that reconstruct deteriorating existing capacity on the Interstate Highway System as this procurement method is best suited to large projects with a high probability for strong revenue generation over many years.

- Since 1989, twenty-four states and the District of Columbia have used a P3 process to help finance and build at least 96 transportation projects worth a total of $54.3 billion.
- Of that total, 65 percent of these projects occurred in just eight states with Minnesota having two of those projects.
- The P3 market share of total US capital investment in highways by all levels of government since 2008 is about two percent.

The decision to use a P3 delivery method is a state or local decision. That is why Congress should not depend on private sector investment for meeting most of the nation's surface transportation capital needs.

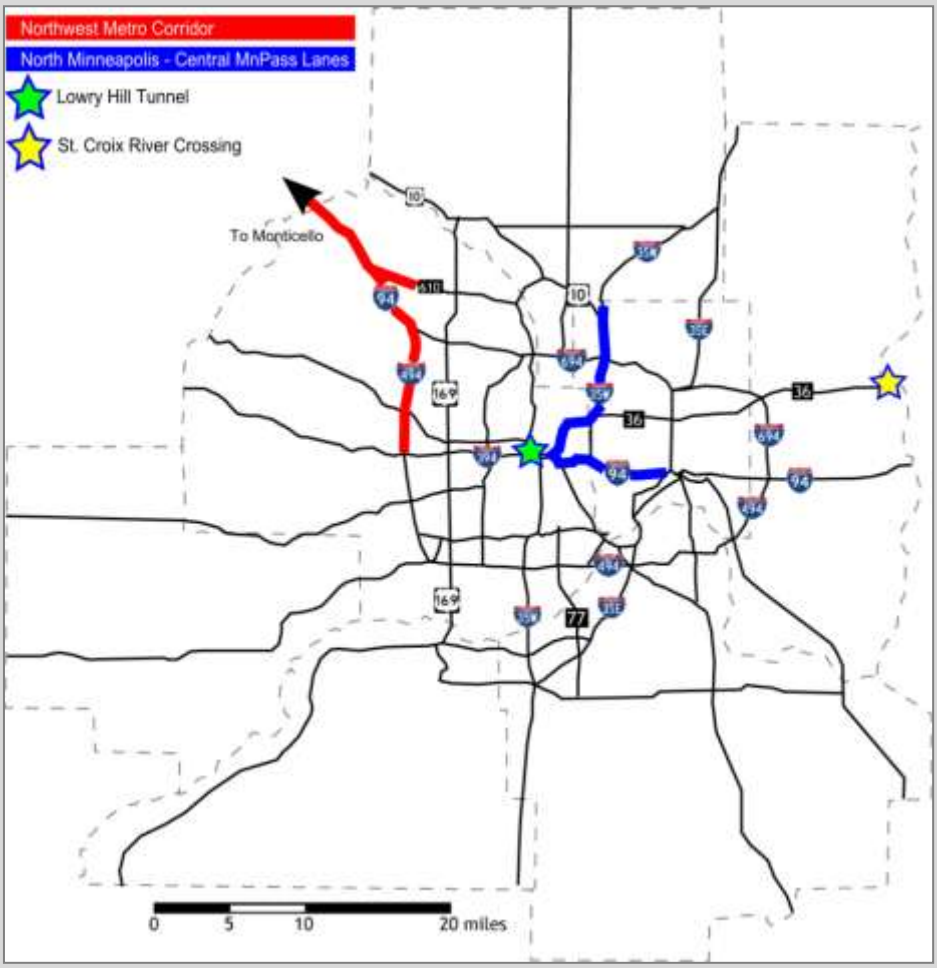
Potential In Minnesota

A recent study of potential projects for PPP procurement analyzed 38 surface transportation projects with the objective to identify a list of the best short-term and medium-term projects that are most likely to generate greater value resulting from risk transfers and cost and schedule efficiencies through the use of public-private partnership delivery methods.

The study identified seven projects for further analysis as potential P3 candidates.

Near-Term

- **Saint Croix River Crossing** near Stillwater is a candidate as a toll bridge
- MnPass projects including the **Northwest Metro Corridor** (I-94/I-494 MnPass lanes and the completion of TH610) and the **North Minneapolis-Central** MnPass lanes (I-35W/I-94) could be implemented under a design-build/finance/operate/maintain model.
- A package of **pavement preservation projects**
- **Truck havens** – commercial vehicle rest stops with private companies running commercial concessions



Map of Revenue-Generating Projects

Medium-Term

- The **Lowry Hill Tunnel** in Minneapolis meets the criticality criteria for system preservation and mobility
- **Future Bridge Program** similar to the bridge replacement program spurred by the passage of Chapter 152 (Transportation Funding Bill) in 2008 – the bundling of multiple bridge repair projects into a single, large rehabilitation project can generate efficiencies.

Lowry Tunnel. Minneapolis, MN

FINANCING OPTIONS

Trunk Highway Bonds

The state Constitution provides for the sale of bonds to pay for the construction and maintenance of state highways with the proceeds deposited in the Trunk Highway Fund and debt service paid out of the Fund. Trunk highway bond proceeds can only be used for work within the trunk highway right-of-way.

In 2003, a major highway initiative was passed that provided for $425 million in trunk highway bond proceeds to be sold over 4 years, in conjunction with the advance of federal construction dollars in order to accelerate the completion of major highway expansion projects.

In 2008, the Transportation Funding bill (Chapter 152) included a total of $1.8 billion in authorized trunk highway bond proceeds, with the authorization spread over 10 years, in order to meet bridge replacement and highway needs. Legislation passed in 2010 and supported by the Transportation Alliance shortened the timeframe under which the bonds are authorized to be sold to eight years rather than ten.

- Trunk highway bonds provide an important tool for generating sufficient capital in a short timespan to allow for the construction of major highway and bridge projects.
- MnDOT has adopted a policy whereby no more than 20 percent of total revenue in the construction budget should be used to pay for debt service on trunk highway bonds. The amount of estimated debt service required to finance current and scheduled bonds is currently close to 20 percent of the construction budget.

GENERAL OBLIGATION BONDS

General obligation bond proceeds can and have traditionally been used for a number of transportation improvements. Previous capital bonding bills have included bond appropriations for:

- The Local Road Improvement Program – GO bond proceeds can be used for local road improvements but cannot be used on trunk highways.
- The Local Bridge Program
- Port Development Assistance Program
- Transitways
- Transit facilities such as bus garages
- MN Rail Improvement Program – to upgrade track for freight rail
- Airport improvements

The Local Road Improvement Program can be funded with general fund dollars or general obligation bonds. The program is administered by the MnDOT State Aid for Local Transportation Office and managed in a similar manner to the local bridge program. Local government participation is required as part of the application process.

The program was created in law in 2002. Funding was provided in subsequent years:

- 2003 - $20 million
- 2005 - $10 million
- 2006 - $16 million
- 2008 - $10 million
- 2011 - $10 million

Transportation Economic Development (TED) Program

In recent years, MnDOT has partnered with the Minnesota Department of Employment and Economic Development (DEED) to fund highway investments that support and enhance economic development in the state.

These state agencies have recognized that carefully targeted transportation infrastructure improvements will:

- Stimulate new economic development and business expansion
- Create and retain jobs
- Increase state and local tax base
- Provide better/safer access to markets
- Provide more opportunities for employers/employees
- Improve livability and sustainability

Transportation Economic Development (TED) Program, designed to improve roads, create jobs and encourage economic development in the state has provided preliminary funding designated for projects in Aitkin County, Bloomington, Hennepin County, Marshall, Perham, St. Charles, St. Cloud, Stewartville, Two Harbors, Worthington and Zumbrota.

Legislation passed during the 2011 session calls for MnDOT to transfer up to $20 million from the Trunk Highway Fund to a newly created Transportation Economic Development Account that will allow the state to build on the work previously done with local partners to meet the needs of local businesses.

North star runs 40 miles (64 km) from Big Lake to downtown Minneapolis at Target Field using existing track and right-of-way owned by the BNSF Railway.

The Hiawatha Line is a 12.3 mi (19.8 km) light rail corridor in Hennepin County, Minnesota that extends from downtown Minneapolis to the southern suburb of Bloomington. Major connections on the line include the Minneapolis-St. Paul International Airport, the Mall of America, the Metrodome and Target Field in downtown Minneapolis. Running primarily on its own track.

LOCAL OPTIONS

Local Option Sales Tax

In 2008, legislation was passed out of committees authorizing the seven Twin Cities Metropolitan Area counties to levy a 0.50% sales tax with 0.25% sales tax for county highways and 0.25% for transitways in the region. When the final legislation was enacted, the 0.25% for county highways was eliminated. To date, five of the seven counties have levied the tax which is administered by the Counties Transit Improvement Board (CTIB). Transitways are defined by the Board as transit operating in a dedicated right-of-way with on-line stations within the metropolitan transportation area. This includes light rail transit, commuter rail and bus rapid transit. Session Laws 2008, Chapter 152 also authorized counties in Greater Minnesota to levy up to 0.50% local sales tax with the proceeds used for transportation purposes subject to voter approval through a local referendum. To date, no counties in Greater Minnesota are levying this tax.

- The sales tax revenue collected in the Twin Cities Metropolitan Area provides both capital and operating funds for approved transitways. The sales tax is not applied to the sale of motor vehicles. A $20 flat fee on each transaction is charged instead. Currently, the sales tax is estimated to generate about $90 million per year, escalating in the future.

Wheelage Fee

State statute allows a wheelage fee to be levied on vehicles kept in a county within the seven-county Twin Cities Metropolitan Area. It is collected along with the state Motor Vehicle Registration Tax and the funds are distributed to counties. The state constitution requires that proceeds from the wheelage tax be used for roadway improvements. Currently, Anoka, Carver, Dakota, Scott and Washington Counties levy a $5 wheelage tax on all vehicles kept in their counties.

- Authorization for levying the wheelage fee should be consistent statewide. Legislation is needed to authorize the fee in counties outside the Twin Cities Metropolitan Area. This fee has relative low administrative costs.

Street Improvement Fee

Legislation is needed to authorize municipalities to charge a street improvement fee, similar to the current stormwater utility fee. The fee would be levied on parcels based on a criteria linked to trip generation. The fee would assist local governments in meeting the growing gap between available revenue and the increasing cost of maintaining existing city streets. The fee would be linked to use of the system based on the amount of traffic generated and would be dedicated to street improvements.

12th Avenue Green StreetSource: City of Portland, Environmental Services ©2009

Fare Information

		non-rush hours	rush hours
Adults	Local Fare	$1.75	$2.25
(ages 13-64)	Express Fare	$2.25	$3.00
Seniors (65+)	Local Fare	$ .75	$2.25
Youth (6-12) & **Medicare card holders**	Express Fare	$ .75	$3.00
Persons with disabilities	any trip	$ .75	$ .75

Rush hours Monday-Friday 6:00-9:00 am & 3:00-6:30 pm
Local fare is charged on light rail.

Reduced Fares
Please tell the bus driver **before you pay your fare** if you qualify for a fare listed below. On rail, be ready to show police officers you qualify for the reduced fare.

These fares apply only during non-rush hours:
Seniors (65+): To qualify, show a Minnesota driver's license/state ID with a T endorsement.
Youth: Ages 6-12 qualify for a reduced fare.
Medicare card holders: To qualify, show a Medicare card along with a Minnesota driver's license/state ID.

These fares are in effect at all times:
Persons with Disabilities: To qualify, show your Metro Mobility card or transfer, Metro Transit temporary ID with a photo ID or Minnesota driver's license/state ID with an A or L endorsement. For information on certification, call Customer Relations at 612-373-3333.
Children: Ages 5 and under ride free (limit 3) when accompanied by a paid fare.
Downtown Zone: Ride in the Downtown Zone for 50¢.
Young Adults: Students and workers ages 17 and under may qualify for a discounted Young Adult Card – contact your school or employer.

Fare Cards Save money purchasing fare cards at Metro Transit stores, 175 retail outlets or at metrotransit.org.

Fareboxes Buses accept U.S. bills and coins. Change is not available.

Transfers give you unlimited rides on buses and light rail – for 2½ hours. Ask for one when you pay your cash fare. Transfers are automatically embedded on fare cards and light-rail tickets. To transfer from bus to light rail using a Stored Value Card, you must ask the bus driver for a light-rail transfer.

Tax Increment Financing

Tax increment financing uses the future increase in property values near a new development or infrastructure improvement to pay for the capital cost of the project. TIF has most often been used by local governments to fund infrastructure associated with new housing and economic development projects.

Transit Farebox Revenue

Transit riders pay a charge per trip for use of the transit system. On some systems, prices vary depending on the time of day and the type of service (i.e. express service versus local service). The general goal is for farebox recovery to represent 30% of operating costs for systems in the Twin Cities Metropolitan Area. State statute calls for a local match – which usually includes fare revenue – of 15% for smaller systems and 20% for larger systems in Greater Minnesota.

- Increases in fares tend to lead to a decline in ridership – particularly in the immediate aftermath of the fare increase – resulting in less revenue than might be expected and less efficient use of transit services as fewer riders use bus and train routes.

Transit Advertising Revenue

Advertising space on transit vehicles and in transit stations is sold to businesses in order to generate revenue for transit services. Currently, larger urban systems around the state take advantage of this opportunity to generate some additional revenue for their local share of operating costs. While not a significant source of revenue, advertising programs may expand in the future.

Minneapolis-based ad agency Colle+McVoy created "ovens" out of transit shelter including real heaters to showcase the new hot menu items available at Caribou Coffee.

Example of outdoor transit advertising. Quest Minneapolis.

Property Tax

Local property tax revenue has been the main source of local roadway funding. Township roads and city streets receive relatively modest amounts of state funding while the bulk of the funding comes from the property tax. Cities receive about 9% of the revenue deposited into the Highway User Tax Distribution Fund for those streets designated as state-aid streets.

Counties receive about 29% of the revenue from the HUTDF for county highways that are designated as County State Aid Highways (CSAH). The property tax and other local funding provide the majority of the remaining local road funding. Local governments do receive some federal funds for roadways as well.

Transit systems in Minnesota receive some funding through the local property tax. In the Twin Cities Metropolitan Area, the Metropolitan Council levies a local property tax to pay for bonds issued by the Council to cover capital expenses

related to transit service (i.e. buses, trains, garages, etc.). Prior to 2001, the local property tax levied by the Council within the Transit Taxing District was also used to cover some of the operating expenses for transit service. A change in law no longer allows those revenues to be used for operations. Starting in 2001, a greater share of the motor vehicle sales tax revenue was dedicated to transit to replace the local property tax revenue previously used for transit operations.

- Each year the Council must receive specific authorizations from the state Legislature to issue regional bonds for necessary transit capital projects. Regional Transit Capital or RTC is the term commonly used to refer to these bond funds. The debt service on the bonds is paid with property tax receipts collected from within the Transit Taxing District (TTD). In recent years, RTC funding has totaled $33-34 million annually. RTC is the funding source most often used to provide for fleet replacement, fare collection and other technology needs, park-and-ride construction, facility repair and maintenance and to provide the 20 percent local match required for federal funding.

There have been instances in recent years where the Legislature has not passed additional regional transit bonding authorization. This causes a shortage of funds to accomplish the Council's planned capital improvement program (CIP) and results in delayed or cancelled capital projects.

- In Greater Minnesota, property tax dollars are used to support both capital and operating expenses.
- In 2007, local governments contributed $1.4 billion in local general fund appropriations and $369 million in property tax receipts for roadways. They received $748 million in state funds and $21 million in federal funds.

Transportation Revolving Loan Fund

The federal government established a State Infrastructure Bank (SIB) program in 1995 through the National Highway System Designation Act. A SIB is a state or multi-state fund that can be used by eligible borrowers to finance eligible transportation projects.

Minnesota's SIB, known as the Transportation Revolving Loan Fund (TRLF), was established in 1997. The TRLF operates much like a commercial bank providing low interest loans to cities, counties, and other governmental entities for eligible transportation projects. When the loans are repaid, the funds are returned to the TRLF and used to finance additional transportation projects.

Eligible projects include, but are not limited to, pre-design studies; acquisition of right-of-way; road and bridge maintenance, repair, improvement, or construction; enhancement items; rail safety projects; transit capital purchases and leases; airport safety projects; and drainage structures, signs, guardrails, and protective structures used in connection with these projects. TRLF financing cannot be used for any toll facilities project or congestion-pricing project.

An eligible borrower's possible sources of TRLF loan repayment include, but are not limited to, special assessments, property tax levies, tax increment financing, local government option sales taxes, future federal funds, future state funds, and customer fees from revenue-generating projects such as parking ramps and intermodal terminals.

Right-Of-Way Acquisition Loan Fund (RALF)

MnDOT is unable to purchase highway right-of-way until a road is programmed for construction, and therefore many acres of land needed for future road right-of-way have been lost to development. To address this, the 1982 Minnesota legislature established a revolving loan fund program to acquire undeveloped property threatened by development that is located within an officially-mapped metropolitan highway right-of-way.

The Metropolitan Council typically levies about $3.3 million per year for the fund. The Council lends money to local governments to purchase the right-of-way from willing sellers. When MnDOT is ready to purchase the land for highway construction, it buys the property from the local government at the price paid for the property and the loan is repaid to the RALF account. The long-term savings occur because development of the land and its appreciated costs have been preempted.

Over the last 24 years, the fund has provided $65 million in 111 loans to 16 metro area cities and two counties. Of the $65.8 million in loans provided by RALF, the participating cities and counties have paid $20.7 million into the revolving fund, according to Metropolitan Council records. Loans have been made to acquire right-of-way parcels for TH 10, TH 52, TH 169, TH 212, TH 610, I-494 and I-35.

The Metropolitan Council estimates that the early acquisition of land through these no-interest loans has saved the cities and MnDOT more than $33 million. However, to plug a hole in its mass transit budget, the Metropolitan Council is shifting 95 percent or $8 million in the RALF fund to use for transit services. Additional transit funding is needed so that the fund can be restored.

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

CONCLUSION

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.

Transportation Roadmap 2040

- The state's transportation system is a public asset, which commuters and businesses rely on every day, but congestion and safety concerns continue to plague the system.
    - Every year over 400 Minnesotans are killed in traffic crashes and thousands are injured;
    - Minnesota commuters are paying more than $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.
    - In the coming decades, one million more people will move into Minnesota, generating an additional 4 million trips every day. Freight movement will grow dramatically as businesses reach out to more markets and products are delivered right to our doorsteps.

- Our economy is struggling, and the state needs to take steps to attract and retain businesses. Investment in transportation infrastructure will both get people back to work in good-paying construction jobs, and they will allow Minnesota businesses to be competitive in a global marketplace.

- The 2040 plan demonstrates the need to make improvements so that the state will be successful that include expanding existing roadways and transitways, improving rail service, ports and airports and changing the way we fund and build transportation projects.

- The state needs an innovative multi-modal, long-range transportation plan that redesigns the way Minnesota plans, builds and funds transportation projects.

- The members of the Minnesota Transportation Alliance who work on the front lines in transportation every day have come together to develop this Roadmap to 2040. The state needs to know where it's going, those considering locating here need to know what we have to offer and then we need to decide how to get there.

- The Roadmap to 2040, brings together long-range plans for various modes (freight and passenger rail, transit service, aviation, ports and waterways and highways) developed by the Minnesota Department of Transportation and the Metropolitan Council along with long-term needs identified by community leaders.

- The Vision for 2040 identifies corridors where improvements are needed without specifying the exact improvement that will occur. Possible improvements include: highway expansion, additional turn lanes, safety improvements such as cable median barriers, possible managed lanes, additional technology and interchange and intersection improvements. Everyone needs to be involved in the conversation and the potential solutions both in the short-term and in deciding on long-term investments in key corridors.

- Failure to act in a timely manner will bestow a crumbling transportation infrastructure to future generations.

Innovation and Redesign in Transportation

- Every Minnesotan pays the price when a transportation project is delayed.
  - Each year a transportation project is delayed, the cost of project increases by 10 percent.
  - A piecemeal approach requires further work in the future. We need the resources to make smart investments.

- The current scarcity of funding means Minnesota's transportation governance needs to become more efficient, coordinated, transparent and accountable.

- New technologies and expedited permitting can lower the cost of transportation projects and help reduce the environmental impact.

- Innovations can also help significantly reduce fatalities and injuries.
    - A number of programs and strategies are needed to continue to reduce the number of fatalities to fewer than 400 per year. Best practices in highway safety include the "four E's": education, engineering, enforcement and emergency medical, and trauma services.
    - Additional funding is needed to meet all of the identified safety needs and improve the safety of the roadway system, especially the condition of two-lane, rural highways where the majority of fatalities are occurring.

Funding

- **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.**
- As a country we're only investing about 1.7% of our GDP on transportation infrastructure while our competitors: China, Europe and others are investing 4-9% of GDP.
- The 2008 Transportation Funding bill has made a big difference in replacing major bridges and repairing and expanding some highways, but Minnesota's transportation needs currently outweigh our capacity to fund those needs.
- No one funding source or financing option will solve our funding challenges. We need a package of user fees, revenue increases and financing programs that move project forward. There is no shortage of options for reducing the funding gap.
- Lawmakers will have to find creative ways to fund transportation. In addition to more traditional user fees, public-private partnerships, surcharges, fees, bonds and examining current tax exemptions all need to be considered.

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.

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