



We all have a stake in **A to B**

Annual Minnesota Transportation Performance Report 2014



Minnesota **GO**
A Collaborative Vision for Transportation

Cover photo: Bridge under construction on ramp from southbound I-35E to eastbound I-694 in Vadnais Heights (Source: David Gonzalez, MnDOT).

September 2015

Dear People and Businesses of Minnesota,

I am pleased to share the 2014 Annual Transportation Performance Report. The report is a snapshot of system performance for 2014 and uses quantitative measures and targets to evaluate where we've been, where we are and where we're going.

The report tells a story that is both encouraging and cautionary.

The condition of the state highway system has improved as a result of a series of one-time increases in transportation investment. Minnesota now has some of its best Interstate ride quality in the past decade. Highway bridge condition, although not quite achieving MnDOT's statewide targets, continues to improve.

However, future pavement and bridge condition will depend on the sustainability of financial resources and the agency's ability to use those resources efficiently. With current levels of funding, bridge condition is expected to remain at an acceptable level for the next 10 years, but pavement condition will get significantly worse by 2018.

System performance is being sustained at high levels in a number of areas, including snow and ice control and travel time between Minnesota trade centers. Twin Cities freeway congestion is stable as we deploy additional MnPASS express lanes.

The report highlights what is at stake as the state heads into an uncertain future. Due to the advanced age of Minnesota's transportation system and the effects of inflation on purchasing power, MnDOT's needs will significantly outpace existing revenue sources over the next 20 years. Without new sources of revenue, many of the gains reported here will be lost by the end of the decade.

The quality of the transportation system depends on an informed and engaged public. I hope you find this report valuable, and I look forward to working with you to address the challenges detailed in the pages that follow. Together, we can build and maintain a transportation system that achieves the Minnesota GO vision.

Sincerely,



Charles A. Zelle

Commissioner

Annual Minnesota Transportation Performance Report 2014

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September 2015

<http://www.dot.state.mn.us/measures/>

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Introduction

50-Year Statewide Vision



We all have a stake in A+B

Annual Minnesota Transportation Performance Report
2014



Good transportation systems are essential to Minnesota's economic competitiveness and quality of life, supporting thriving communities and successful businesses. This sixth Annual Transportation Performance Report describes trends in the condition and service levels provided by Minnesota's transportation systems. The report also describes how performance information is used to inform planning and investment decisions. The performance measures in this report track progress toward the following six objectives laid out in the Minnesota GO Statewide Multimodal Transportation Plan:

- **Accountability, transparency and communication.** Make transportation system decisions through processes that are open and supported by data and analysis; provide for and support coordination, collaboration and innovation; and ensure efficient and effective use of resources.
- **Traveler safety.** Safeguard travelers, transportation facilities and services; apply proven strategies to reduce fatalities and serious injuries for all modes of travel.
- **Transportation in context.** Make fiscally responsible decisions that respect and complement the context of place; integrate land uses and transportation systems.
- **Critical connections.** Identify essential transportation connections; maintain and improve these connections; consider new connections. This objective is reflected in the state highway operations, freight, air transportation, bicycling, and pedestrian accessibility performance areas.
- **Asset management.** Strategically maintain and operate transportation assets; rely on system data, partners' needs and public expectations to inform decisions; put technology and innovation to work to improve efficiency and performance; and recognize that the system should change over time.
- **System security.** Reduce system vulnerability and ensure system redundancy to meet essential travel needs during emergencies. Measures of system security performance have not yet been developed.

The 2014 performance report is the third to be released since the adoption of Moving Ahead for Progress in the 21st Century (MAP-21), the current federal highway authorization. A major feature of MAP-21 is a requirement that states track progress toward national goals using a limited number of national performance measures. The U.S. Department of Transportation is developing performance measures relating to fatalities, serious injuries, asset condition, system reliability, congestion reduction, on-road mobile source emissions, and freight movement.

These measures will be reflected in future performance reports once they go into effect, which is expected in late 2015. In some areas, such as safety and asset management, the federal measures will be similar to the measures MnDOT already uses to track performance. In other areas, such as system reliability and freight movement, the measures required by MAP-21 rulemaking will be significantly different from MnDOT's current measures.

2014 Minnesota and MnDOT transportation results

Minnesota's transportation system — summarized on page 29 — is operated by MnDOT and many other partner agencies. These partner agencies include the Metropolitan Council, other metropolitan and regional planning organizations, city and county governments, the Metropolitan Airports Commission, the Department of Public Safety, railroads, port operators, the Federal Aviation Administration, U.S. Army of Corps of Engineers, local government airports, port authorities, and transit operators.

The 2014 Minnesota Transportation Results Scorecard on pages five and six displays 20 key performance measures that MnDOT uses to evaluate system progress. MnDOT has primary responsibility for the measures highlighted by the MnDOT logo in the far right column.

Measures with performance targets have a green, yellow or red symbol showing results. MnDOT uses performance targets to determine investment levels and guide decision making. Numerous factors are considered when these targets are set, including engineering standards and other technical criteria, historical experience and stakeholder expectations. For measures that are predictable based on planned investments and well-founded assumptions, the scorecard includes a short description of the future performance outlook.

Long-term outlook

Portions of Minnesota's transportation system are showing their age and need maintenance or replacement, putting pressure on limited state, local and federal financial resources. At the same time, expanded transportation options are being developed to relieve pressure on highways and to meet citizen demands. These options include light rail transit, MnPASS Express Lanes, bicycle facilities, and accessible pedestrian facilities.

MnDOT limits its projections of future performance to measures such as pavement and bridge condition that can be heavily influenced through investment. Pavement condition is likely to get worse over the next four years, declining to or beyond target levels by 2018. By 2024, Interstate and NHS pavement condition will be significantly worse than the targets. Bridge condition is expected to remain at or near an acceptable level through 2024.

Performance in the areas of accountability, transparency and communication, traveler safety and transportation in context is determined by a host of factors that are difficult to forecast. MnDOT reports and analyzes trends in these areas but does not project future results.

2014 Performance Highlights

Minnesota's transportation system made performance gains in several areas in 2014, while others made limited progress. These mixed results underscore the fluid and complex nature of transportation system performance. While there are many successes to point to, growing needs and limited resources continue to pose significant challenges and force difficult trade-offs across competing priorities.

Performance gains

Traveler Safety — Fatalities and serious injuries decreased to historic lows in 2014, suggesting that the increases in 2012 were a temporary setback. According to data from the Minnesota Department of Public Safety, 361 traffic fatalities occurred on Minnesota roadways in 2014, which would represent a continuation of long-term progress and a decrease of 26 fatalities compared to 2013.

Pavement Condition — Although it is expected to resume a long-term decline by the end of the decade, ride quality in 2014 remained steady or improved on all three systems measured: the Interstates, the non-Interstate National Highway System, and the non-NHS state highways. Overall average remaining service life also slightly increased. This improvement was largely due to the Better Roads for a Better Minnesota initiative, a 2012-2015 four-year program directing \$357 million in contingency funds to pavement condition. However, assuming current levels of sustained funding, MnDOT expects pavement conditions to decline to or beyond target levels by 2018.

Bridge Condition — The share of NHS bridge deck area on bridges in poor or fair condition was 14.9 percent in 2014, meeting the 16 percent target after two years of not meeting it. The remaining portion of the Chapter 152 bridge program (slated to end in 2018) and the completion of several major bridge projects over the next four years will move a large portion of this deck area to good condition. MnDOT expects the share of NHS bridge deck area in good or satisfactory condition to exceed 88 percent by 2017.

Snow and Ice Control — MnDOT snow and ice management operations cover more than 30,000 state highway lane miles. Lanes were cleared to bare pavement within the target number of hours 87 percent of the time during the winter of 2014-2015. This again exceeds MnDOT's on-time goal of 70 percent, which has been achieved in each of the last five years. The target clearance time after a winter weather event varies based on traffic volume, with busier roads being cleared sooner.

Air Transportation — Available seat miles on scheduled flights at Minneapolis-St. Paul International Airport increased slightly in 2014, but capacity remains lower than its 2004 peak. Available seat miles on scheduled flights from other large airports in Minnesota decreased slightly after reaching the highest level in 10 years in 2013. The smaller volume of air traffic at these airports results in greater variation in capacity from location to location.

Twin Cities Metro Area Transit Ridership — In the Twin Cities metro area, ridership on all metro-area transit services increased from 94.3 to 97.6 million boardings. The total ridership and annual rate of increase indicate that the region is continuing to make progress toward meeting the goal of doubling 2003 ridership by 2030.

Stability

Public Trust — The share of Minnesotans who trust MnDOT to deliver the transportation system has hovered between 84 and 88 percent since 2009, the first year the question was included as part of MnDOT's annual omnibus survey. When public trust and confidence in the agency are high, MnDOT can do a better job communicating transportation needs and advancing solutions.

Twin Cities Freeway Congestion — Peak period congestion increased in 2014, from 19.9 percent of the system to 21.1 percent. This represents a return to a stable five-year trend after a one-year decrease in 2013, and MnDOT expects congestion to remain the same or increase as the region continues to grow. Since 2010, MnDOT's strategy has shifted from reducing congestion toward providing alternatives to congested travel.

Interregional Corridor Travel Speed — 98 percent of corridor miles in Greater Minnesota can be driven at average speeds near 55, 60, or 65 miles per hour. The Interregional Corridor system accounts for about 2 percent of all the roadway miles in the state but carries about 30 percent of statewide vehicle travel.

Fuel Use — Transportation fuel use in Minnesota increased slightly in 2014, from 3.05 to 3.10 billion gallons. This measure is included in the report to represent the impact of transportation emissions on air quality. Transportation fuel use has remained flat over the last five years as increased fuel efficiency and changing travel behavior patterns offset additional demand for fuel created by the economic recovery.

Challenges

Freight Mode Share — Robust economies require freight networks that are competitively balanced across modes. Trucking carries the majority of freight shipments by value, but the share carried by rail and intermodal services is increasing. Measured by ton-miles, there is a trend away from waterways toward rail, trucking and pipelines where feasible. In absolute terms, truck travel, rail shipments and port shipments all increased in 2013 compared to 2012.

Greater Minnesota Transit Ridership — Transit ridership in Greater Minnesota reached a record high in 2014 with 12.1 million boardings. Total bus service hours also increased from 1.11 million hours to 1.17 million. This level of service remains well short of the pace needed to meet the legislatively directed targets of 15 million passenger trips and 1.6 million hours of service by 2015.

Bicycling — The percentage of survey respondents who ride a bicycle at least once per week during the bicycling season increased significantly to 25 percent in 2013 but dropped to 18 percent in 2014. This represents a slightly decreasing five-year trend. Changes to survey methodology may partly explain the variation. Riding at least weekly indicates likely use of a bicycle for transportation.

Pedestrian Accessibility — MnDOT recently developed a sidewalk inventory that includes information about condition, width and slope. To date, MnDOT has identified 336 miles of sidewalk that do not comply with the Americans with Disabilities Act design standards. Additionally, only 20 percent of inventoried state highway curb ramps are completely ADA compliant. Although progress on sidewalks and curb ramps has been limited, MnDOT has increased the share of eligible state highway intersections with accessible pedestrian signals to 36 percent. Based on normal signal replacement cycles, MnDOT expects to achieve 100 percent APS compliance by 2030.

2014 Minnesota Transportation Results Scorecard

— Target

● Good

▲ Needs Improvement

● Poor



MnDOT Primarily Responsible

Measure

Target Result Score

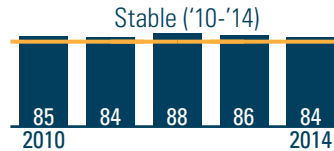
Multi-Year Trend

Analysis

Accountability, Transparency & Communication

Public Trust: Share of survey respondents agreeing with the statement "MnDOT can be relied upon to deliver Minnesota's transportation system"

≥ 80% 84% (2014) ●

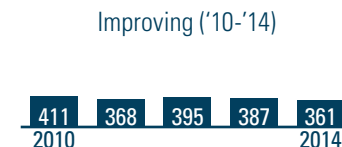


The majority of Minnesotans trust MnDOT's ability to deliver the transportation system. This result has been stable over the last six years.

Traveler Safety

Fatalities: Total number of fatalities resulting from crashes involving a motor vehicle

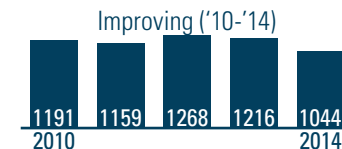
< 300 by 2020 361 (2014) ▲



Fatalities resulting from vehicle crashes decreased to a historic low in 2014, almost reaching the Toward Zero Deaths target of 350 by 2014. Traffic fatalities in 2014 are 6.7 percent below the previous year and 44.9 percent below 2003 when the TZD program began.

Serious Injuries: Total number of serious injuries resulting from crashes involving a motor vehicle

< 850 by 2020 1,044 (2014) ▲



Serious injuries resulting from vehicle crashes also decreased to a historic low in 2014, dropping over 14 percent from the previous year. Since 2004, the number of serious injuries on Minnesota roadways has fallen by almost 57 percent.

State Highway Asset Management

Interstate Ride Quality: Share of Interstate system with poor ride quality in the travel lane

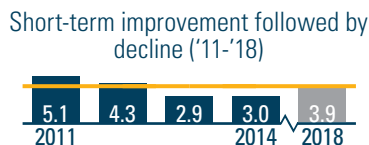
≤ 2% 1.9% (2014) ●



Ride quality improved across all state highways in 2014. Overall, there were 170 fewer miles of highway with poor ride quality in 2014 than in 2013. This enabled MnDOT to meet its ride quality targets on the Interstate system, the non-Interstate National Highway System, and the non-NHS state highways.

NHS Ride Quality: Share of non-Interstate NHS with poor ride quality in the travel lane

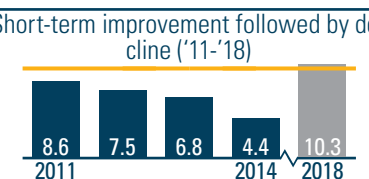
≤ 4% 3.0% (2014) ●



Average remaining service life has risen slightly over the last five years. This is because additional funding allowed MnDOT to construct more long-life fixes.

Non-NHS Ride Quality: Share of non-NHS state highways with poor ride quality in the travel lane

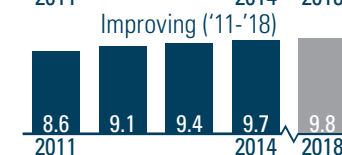
≤ 10% 4.4% (2014) ●



Outlook — The positive pavement condition performance is a temporary result of a series of one-time increases in funding for asset preservation. Assuming current levels of sustained funding, MnDOT expects state highway pavement condition to resume a long-term decline by the end of the decade. Pavement conditions on all three highway systems will likely decline to or beyond target levels by 2018. By 2024, Interstate and NHS pavement conditions will be significantly worse than the targets.

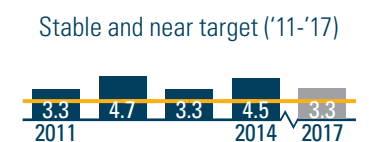
Remaining Service Life: Average remaining service life (the number of years until major repair or replacement is needed)

Tracking indicator 9.7 (2014) TBD



NHS Bridge Condition: Share of NHS bridges in poor condition as a percent of total bridge deck area

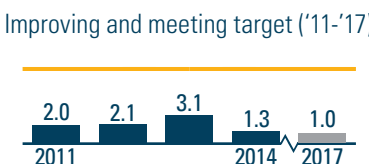
≤ 2% 4.5% (2014) ▲



NHS bridges in poor condition rose in 2014 compared to 2013. This spike occurred when a condition was temporarily noted on the Blatnik Bridge connecting Duluth and Superior, which has a very large deck area. This condition has since been addressed. After adjustment, the share of NHS bridges in poor condition is 3.1%. The share of non-NHS bridges in poor condition remains well below the state target.

Non-NHS Bridge Condition: Share of non-NHS state highway bridges in poor condition as a percent of total bridge deck area

≤ 8% 1.3% (2014) ●



Outlook — The share of NHS bridge deck area in poor condition is expected to remain at or near an acceptable level through 2024.

Measure	Target	Result	Score	Multi-Year Trend	Analysis
Critical Connections					
Twin Cities Freeway Congestion: % of metro-area freeway miles below 45 mph in AM or PM peak	Tracking indicator	21.1% (2014)		Stable ('10-'14) 	Congestion returned to its stable five-year level in 2014 after decreasing slightly in 2013. Outlook — Congestion is expected to increase as economic activity increases and the region continues to grow.
Interregional Corridor Travel Speed: Percent of system miles operating at more than 2 mph below corridor level speed target	≤ 5%	2% (2013)		Stable and meeting target ('09-'13) 	98 percent of IRC system miles have performed at or above target speed in each of the last 10 years. Outlook — This measure is expected to remain stable through 2023.
Snow and Ice Control: Frequency of achieving bare lanes within targeted number of hours after a winter weather event	≥ 70%	87% (2014-15)		Stable and meeting target ('11-'15) 	MnDOT has achieved its statewide snow and ice control target in nine of the last 10 seasons.
Freight Mode Share (by weight and distance): Total domestic shipments to, from or between Minnesota locations in ton-miles	Tracking indicator	322 billion (2012)	N/A		Truck-only trips remain the primary means of shipping goods by value, but the share moved by other modes is increasing. Shipments by ton-miles have shifted from water to rail, truck and pipeline. Trucks tend to carry more valuable freight and make last-mile trips, while long-distance shipments of heavier, less valuable goods tend to be made by other modes.
Freight Mode Share (by value): Total domestic shipments to, from or between Minnesota locations in 2007 dollars	Tracking indicator	\$451 billion (2012)	N/A		
Air Transportation: Number of available seat miles (ASM) offered on scheduled flights from MSP Airport	Tracking indicator	20.4 billion (2014)	N/A	Improving ('10-'14) 	Available seat miles increased in 2013 and 2014, reversing an 8-year declining trend caused by economic and airline industry conditions. Outlook — Moderate growth in ASM is expected to continue.
Twin Cities Transit Ridership: Boardings recorded by public transit providers serving metro-area counties	145-150 million by 2030	97.6 million (2014)		Improving and meeting target ('10-'14) 	Metro-area transit ridership increased by 3.5 percent in 2014 and is on track to meet its goal of doubling 2003 ridership by 2030. Outlook — Ridership growth is expected to accelerate as development occurs along key transitways and transit services improve.
Greater Minnesota Transit Ridership: Boardings recorded by public transit providers serving Greater Minnesota	15 million by 2015	12.1 million (2014)		Not meeting target ('10-'14) 	Transit ridership in Greater Minnesota grew to record highs of 12.1 million boardings in 2014, but ridership continues to fall behind legislative targets. Outlook — Continued ridership growth is expected, but at a rate that is insufficient to achieve the legislative targets of meeting 80% of needs by 2015 and 90% by 2025.
Bicycling: % of survey respondents who bicycled at least once a week during the bicycling season (April - October)	Tracking indicator	18% (2014)	N/A	Declining ('10-'14) 	The percentage of Minnesotans riding a bicycle at least weekly dropped by 28% from last year's historical high, driven primarily by fewer Minnesotans riding once per week. Daily bicycle riding levels have remained steady between 3% and 4% since 2006.
Pedestrian Accessibility: State highway sidewalk miles that are not compliant with ADA requirements	Tracking indicator	54% (2014)	N/A	336 sidewalk miles (54%) non-compliant (only one year of data available)	MnDOT completed a condition and ADA compliance assessment of sidewalks along its right of way in 2013. Of 620 miles of sidewalk, 54% were non-compliant due to narrow width, steep cross slope, barriers, or poor condition.
Transportation in Context					
Fuel Use: Total gallons of fuel sold for transportation (indicator of vehicle emissions)	Tracking indicator	3.10 billion (2014)	N/A	Stable ('10-'14) 	Fuel use increased slightly in 2014 and has remained generally stable since peaking in 2004. Improving vehicle fuel efficiency and changing travel behavior have offset increases in population and economic activity to result in a stable five-year trend.

Measure explanation:

Once a year, MnDOT conducts a survey to measure public attitudes about MnDOT and MnDOT-provided services. Since 2009, this survey has included questions assessing public trust. Respondents are asked to indicate their level of agreement with a small number of statements. In the case of “Delivering the Transportation System,” survey respondents are asked if they agree with the statement: “MnDOT can be relied upon to deliver Minnesota’s transportation system.”

System definition:

2014 survey results are based on 801 telephone interviews (502 land-line interviews and 299 cell phone interviews) and 468 web-based surveys from a recruited, representative sample of adult Minnesota residents. Survey participants are identified through random, statistically valid sampling techniques. Geographic quotas and other demographic variables are enforced so that the sample population is representative of the state as a whole. The sample is large enough to produce estimates that are within 5 percent of the actual population data 95 percent of the time.

Why this is important:

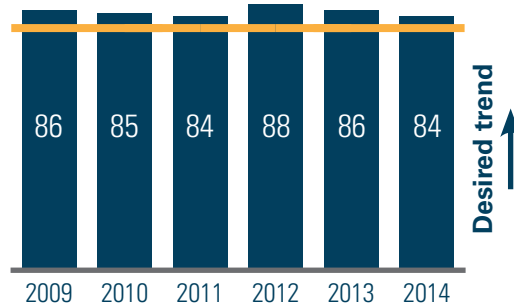
Public trust is the lifeblood of an effective public agency. The more trust Minnesotans have in MnDOT’s ability to deliver the transportation system, the more successful MnDOT will be in communicating needs and advancing solutions.

Learn more

MnDOT Market Research

Donna Koren — donna.koren@state.mn.us

Percent of survey respondents agreeing with the statement: “MnDOT can be relied upon to deliver Minnesota’s transportation system.”

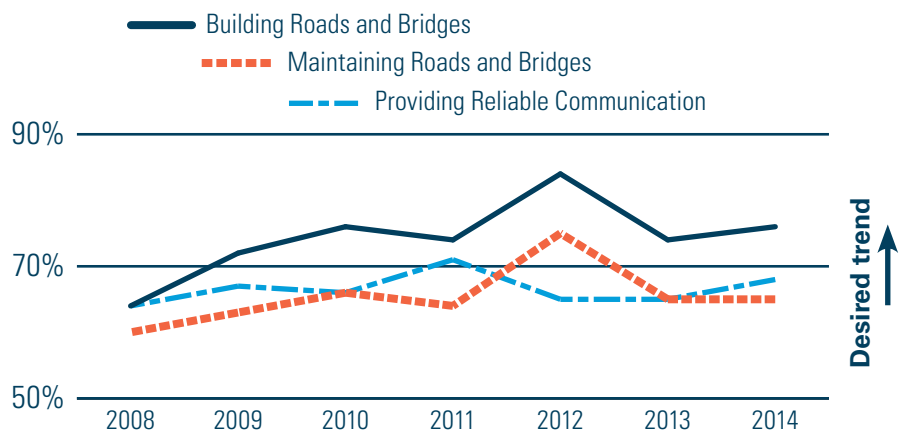


Source: MnDOT Omnibus Survey

Eighty-four percent of the Minnesotans surveyed in 2014 agree or strongly agree that MnDOT could be relied upon to deliver the transportation system. While this is four percentage points lower than the high in 2012, it represents a stable level of trust over the past six years. Likewise, the percentage of respondents agreeing with the statement “MnDOT expands Minnesotans transportation options by creating alternative means of travel” has also been stable, hovering close to 70 percent for the last five years. Agreement with the statement “MnDOT considers customer concerns and needs when developing transportation plans” has fluctuated moderately between 75 and 79 percent, with the exception of a one-year drop to 71 percent agreement in 2013.

Since 2009, the number of Minnesotans agreeing that MnDOT acts in a financially responsible manner has declined, though the percentage who disagree has remained steady. The magnitude of the drop since last year is primarily due to a web survey change that led more respondents to say that they did not know with a corresponding drop in those who agreed somewhat. However, agreement with this statement has declined over the past five years even when web responses are excluded. When those answering that they did not know were asked why, many said they did not have enough information or expertise to answer the question. This demonstrates the need for MnDOT to continue improving the transparency of its financial and decision making processes.

Percent of survey respondents answering confident or very confident to the question: “How confident are you in MnDOT’s ability to do a good job at?”



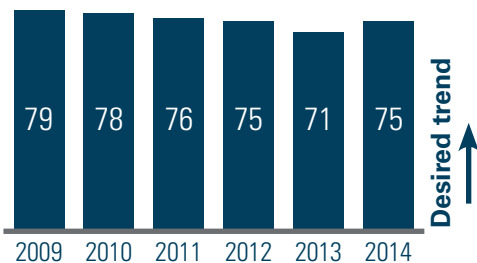
Source: MnDOT Omnibus Survey

Percent of survey respondents agreeing with the statement: “MnDOT expands Minnesotans transportation options by creating alternative means of travel.”



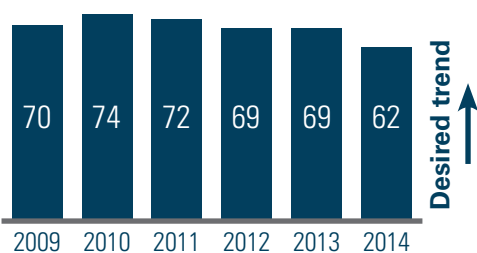
Source: MnDOT Omnibus Survey

Percent of survey respondents agreeing with the statement: “MnDOT considers customer concerns and needs when developing transportation plans.”



Source: MnDOT Omnibus Survey

Percent of survey respondents agreeing with the statement: “MnDOT acts in a financially responsible manner.”



Source: MnDOT Omnibus Survey

The omnibus survey also includes questions that assess the public’s confidence in MnDOT’s ability to do a good job at, among other things, building roads and bridges, maintaining roads and bridges, and providing reliable communications. After spiking in 2012, reported levels of public confidence in both MnDOT’s ability to build and maintain roads and bridges returned to 2010 and 2011 levels, hovering between 74 and 76 percent for building roads and bridges and between 64 and 66 percent for maintaining them. Public confidence in MnDOT’s ability to do a good job of providing reliable communication rose slightly from 65 percent in 2012 and 2013 up to 68 percent in 2014. This improvement may be due to a growing public awareness of MnDOT’s 511 Travel Info services and improved perceptions of its accuracy. Results for this measure have fluctuated between 64 and 71 percent since 2008.



Source: MnDOT

MnDOT introduced a cell phone sample and a recruited web sample for the 2013 survey to better capture and reflect the views of Minnesota’s diverse population. Adding these samples likely had some impact on 2013 and 2014 results, making direct comparisons to previous years more difficult.

How this information is used

MnDOT has initiated or continued a number of efforts designed to build trust and confidence in MnDOT’s delivery of Minnesota’s transportation system and in MnDOT’s financial effectiveness. This includes selecting projects with a high return on investment, taking advantage of partnership opportunities, completing projects on time and within budget, and providing transportation options that respond to changes in society, technology, the environment, and the economy. It also includes providing accurate information and being open about how and why decisions are made and how dollars are spent.

MnDOT seeks to continually involve the public in the transportation planning and programming process through its Hear Every Voice initiative, which helps MnDOT hear from a more diverse array of Minnesotans when developing investment goals and strategies and helps the public better understand the challenges facing Minnesota’s transportation system and the importance of transportation investments.

MnDOT is committed to minimizing construction related disruptions by providing timely and accurate information to businesses and the general public about closures, likely delays and recommended detour routes using traditional media outlets, social media, project web pages, email alerts, and the 511 traveler information website and smart-phone applications. MnDOT also surveys travelers directly affected by specific projects to better understand traveler preferences regarding construction delay mitigation strategies and how they access and use project information.

Measure explanation:

This measure relies on crash reports provided to the Minnesota Department of Public Safety by local law enforcement agencies. By state law, information on traffic crashes must be reported to DPS if the crashes result in at least \$1,000 in property damage, or a motor vehicle occupant, pedestrian, or bicyclist is injured or killed.

System definition:

All state and local roads (142,914 miles).

Why this is important:

On an average day in 2014, at least one motor vehicle occupant, pedestrian, or bicyclist died on Minnesota roadways and more than three were seriously injured. The vision of Minnesota's Toward Zero Deaths program is to reduce these numbers to zero. Understanding the causes and the locations of crashes is necessary in order to develop effective countermeasures.

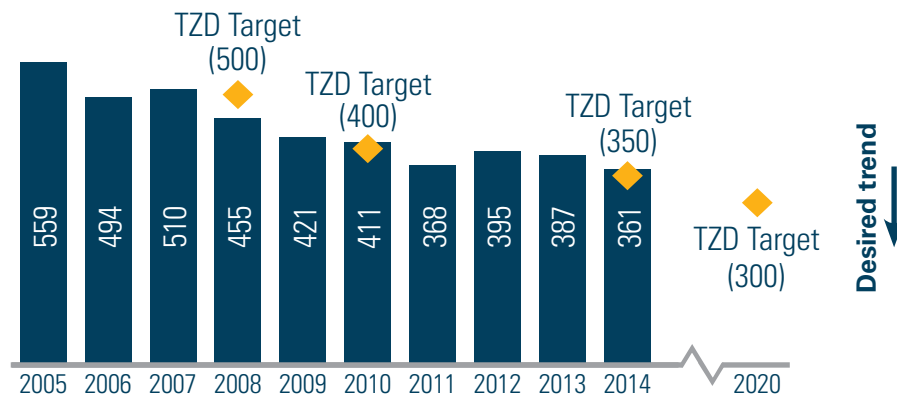
For comparison

According to data from the National Highway Traffic Safety Administration, Minnesota had the second lowest traffic fatality rate of any state in 2012. At 0.69 traffic fatalities per 100 million vehicle miles traveled, Minnesota's rate was 39 percent below the national average of 1.13 per 100 million VMT.



Source: MnDOT

Total number of fatalities resulting from crashes involving a motor vehicle on all Minnesota roads



Source: DPS Crash Facts

Total number of serious injuries resulting from crashes involving a motor vehicle on all Minnesota roads



Source: DPS Crash Facts

2014 fatalities resulting from vehicle crashes reached a historic low of 361 and nearly reached the target of fewer than 350 traffic fatalities in 2014. This continues a downward trend after a brief increase in 2012. Annual traffic fatalities have dropped by almost 45 percent between 2003 and 2014 after steady increases between 1987 and 2002. Accounting for traffic volume, Minnesota's traffic fatality rate in 2014 stood at 0.63 per 100 million vehicle miles traveled, which is almost 47 percent below the 1.18 per 100 million VMT recorded in 2003.

Serious traffic injuries also continued a downward trend in 2014 after a brief increase in 2012. Serious injuries prevent walking, driving or continuing other activities of daily life and Minnesota's target is to have fewer than 850 serious injuries by 2020. Evaluating traffic fatalities in conjunction with serious injuries provides a more complete picture of safety trends on Minnesota roadways. Generally, fatalities and serious injuries result from the same type and severity of crash, with slight differences in impact, emergency response time, and the resilience of affected travelers responsible for the difference in outcome.

There were 1,186 crashes on Minnesota roads in 2014 that resulted in a fatality or serious injury. TZD partners, including MnDOT, use data on severe crashes to track progress in several focus areas and to target and prioritize crash prevention strategies. More information about these strategies can be found in the recently completed 2014-2019 Minnesota Strategic Highway Safety Plan.

How this information is used

MnDOT improves traveler safety in Minnesota through the Toward Zero Deaths partnership with the Minnesota Department of Public Safety and the Minnesota Department of Health. Key TZD strategies can be summarized as the “4Es”:

Engineering – Proactively identifying and improving locations at risk for the types of crashes that are most likely to result in death or serious injury, such as angle crashes at intersections and run-off-the-road crashes in rural areas, and reactively improving locations with a history of crashes.

Enforcement – Ensuring compliance with traffic laws. To this end, the Department of Public Safety administers four enforcement mobilization campaigns, featuring scheduled enforcement events where the State Patrol and local police focus on a targeted driving behavior for a set number of days.

Education – Helping drivers understand the risks associated with behaviors such as not wearing seat belts and drinking and driving. For example, an annual public safety announcement details the importance of seat belt use, and the Share the Road Campaign emphasizes the responsibilities of drivers, bicyclists and pedestrians in keeping roads safe for all.

Emergency medical and trauma services – Responding to crashes quickly and transporting crash victims rapidly to the right type of care facility.

Fatal and serious injury crashes by focus area (2005-2014)

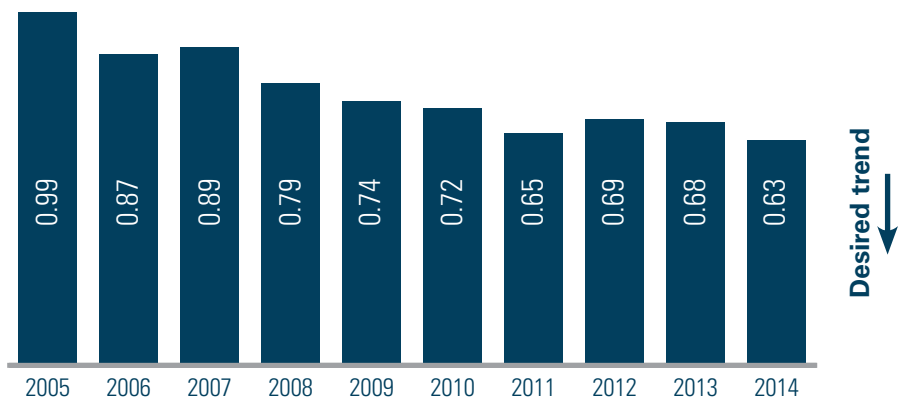
Category	Focus area	2005 results	2014 results	10 year actual change	10 year percent change
Driver behavior	Unbelted occupant	929	386	- 543	- 58%
	Impaired driver	484	224	- 260	- 54%
	Inattentive driver*	462	229	- 233	- 50%
	Speeding	472	213	- 259	- 55%
Driver characteristic	Under 21	542	192	- 350	- 65%
	Older than 64	255	233	- 22	- 9%
	Unlicensed	232	117	- 115	- 50%
Special user	Motorcyclist	281	194	- 87	- 31%
	Commercial vehicle	187	129	- 58	- 31%
	Pedestrian	163	99	- 64	- 39%
	Bicyclist	80	41	- 39	- 49%
Crash type	Lane departure	897	489	- 408	- 45%
	Intersection	958	521	- 437	- 46%
Total severe crashes**		2,519	1,186	- 1,333	- 53%

*Note: Severe crashes involving inattentive drivers are likely underreported and should be evaluated with caution.

**Note: Crashes may involve multiple focus areas.

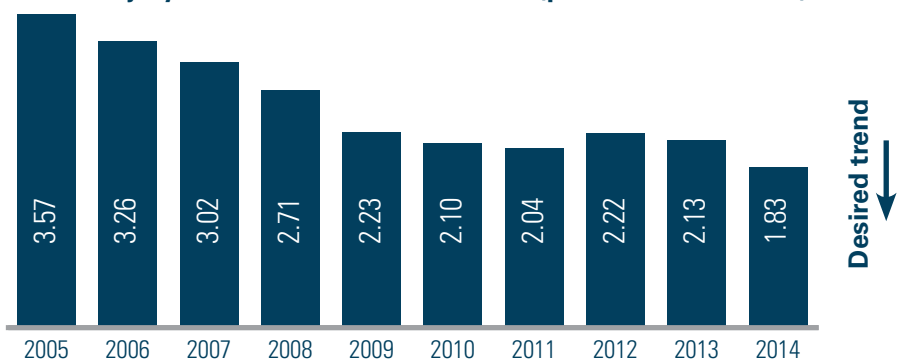
Source: MnDOT Office of Traffic, Safety and Technology; Transportation Information System (TIS)

Traffic fatality rate on all Minnesota roads (per 100 million VMT)



Source: DPS Crash Facts

Serious injury rate on all Minnesota roads (per 100 million VMT)



Source: DPS Crash Facts

Learn more

Toward Zero Deaths

www.minnesotatzd.org

MnDOT Office of Traffic, Safety and Technology

www.dot.state.mn.us/trafficeng/safety

Minnesota DPS, Office of Traffic Safety

dps.mn.gov/divisions/ots

2014-2019 Minnesota Strategic Highway Safety Plan

http://www.dot.state.mn.us/trafficeng/safety/shsp/Minnesota_SHSP_2014.pdf

Measure explanation:

Ride quality is assessed using MnDOT's Ride Quality Index, which is a measure of pavement smoothness as perceived by the typical driver. Pavement rated poor can still be driven on, but the ride is sufficiently rough that most people would find it uncomfortable and may reduce their speed.

MnDOT also measures remaining service life as the number of years until a section of pavement will require major repair or replacement.

System definition:

MnDOT measures ride quality on the Interstate system (1,821 roadway miles), the non-Interstate National Highway System (5,812 roadway miles), and the rest of the state highway system (6,674 roadway miles).

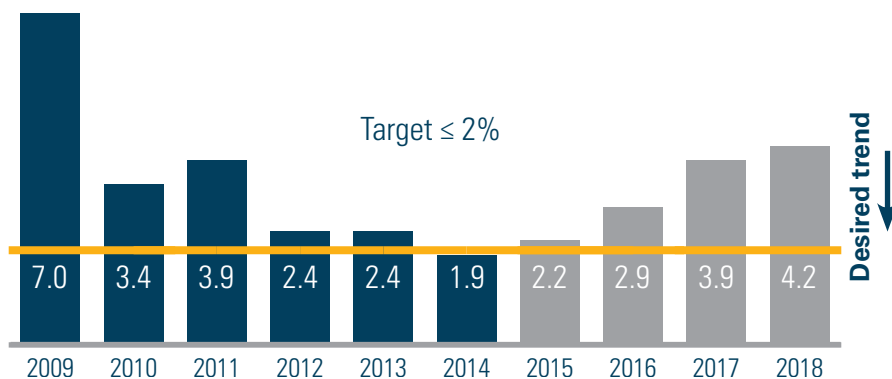
Why this is important:

Smooth pavement enhances mobility, improves fuel economy and reduces the need for vehicle repair and maintenance. Market research shows that Minnesotans' satisfaction with overall state highway maintenance is greatly affected by the smoothness of highway pavements.

For comparison:

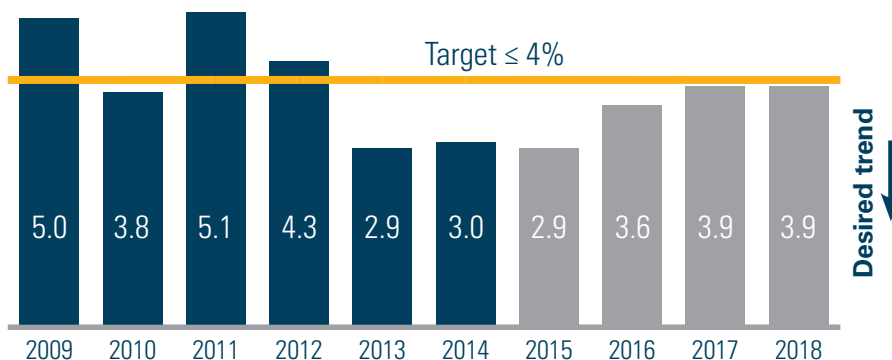
Based on MnDOT analysis of 2012 Federal Highway Administration data, Minnesota ranked 27th lowest of the 50 states in terms of the percent of its NHS pavement in poor condition (where poor condition is defined as having an International Roughness Index greater than 170 inches per mile).

Percent of Interstate System with poor ride quality



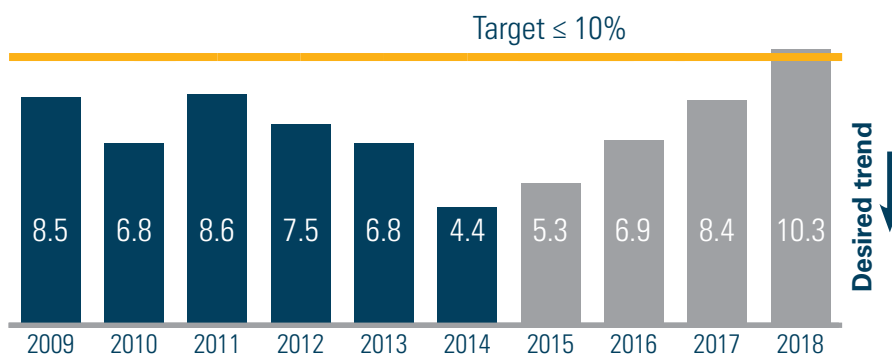
Source: MnDOT 2014 Pavement Condition Annual Report. 2015-2018 results are predicted based on investments in the 2015-2018 STIP.

Percent of Non-Interstate NHS with poor ride quality



Source: MnDOT 2014 Pavement Condition Annual Report. 2015-2018 results are predicted based on investments in the 2015-2018 STIP.

Percent of Non-NHS state highways with poor ride quality



Source: MnDOT 2014 Pavement Condition Annual Report. 2015-2018 results are predicted based on investments in the 2015-2018 STIP.

Ride quality improved across all state highways in 2014. Overall, there were about 170 fewer miles of highway with poor ride quality in 2014 than in 2013. MnDOT met all of its ride quality targets as it continued to implement the Better Roads for a Better Minnesota program. The percent of the Interstate system with poor ride quality reached its lowest level since 2001, but is expected to rise above the target in 2015. Poor pavements on the non-Interstate National Highway System and on the non-NHS state highways are at or near five-year lows, but both are expected to increase to near target levels over the next four years.

The condition of major state highway assets has improved or remained stable since 2009 because of a series of one-time increases in investment focused on preservation. These increases have enabled MnDOT to keep pace with preservation needs even as Interstate-era assets age and a growing number of roads and bridges require replacement or significant repair. However, this situation is temporary, and without a sustained increase in revenue, MnDOT expects asset condition to resume its long-term decline by the end of the decade.

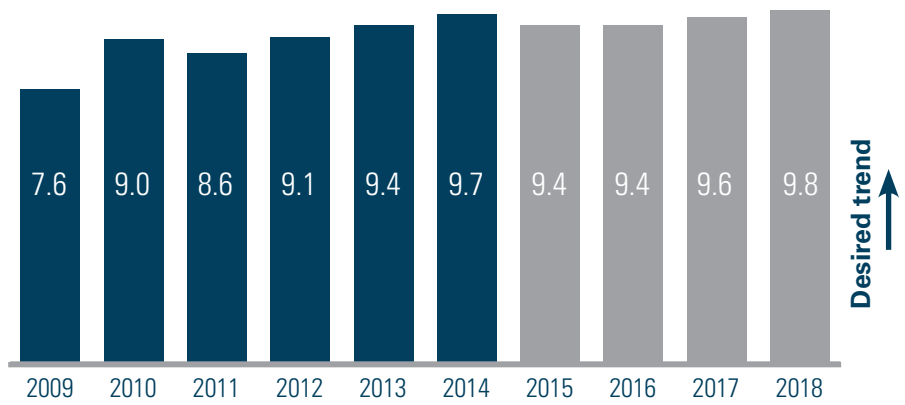
How this information is used

The state highway system is too large and too expensive an asset to repair or replace all at once. To maintain it in a state of good repair within financial constraints, MnDOT must plan and execute a blend of short-term and long-term fixes that have the effect of spreading future preservation needs over an extended time horizon. In terms of state highway pavements, this means managing life cycles so that remaining service life is balanced across the system and the investment need is stable and predictable from year to year. Failure to do so will eventually lead to preservation-heavy spending plans or significant declines in system performance.



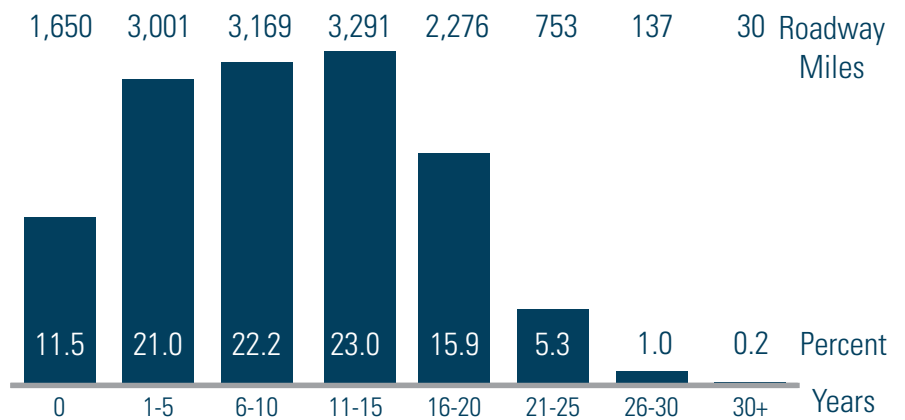
Source: MnDOT

Average remaining service life in years (all state highways)



Source: MnDOT Office of Materials. 2015-2018 results are predicted based on investments in the 2015-2018 STIP.

2014 remaining service life distribution (all state highways)



Source: MnDOT Office of Materials

Remaining service life is an estimate of the time remaining until a pavement registers a ride quality index of 2.5. MnDOT’s goal is to rehabilitate pavement before it is in poor condition. A ride quality index of 2.5 approximately represents the point along a pavement’s deterioration curve where MnDOT will consider major repair or replacement.

The average statewide remaining service life has increased slightly over the last five years from a low in 2009. This is because of special one-time funding provided by the American Recovery and Reinvestment Act of 2009 (a federal economic stimulus program) and Minnesota’s 2012 Better Roads for a Better Minnesota program. These programs provided additional funding that allowed MnDOT to construct more long-life fixes.

An even distribution of remaining service life across the system makes for a more predictable need for investment in pavement. This makes planning easier and more consistent from year to year. When the distribution is skewed to the left as shown, it indicates a looming near-term need for investment in order to maintain ride quality performance.

Learn more

MnDOT Office of Materials

<http://www.dot.state.mn.us/materials/>

MnDOT 2014 Pavement Condition Annual Report

http://www.dot.state.mn.us/materials/pvmtmgmtdocs/AnnualReport_2014.pdf

MnDOT 20-year State Highway Investment Plan

<http://www.dot.state.mn.us/planning/mnship/>

Measure explanation:

Bridge condition is calculated from the results of inspections performed at least every two years on all state highway bridges. Ratings combine deck, substructure, and superstructure evaluations. Bridges rated "poor" (also termed "structurally deficient") are safe to drive on, but they are near the point where significant investment in repair or replacement is necessary. Measures are reported as percentages of deck area.

System definition:

Bridges more than 20 feet long on or over state highways – 2,568 bridges on the National Highway System and 1,071 bridges on other routes.

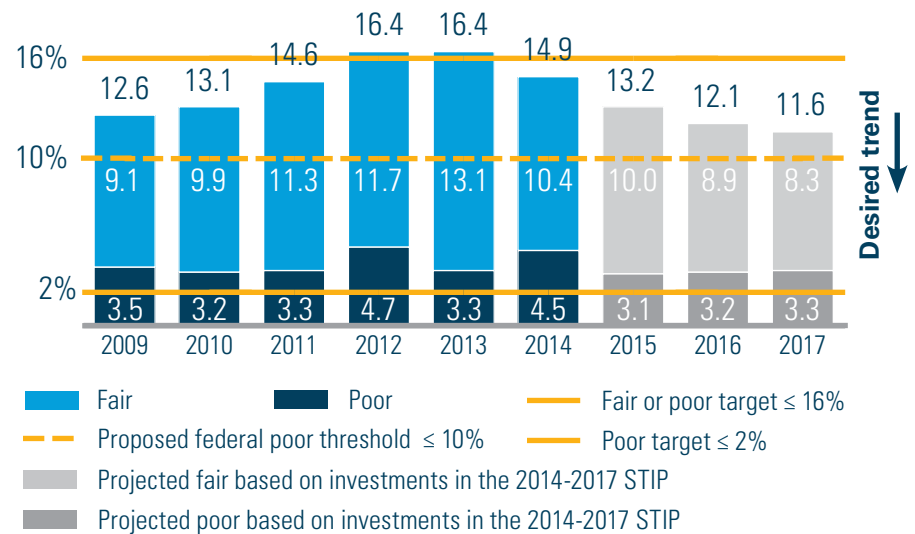
Why this is important:

Bridges are a critical component of the transportation network. They are also among the state's most expensive assets to replace. A small percentage of bridge deck area in poor condition suggests that maintenance, repair, and rehabilitation strategies have effectively extended bridge life and limited the need for near-term reconstructions.

For comparison:

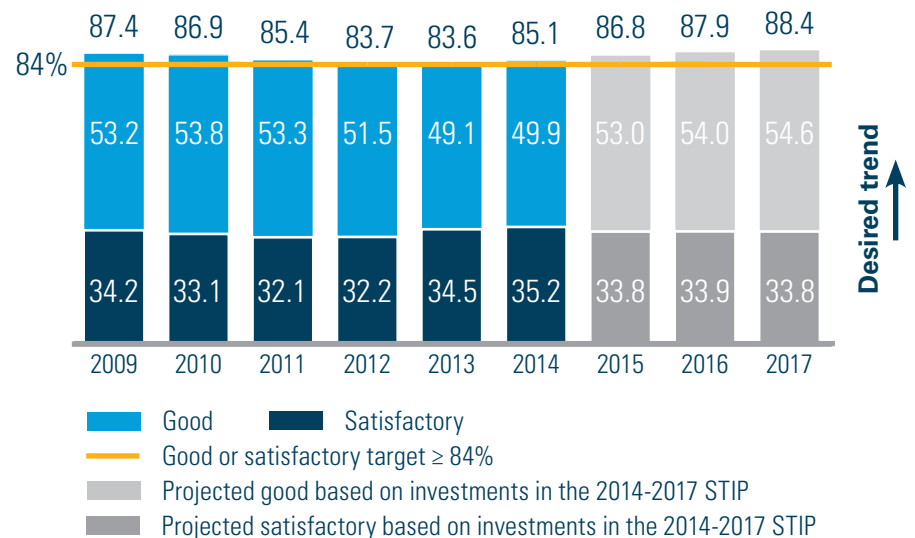
Minnesota has the fifth-lowest percentage of Interstate and state-owned bridges rated structurally deficient or functionally obsolete, according to 2014 rankings by Better Roads magazine.

Percent of NHS bridges in fair or poor condition (by deck area)



Source: MnDOT Bridge Office

Percent of NHS bridges in good or satisfactory condition (by deck area)



Source: MnDOT Bridge Office

MnDOT has made significant investments in bridges since the Chapter 152 Trunk Highway Bridge Improvement Program was passed in 2008. MnDOT will have invested \$2.1 billion in state bridges under the program by the time it ends in 2018. While the share of NHS deck area in poor condition has remained stable since 2009, the share in fair condition increased substantially before it began to improve in 2014 with the completion of the first of several large bridge projects.

The 2014 increase to 4.5 percent poor occurred when a condition was temporarily noted on the Blatnik Bridge connecting Duluth and Superior, which has a very large deck area. After addressing this, the share of NHS bridges in poor condition is 3.1 percent. The share of NHS deck area in good or satisfactory condition also improved in 2014 after six years of decreases.

All targets for the condition of non-NHS bridges were met again in 2014 by wide margins. This reflects differences in system size, age, and use. The cost and disruption of repairing or replacing large, heavily used bridges are also greater compared to bridges that are smaller and less traveled.

How this information is used

MnDOT reports progress against targets for the percent of bridges in poor condition, fair or poor condition, good or satisfactory condition, and good condition. Bridges in good or satisfactory condition generally receive routine maintenance, while bridges in fair or poor condition are monitored more closely and eventually scheduled for major repair, rehabilitation or replacement.

A high share of bridges in good or satisfactory condition indicates that MnDOT is effectively managing to limit the need for more expensive and disruptive investments. The good and satisfactory measure is driven more by proactive maintenance and repair than by reconstructions or replacements. Major projects that bring a bridge from poor to good condition are reflected in all of the condition measures.

Learn more

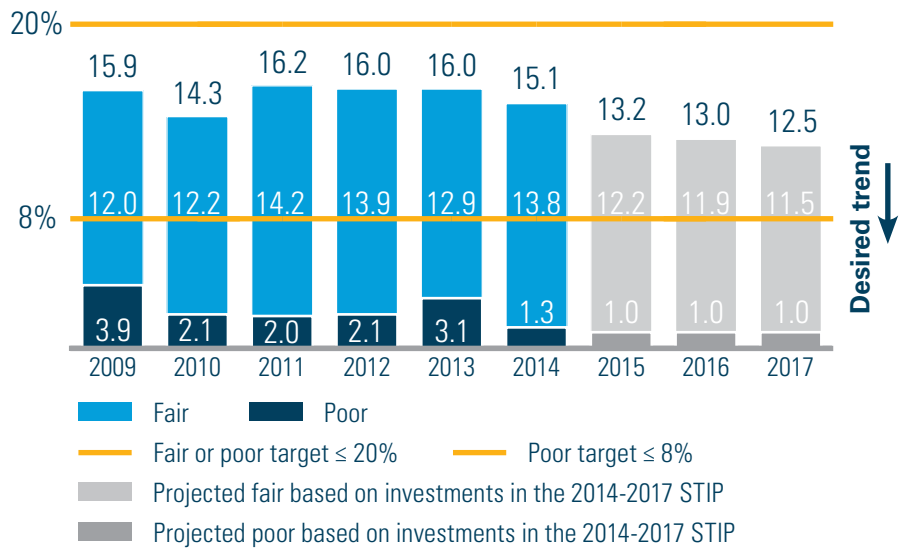
MnDOT Bridge Office

<http://www.dot.state.mn.us/bridge/>

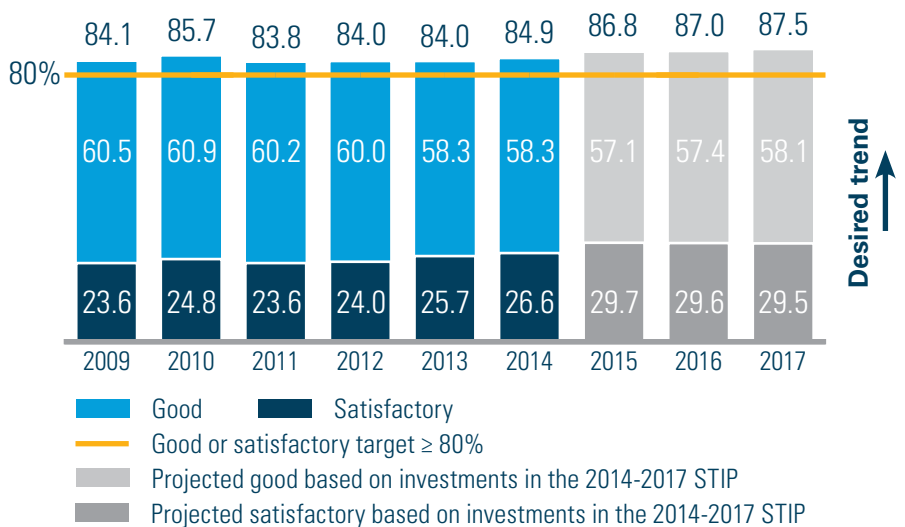
MnDOT 20-year State Highway Investment Plan

<http://www.dot.state.mn.us/planning/mnship/>

Percent of non-NHS bridges in fair or poor condition (by deck area)



Percent of non-NHS bridges in good or satisfactory condition (by deck area)



Source: MnDOT

Measure explanation:

MnDOT defines congestion as traffic flowing at speeds less than 45 mph. At 45 mph, most vehicles will brake in a traffic stream, resulting in stop-and-go traffic.

System definition:

379 miles of Twin Cities area freeway.

Why this is important:

Traffic congestion creates unsafe driving conditions, increases shipping costs, and reduces the time available to spend on other activities. While some congestion is inevitable, limiting it preserves metro-wide mobility and keeps the Twin Cities competitive with peer regions. Given finite resources and the growth in the region's population, MnDOT's goals are to manage the growth of congestion while providing uncongested alternatives.

Learn more

MnDOT Metropolitan Freeway System 2014 Congestion Report

<http://www.dot.state.mn.us/rtmc/reports/2014congestionreport.pdf>

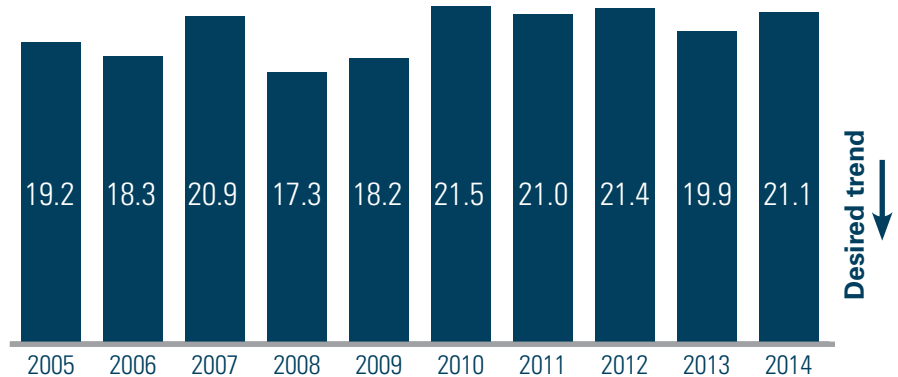
Texas Transportation Institute Urban Mobility Report

<http://mobility.tamu.edu/ums/>

Metropolitan Council Transportation Policy Plan

<http://www.metrocouncil.org/Transportation.aspx>

Percent of metro area freeway miles below 45 mph in AM or PM peak



Source: MnDOT Metropolitan Freeway System Annual Congestion Report

Freeway congestion increased slightly in 2014, returning to its stable five-year trend. Factors affecting congestion include economic conditions and population growth. MnDOT's goal for managing the growth in congestion is that the three-year moving average not exceed the 10-year moving average. This goal was achieved for two years in a row during the recession, but was not reached in any of the last four years.



Source: MnDOT

How this information is used

The map shows the amount of time that freeway segments were congested on a typical day in 2014. Congestion measures show the benefit of increasing throughput on corridors experiencing delay. When throughput is increased, more travelers can use the corridor at the time of day that is most convenient to them. Limiting the duration of freeway congestion also encourages commuters to avoid alternative routes designed for lower volume and speed. Congestion measures are used to inform project planning, construction zone planning, and resource allocation for operational strategies such as incident management.



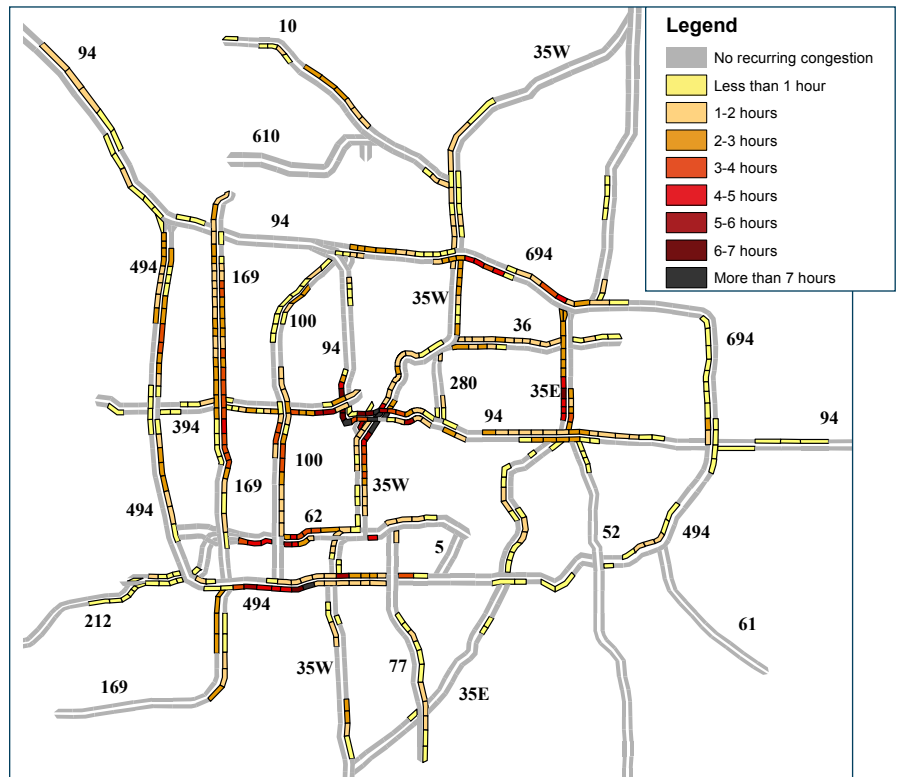
Source: MnDOT

Congestion in context – Job accessibility

Accessibility measures evaluate how easily people can reach destinations, not just how fast they can travel. Research on job accessibility shows that while congestion has returned to its pre-recession high, the percentage of jobs that the typical metro area resident can conveniently access by car has not decreased correspondingly.

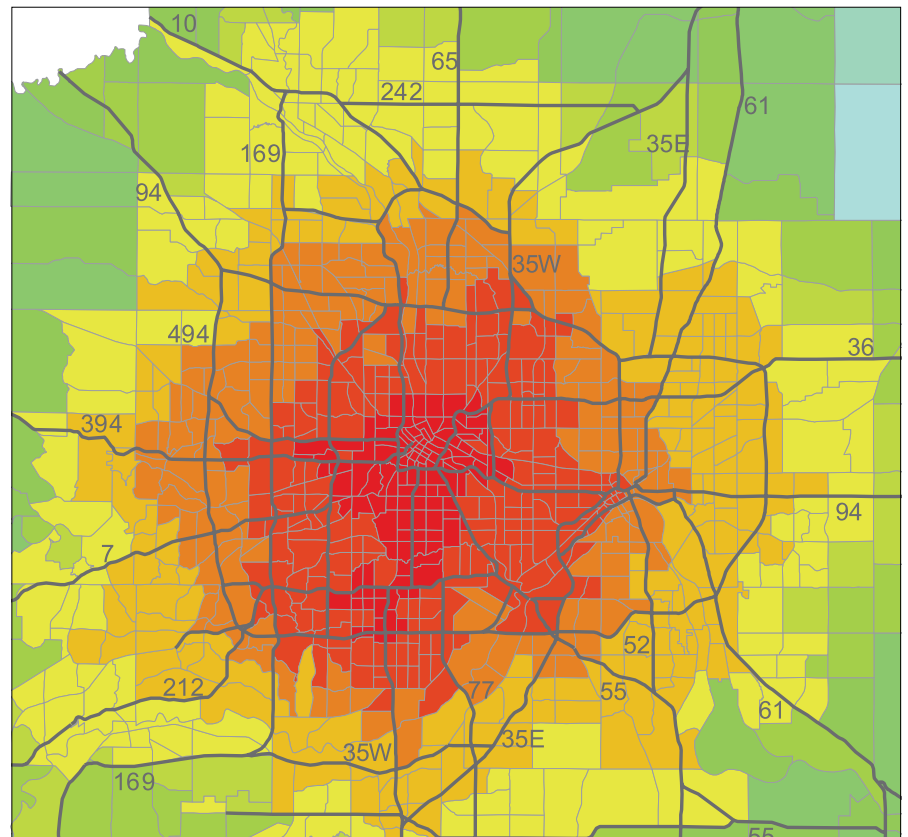
This map shows the number of jobs accessible to Twin Cities residents within a 20-minute drive during the morning peak period. Areas with the highest accessibility are in red, and areas with the lowest accessibility are in light blue. In 2010, the typical Twin Cities resident could reach 495,000 jobs within a 20-minute drive. This is 32 percent of the total jobs in the metro area.

Extent and duration of Twin Cities freeway congestion



Source: MnDOT Metropolitan Freeway System Annual Congestion Report

Jobs within a 20-minute drive during the morning peak period



Source: University of Minnesota Accessibility Observatory

Measure explanation:

Each IRC has a target speed that a traveler should be able to average (55, 60, or 65 mph) over a corridor-length trip. MnDOT estimates travel speed based on traffic volume, capacity, and intersection traffic control.

System definition:

The 2,960-mile IRC system consists of 2 percent of total roadway miles in the state but carries about 30 percent of statewide vehicle travel. 2,580 miles of state highway outside the I-494/I-694 beltway are included in the travel speed measure.

Why this is important:

IRCs connect Minnesota's trade centers to each other and with neighboring states and Canada. Safe and efficient connections provide reliable access to markets, facilitate recreational travel, and improve economic competitiveness and quality of life.

Percent of system miles operating at more than 2 mph below target speed

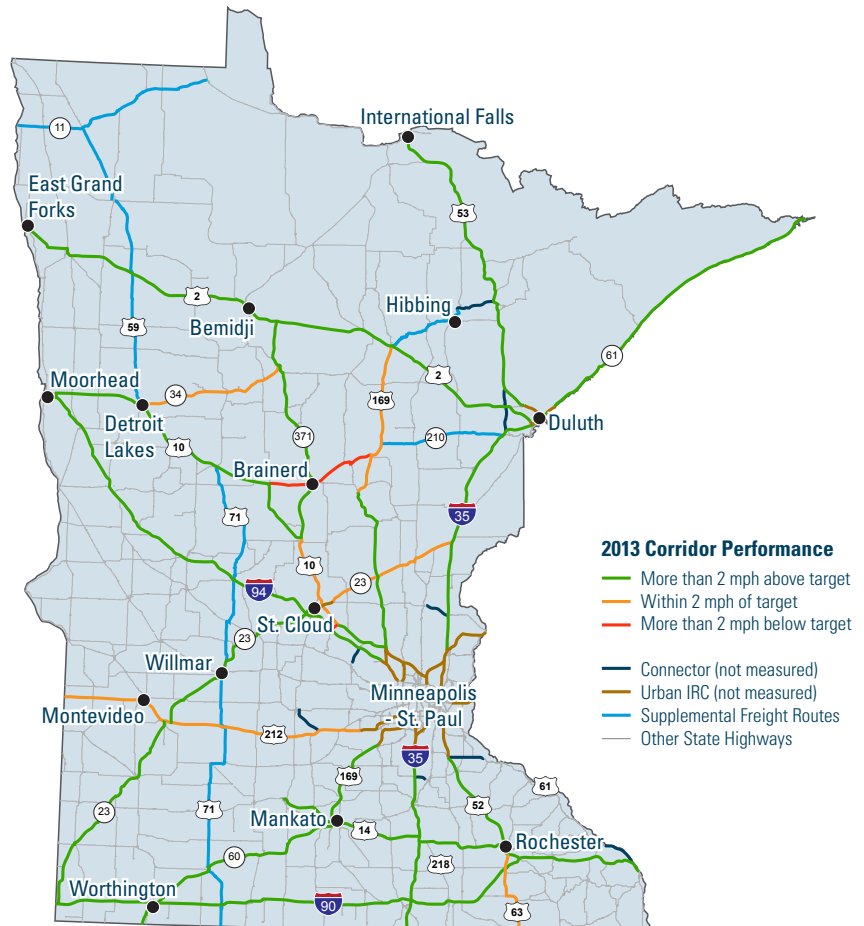
Target \leq 5%



Source: MnDOT Office of Transportation System Management

98 percent of the IRC system consists of corridors that have operated at or above target speed in each of the last 10 years. This performance is expected to remain stable through 2023.

Interregional corridor travel speed



Source: MnDOT Office of Transportation System Management

How this information is used

This map shows 2013 IRC performance as estimated in 2011, as part of the most recent update to the 20-year State Highway Investment Plan. Minnesota 210 from Motley to Aitkin (shown in red on the map) is the only IRC on which travel speed is currently below target. This is because a significant portion of the Minnesota 210 corridor has a posted speed limit less than 55 mph. The only IRC that operates within 2 mph of its target speed because of congestion is U.S. 10 from Little Falls to Clear Lake.

IRC travel speed is used to determine the need for investment in capacity or other mobility improvements outside the Twin Cities metropolitan area. Because MnDOT expects the vast majority of IRCs to continue operating at or above target speed, the 20-year State Highway Investment Plan does not dedicate any funding for IRC mobility improvements in its 20-year planning period as of 2013.

Learn more

MnDOT 20-year State Highway Investment Plan - Interregional Corridor Mobility

<http://www.dot.state.mn.us/planning/mnship/pdf/chap5.pdf#page=27>

Measure explanation:

Each category of state highway has a targeted number of hours for clearing snow and ice after a winter weather event. This measure tracks the frequency with which MnDOT achieves these highway-specific targets over an entire winter season.

System definition:

All state highways (approximately 30,000 lane miles).

Why this is important:

Fast and effective snow and ice control is critically important to Minnesotans' quality of life during the winter months. It preserves mobility, increases traveler safety, reduces damage to vehicles, and limits the extent of weather-induced congestion.

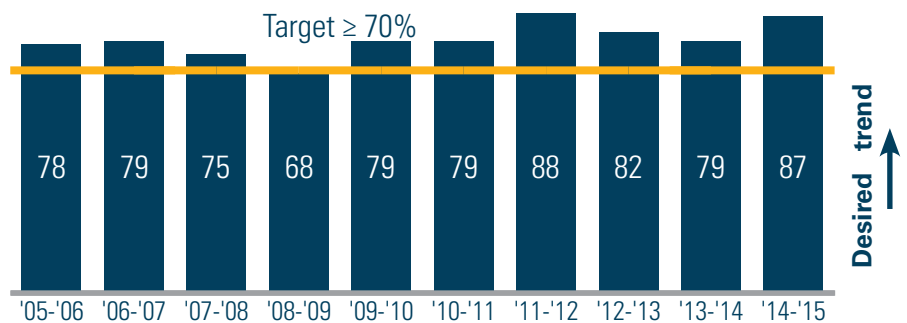
How this information is used

Removing snow and ice is a top priority for all MnDOT districts and fluctuates with the severity of the winter. Snow removal performance is affected by weather conditions, timing of the event, and the moisture content of the snow. In severe winters, districts may redirect summer maintenance funds to snowplowing activities.

To counteract rising fuel and material costs, MnDOT uses technology and innovative strategies to increase efficiency. These strategies include:

- Anti-icing – the application of salt brine to the pavement before or early in a snowfall to prevent precipitation from bonding to the road surface.
- Pre-wetting – the addition of salt brine or chemical solutions to salt and sand before spreading, causing the material to stick to the road and activate more quickly.
- De-icing – using chemical or mechanical means to break the bond that has formed between ice and the pavement surface.

Frequency of achieving bare lanes within target time



Source: MnDOT 2014-2015 Snow and Ice Report

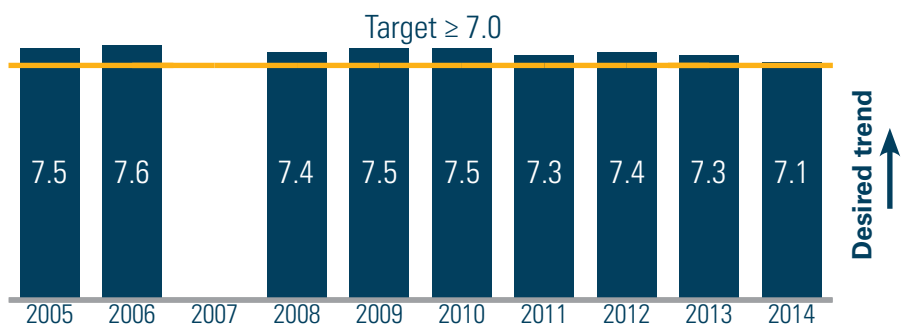
MnDOT achieved bare lanes with greater than targeted frequency in nine of the last 10 winter seasons.

Snow removal targets and results by roadway category

Roadway category	Average vehicles per day	Lane miles	Target clearance time	Average actual clearance time
Super commuter	More than 30,000	4,507	0 to 3 hours	1.3 hours
Urban commuter	10,000 to 30,000	5,849	2 to 5 hours	2.4 hours
Rural commuter	2,000 to 10,000	11,353	4 to 9 hours	3.7 hours
Primary collector	800 to 2,000	6,556	6 to 12 hours	5.2 hours
Secondary collector	Less than 800	2,281	9 to 36 hours	11.7 hours

Source: MnDOT 2014-2015 Snow and Ice Report

Customer satisfaction with snow and ice removal



Source: MnDOT Omnibus Survey (No survey was conducted in 2007.)

MnDOT regularly asks the public to evaluate its performance in a number of different maintenance areas. Responses of 7.0 or greater indicate satisfaction. The average respondent was satisfied with MnDOT's snow and ice removal in each of the last five years.

Learn more

MnDOT Office of Maintenance

<http://www.dot.state.mn.us/maintenance/>

Measure explanation:

This measure uses the Federal Highway Administration's Freight Analysis Framework. The current version of the framework uses origin and destination information from the 2007 Commodity Flow Survey as a basis for estimates of freight value, weight and ton-miles shipped. The 2012 data shown here is a provisional update of the 2007 data.

System definition:

All domestic freight shipments originating or terminating in Minnesota. Imports, exports and through shipments (where both origin and destination are outside the state) are not included.

Why this is important:

A freight network that is competitive across modes helps support a robust economy. Along with information about shipment types, locations and costs, mode share estimates help MnDOT and its partners evaluate the capacity of the freight network to meet the needs of Minnesota's manufacturers and consumers. Mode share estimates can also be used to evaluate the effectiveness of policies or programs that promote a particular mode.

Learn more

MnDOT Office of Freight and Commercial Vehicle Operations

<http://www.dot.state.mn.us/ofrw/freight/freight.html>

American Association of Railroads

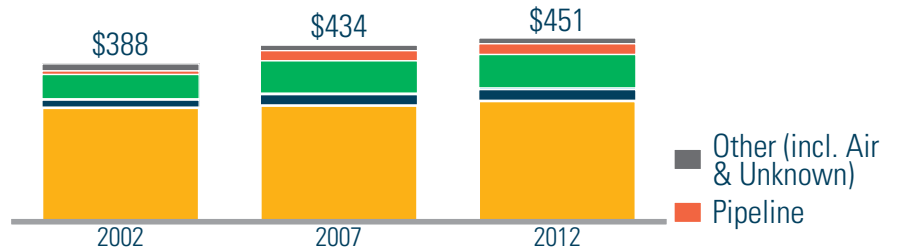
<http://www.aar.org>

Minnesota Regional Railroads Association

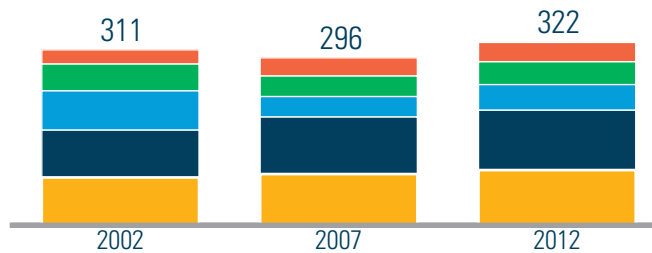
<http://www.minnesotarailroads.com/>

Total domestic shipments to, from, or between Minnesota locations (excluding international and through shipments)

Value (billions of 2007 dollars)*



Ton-miles (billions)



* Results reflect estimated value of discrete freight movements. Since some goods are moved multiple times through the supply chain, the total value of domestic shipments is greater than the value of all goods and services produced in Minnesota as measured with GDP statistics.

Source: Federal Highway Administration; Freight Analysis Framework, version 3

Truck-only trips remain the primary means of shipping goods by value, but the share moved by other modes is increasing. Shipments by ton miles have shifted from water to rail, truck and pipeline. Trucks tend to carry more valuable freight and make last mile trips, while long distance shipments of heavier, less valuable goods tend to be made by other modes. Although airplanes carry the highest value goods, they move only a small fraction of total freight volume moving to, from and between Minnesota destinations.



Source: MnDOT

For comparison

Minnesota ranks 12th in rail tonnage and 18th in number of rail carloads, according to 2012 data from the Association of American Railroads.

According to 2012 data from the U.S. Army Corps of Engineers, the Port of Duluth-Superior ranked 19th among U.S. ports by total shipping tonnage. Two Harbors ranked 38th; Silver Bay ranked 70th; and St. Paul ranked 73rd. As a state, Minnesota is 18th in port tonnage.



Source: MnDOT

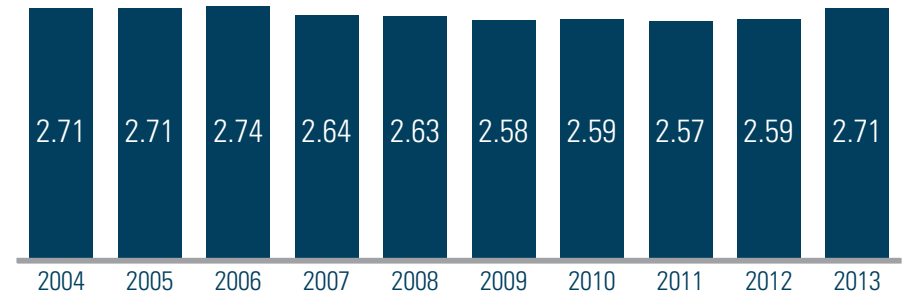
How this information is used

Mode share estimates are just one piece of information MnDOT considers when evaluating freight system performance. Other considerations are MnDOT's estimates of heavy commercial trucking and private sector reports of rail and port shipment tonnage. In contrast to the mode share data, these additional indicators include movements in which both trip origin and destination are outside Minnesota.



Source: MnDOT

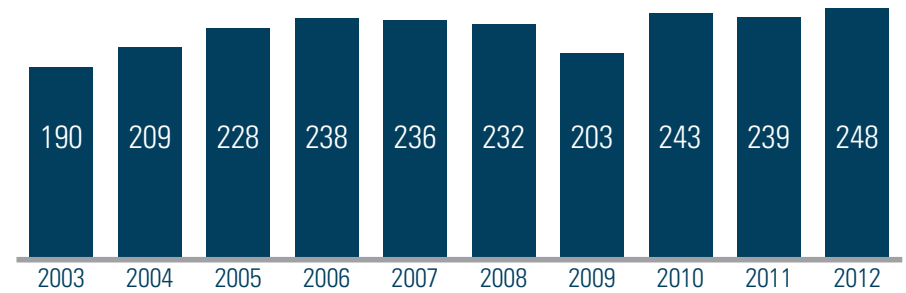
Heavy commercial vehicle miles traveled on Minnesota state highways 2004-2013 (billions)



Source: MnDOT Office of Transportation System Management

Heavy commercial vehicle miles traveled on Minnesota state highways increased in 2013 to its highest level since 2006. Truck shipments are strongly linked to demand for consumer goods.

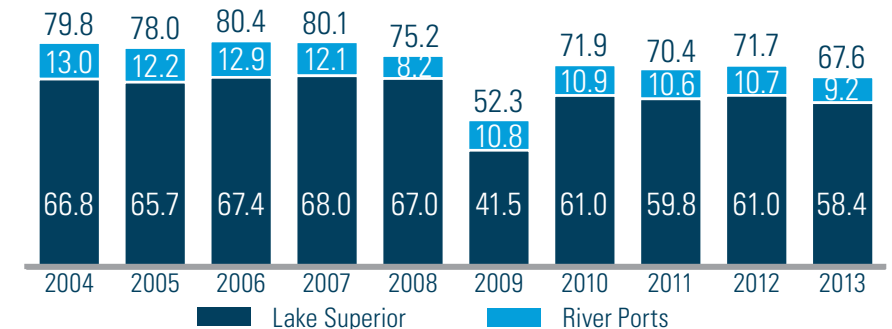
Rail shipments in Minnesota (millions of tons)



Source: American Association of Railroads

Minnesota rail shipments in 2012 reached their highest level in a decade, according to the American Association of Railroads. Rail tonnage in Minnesota declined during the 2007-2009 recession but then rebounded sharply as economic conditions improved. Taconite moved between mining operations and Lake Superior ports makes up more than half the rail tonnage moved in Minnesota. Other commodities that account for a significant amount of rail activity include oil, coal and farm products.

Port shipments in Minnesota (millions of tons)



Source: MnDOT Office of Freight and Commercial Vehicle Operations

Minnesota port shipment tonnage decreased slightly in 2013 to 67.6 million tons. Of that, 58 million or 86 percent were shipped to or from one of Minnesota's four ports on Lake Superior. The most significant commodities shipped from lake ports are taconite (37 million tons) and coal (16 million tons). Other prominent commodities moved out of Lake Superior ports are grain, cement, salt, and limestone.

Mississippi River shipments totaled 9.2 million tons in 2013. The Mississippi carries more than half of all agricultural exports from the state. Other important river shipments include fertilizer, cement, sand and gravel, salt, coal, and liquid products such as petroleum, vegetable oils and anhydrous ammonia.

Measure explanation:

Comparable to vehicle miles traveled, one available seat mile is defined as one aircraft seat flown a distance of one mile. Three variables influence ASM totals: service frequency, aircraft capacity and flight distance.

System definition:

Scheduled service flights out of Minneapolis-St. Paul International Airport.

Why this is important:

ASM out of MSP is a measure of the access Minnesotans have to efficient and convenient air travel. It is also an indication of the state's international significance and its connection to the global marketplace.

Learn more

MnDOT Office of Aeronautics

www.dot.state.mn.us/aero/

State Aviation System Plan

www.dot.state.mn.us/aero/planning/sasp.html

Federal Aviation Administration

www.faa.gov/

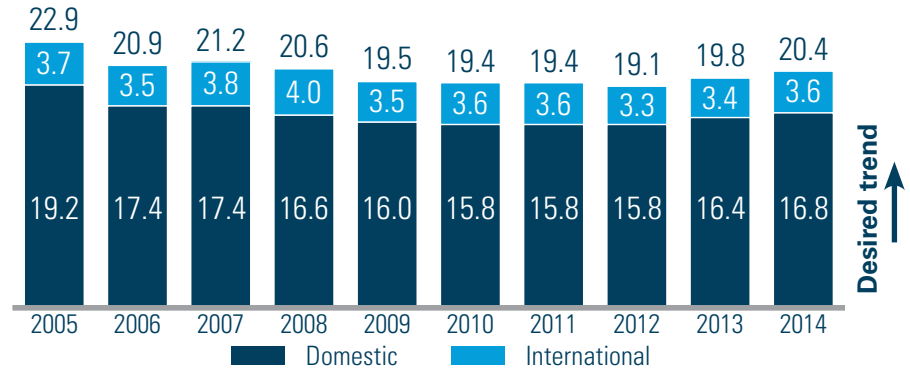
Metropolitan Airports Commission

<http://metroairports.org>



Source: MnDOT

Number of available seat miles offered on scheduled service nonstop flights from Minneapolis-St. Paul International Airport (in billions)



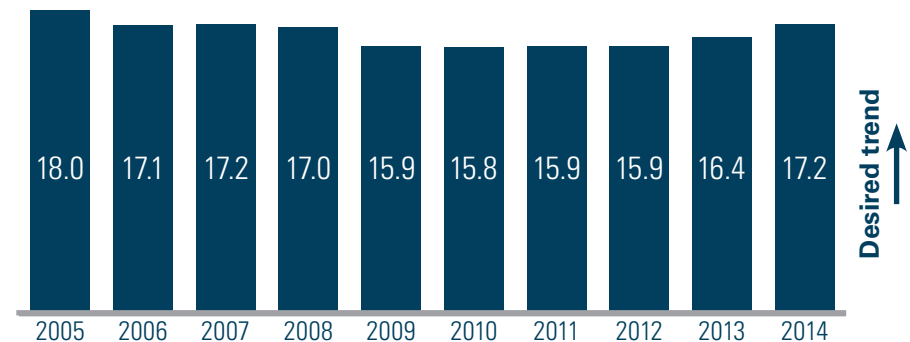
Source: U.S. Bureau of Transportation Statistics T-100 segment data

The supply of air service out of Minneapolis-St. Paul International Airport, typically measured in terms of available seat miles, increased by almost 4 percent in 2013 and another 3 percent in 2014, reversing an 8-year declining trend since 2004 that was due to a combination of airline financial circumstances and broader economic conditions. Likewise, demand for air service, typically measured in terms of revenue passenger miles, increased by approximately 3 percent in 2013 and 5 percent in 2014 after a similar decline. Both the Federal Aviation Commission and the Metropolitan Airports Commission project continued moderate growth in passenger capacity.

Airlines have tightened passenger capacity considerably since the high of 23.2 million ASM in 2004 in an effort to hold down costs, resulting in fuller planes on average. In 2014, 84 percent of available seat miles out of MSP were occupied by a passenger compared to 75 percent in 2004. Unfortunately, fuller planes mean airlines have less incentive to offer discounted seats.

Scheduled air service is also offered at eight airports in Greater Minnesota: Bemidji, Brainerd, Duluth, International Falls, Range Regional Airport at Hibbing, Rochester, St. Cloud, and Thief River Falls. These airports supported approximately 193 million available seat miles in 2014, down 1 percent from 2013 but 21 percent above the 2011 recent low of 160 million ASM. Duluth and Rochester airports continued to carry the bulk of Greater Minnesota's ASM, although other airports saw considerable growth primarily because of expansion of scheduled air service to St. Cloud in late 2012. Unfortunately, this expanded service to St. Cloud was discontinued in the first half of 2015. Due to small volume, annual

Number of revenue passenger miles on scheduled service nonstop flights from Minneapolis-St. Paul International Airport (in billions)



Source: U.S. Bureau of Transportation Statistics T-100 segment data



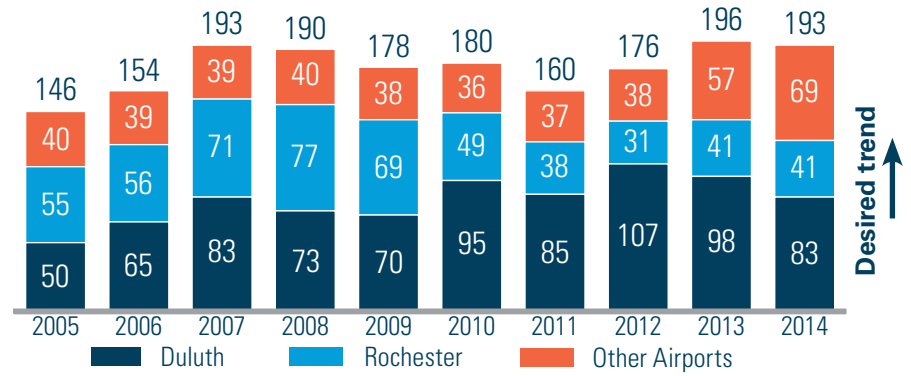
Source: Gary Chambers

Among Greater Minnesota airports with scheduled service, Duluth and Rochester offer the most nonstop connections to out-of-state markets. Other airports primarily offer service to out-of-state markets via MSP. Large areas of western and southern Minnesota lack scheduled service, although access is available across the border in Fargo, Grand Forks, Sioux Falls, Mason City and La Crosse.



Source: Dan McDowell

Number of available seat miles offered on scheduled service nonstop flights from Greater Minnesota airports (in millions)



Source: U.S. Bureau of Transportation Statistics T-100 segment data

ASM out of Greater Minnesota airports varies significantly as aircraft are redeployed or reconfigured and routes are added or discontinued.

Service to Greater Minnesota airports faces many diverse challenges including calls to drastically cut or eliminate the federal Essential Air Service program, airlines retiring smaller regional jets in favor of larger, more efficient aircraft, and a shortage of pilots on regional affiliate crews.

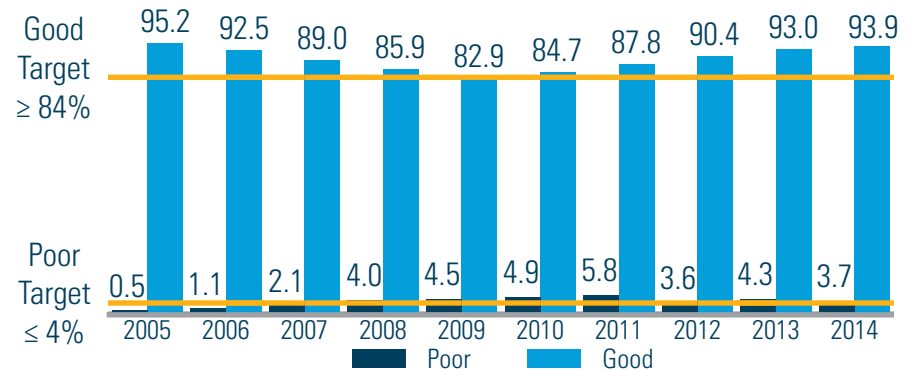
Minnesota runway and taxiway pavement condition improved slightly in 2014, with the percentage in poor condition falling below the targeted 4 percent limit at 3.7 percent and the percentage in good condition remaining well above the 84 percent target at 93.9 percent. The share in good condition has met target for nine of the last ten years.

How this information is used

While scheduled air service decisions are made by airlines based on market forces, public entities can influence these decisions by investing in airport infrastructure, offering information or incentives to strengthen the business case for extending service, and by supporting legislation at the state and federal levels. Metro area airports are owned and operated by the Metropolitan Airports Commission and most other Minnesota airports are owned by a city, county or a local airport authority.

The MnDOT Office of Aeronautics provides technical support and funding assistance to these entities to identify short-term needs and to plan for long-term maintenance and expansion. This includes administering state funding, facilitating applications for federal Airport Improvement Program grants, and performing safety training and inspections.

Runway and taxiway pavements - Percent in Poor and Good Condition



Source: MnDOT Office of Aeronautics

Measure explanation:

Twin Cities transit ridership is measured by the annual number of boardings recorded by all Twin Cities transit providers. These boardings occur on different types of transit services, including fixed route bus, light rail, and commuter rail transit service, Transit Link and Metro Mobility dial-a-ride service, and subsidized vanpool service.

System definition:

213 bus routes, 1 bus rapid transit route, 2 light rail routes, 1 commuter rail route, and demand response systems.

Why this is important:

Ridership measures the state's progress toward its transit-related goals. Minn. Stat. 174.01 defines these goals as 1) providing transit service to all counties that meets the needs of transit users; 2) increasing the use of high-occupancy and low-emission vehicles; and 3) increasing the use of transit as a percentage of all trips.

Learn more

MnDOT Office of Transit

www.dot.state.mn.us/transit

MnDOT Metro District Transit

www.dot.state.mn.us/metro/teamtransit

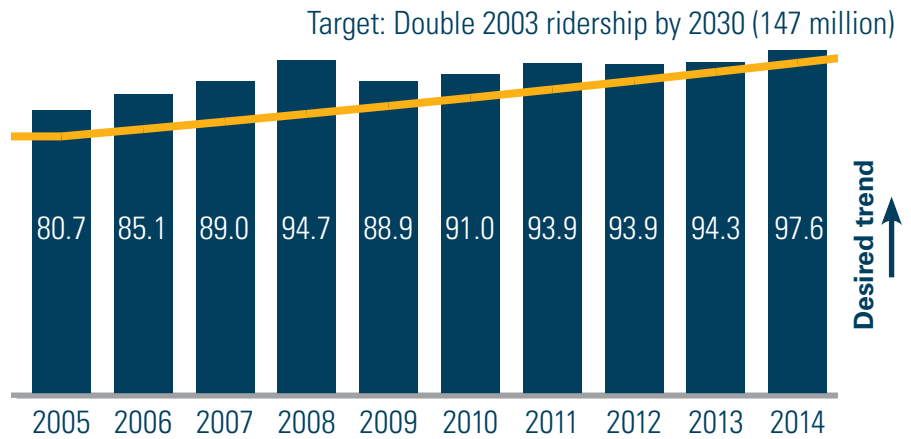
Metropolitan Council/Transportation

www.metrocouncil.org/Transportation.aspx

Counties Transit Improvement Board

www.mnrider.org

Annual Twin Cities Metro Area transit ridership (all providers, all modes, in millions)



Source: Metropolitan Council 2014 Performance Evaluation Report

Metro-area transit ridership increased by 3.5 percent in 2014 to 97.6 million boardings, finally exceeding its 2008 pre-recession high of 94.7 million and at a pace that puts it on track to meet the Metropolitan Council's goal of doubling 2003 ridership levels by 2030. This jump in ridership is largely attributable to the successful June 2014 launch of Metro Transit's newest light rail route, the Green Line along University Avenue. Ridership growth is expected to accelerate in the future as development occurs along key transitways and transit service continues improving.

Metro area transit improvements in 2013 and 2014 include the Red Line bus rapid transit service along Cedar Avenue, the Green Line, real-time schedule updates and automated reminders for passengers, security enhancements, and expansion of the Minneapolis High School Pass Program to the whole school district. Northstar commuter rail line improvements include an added stop, free wi-fi, and a new customer service guarantee program.

How this information is used

The Twin Cities regional transit system consists of local, limited stop and express bus routes; bus rapid transit, light rail, and commuter rail lines; dial-a-ride programs; and public vanpools. All metro-area rail transit lines and most bus routes are operated by Metro Transit, a division of the Metropolitan Council. The Metropolitan Council also administers additional transit service through Metro Mobility (transit for those unable to ride regular buses due to disability), Transit Link Dial-a-Ride (transit for those living in areas lacking regular route service), and a small number of contracted providers that operate regular route bus service in the metro area. Other Twin Cities transit providers include the University of Minnesota and four suburban transit systems operating their own service in coordination with Metro Transit.

The Metropolitan Council's 2040 Transportation Policy Plan, adopted January 2015, establishes policies and strategies for Metro Transit and other metro area providers and gives strategic direction to the Metropolitan Council, the Counties Transit Improvement Board, MnDOT, and other governmental units involved with developing regional bus networks and rail transitways. MnDOT assists with planning, designing, financing, and constructing light rail and commuter rail lines and contributes to transit routes by providing advantages on state highways that allow transit riders to bypass peak-hour congestion.

Measure explanation:

Greater Minnesota transit ridership is measured by the annual number of boardings recorded by Greater Minnesota transit providers. These boardings occur on different types of transit service, ranging from fixed route service in urban areas to route deviation or dial-a-ride service in small urban and rural settings.

System definition:

51 public transit systems serving 79 counties.

Why this is important:

Ridership measures the state's progress toward its transit-related goals. Minnesota Stat. 174.01 defines these goals as 1) providing transit service in all counties that meets the needs of transit users, 2) increasing the use of high-occupancy and low-emission vehicles, and 3) increasing the use of transit as a percentage of all trips.

Learn more

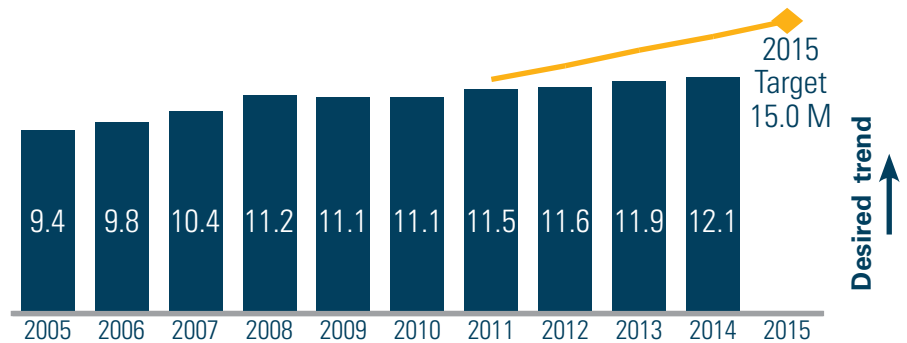
MnDOT Office of Transit

www.dot.state.mn.us/transit



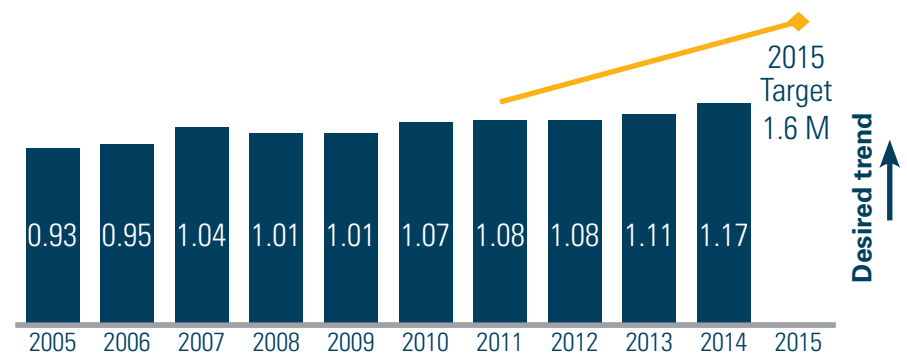
Source: MnDOT

Annual boardings recorded by public transit providers serving Greater Minnesota counties (in millions)



Source: Minnesota Transit Report; 2004-2013

Annual bus service hours in Greater Minnesota counties (in millions)



Source: Minnesota Transit Report; 2004-2013

Transit ridership and service hours in Greater Minnesota grew to record highs in 2014, with 12.1 million boardings and 1.17 million service hours. Service hours are the total number of hours that transit vehicles are available for public service. However, ridership and service hours will remain below legislative targets included in the 2011 Greater Minnesota Transit Investment Plan at the current rate of growth. The targets are to meet 80 percent of Greater Minnesota Transit needs by 2015 (15 million passenger trips and 1.6 million service hours) and 90 percent by 2025 (18.8 million passenger trips and 1.9 million service hours).

How this information is used

Greater Minnesota's 51 public transit systems are operated by local governments, joint powers organizations, non-profits, and tribal governments. MnDOT supports them through planning, research, technical assistance, and management of state and federal transit programs that administer capital and operational funding. Consistent with the Greater Minnesota Transit Investment Plan, MnDOT's first priority is continuation of financial assistance to systems meeting performance standards, then expanding transit service into areas where none exists, and finally to expand the frequency, coverage and hours of service currently provided.

MnDOT is working with partners to improve transit service availability and connectivity by making better use of existing resources. The Transit for our Future initiative provides financial and technical assistance to local transit providers interested in coordination, cooperation or consolidation. Other efforts are underway to coordinate intercity bus line and local transit provider schedules.

Measure explanation:

Once a year MnDOT conducts an omnibus survey that measures public attitudes about MnDOT and various MnDOT services. Since 2006, this survey has included a question asking survey participants how often they rode a bicycle during the last bicycling season (April through October). Answer options are everyday, once a week, a few times/once a month, one time, or never.

System definition:

2014 survey results are based on 801 telephone interviews (502 land-line interviews and 299 cell phone interviews) and 468 web-based surveys from a recruited, representative sample of adult Minnesota residents. Survey participants are identified through random, statistically valid sampling techniques. Geographic quotas and other demographic variables are enforced so that the sample population is representative of the state as a whole. The sample is large enough to produce estimates that are within 5 percent of the actual population data 95 percent of the time.

Why this is important:

The more often people ride bicycles, the more likely they are to be riding bicycles for a variety of purposes beyond recreation. Some Minnesotans who bicycle at least once a week already see bicycling as their primary mode of transportation; others may choose to bicycle more if network gaps were closed or if key corridors become more bicycle-friendly.

Learn more

MnDOT Office of Transit, Bike Info

www.dot.state.mn.us/bike/

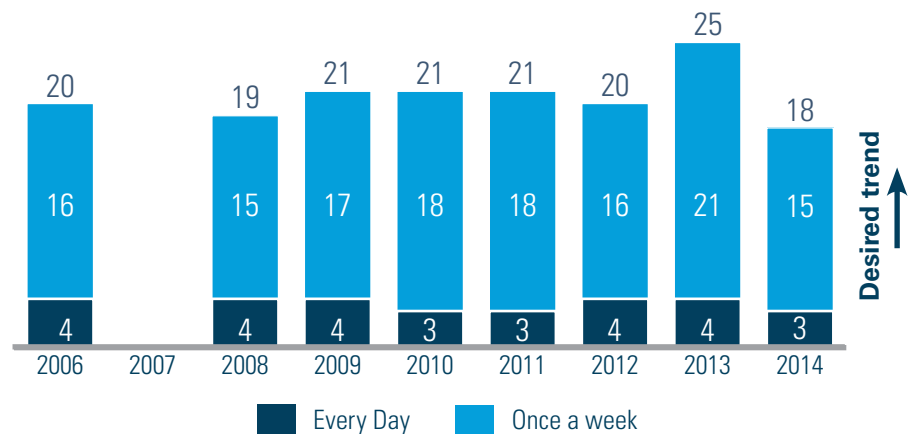
MN Statewide Bicycle System Plan

www.dot.state.mn.us/bike/system-plan.html

MnDOT Annual Omnibus Survey

Donna Koren — donna.koren@state.mn.us

Percent of survey respondents who bicycled at least once a week during the bicycling season (April - October)



Source: MnDOT Omnibus Survey (No survey was conducted in 2007.)

According to MnDOT's annual omnibus survey, 18 percent of Minnesotans bicycled at least once a week during the non-winter months of 2014. While this result is a significant drop from last year's historic high of 25 percent, it is only slightly down compared to the other years reported. Daily bike ridership have remained very consistent since 2006 and, with the exception of 2013, once per week ridership has remained relatively steady over the same period.

The sudden 2013 increase in once a week riders appears to be related to a corresponding drop in the number of Minnesotans reporting they never rode their bike that year. Specifically, the percent reporting they never rode their bike during the riding season dropped from 53 percent in 2012, down to 45 percent in 2013, and then back up again to 51 percent in 2014. The addition of cell phones and a recruited web sample starting in 2013 also makes direct comparisons to previous years more difficult.

How this information is used

One of the goals of the Minnesota transportation system (Minn. Stat. Sec. 174.01) is to promote and increase bicycling as an energy efficient, nonpolluting and healthy form of transportation. Performance measures such as the frequency of bike riding by Minnesotans helps MnDOT determine if it is making progress towards its goals and if its efforts are making a difference.

In addition to tracking survey responses, MnDOT is working with researchers to improve how the department counts non-motorized traffic. Measures of bicycling demand beyond survey responses will help MnDOT better identify improvement opportunities and prioritize investments.

MnDOT leads bicycle system planning at the state level and actively participates in national and regional bicycle planning efforts. The department continues work on a Statewide Bicycle System Plan that is expected to be completed in late summer of 2015. The plan will identify bike route conditions, network gaps and barriers to bicycle travel, provide overarching policy guidance and implementation tools, provide guidance on how and where to prioritize investments on the state highway network, develop performance measures to evaluate progress on identified goals, and develop district-specific bicycle plans.

Measure explanation:

MnDOT maintains a sidewalk inventory that includes data on sidewalk cross slope, condition and width. A sidewalk segment is deemed to be non-compliant with ADA standards if it is in “Poor” structural condition, has a greater than 2 percent cross slope, or is narrower than four feet. The term “Poor” is applied to sidewalks with a condition rating of 3 (sidewalk has vertical discontinuities more than 1/2 inch) or 4 (sidewalk is crumbling and/or has many cracks).

System definition:

Sidewalks in state highway right of way (620 miles of sidewalk).

Why this is important:

Accessible roadways are a critical component of a transportation system that preserves and enhances the mobility of all Minnesotans regardless of age, income or ability. A poorly designed or maintained sidewalk inhibits mobility, particularly for the elderly and those using a wheelchair or other assistive device. Poor sidewalks may also contribute to an inhospitable pedestrian environment at an important pedestrian network link. By identifying where poor sidewalk conditions exist, this measure creates the opportunity to target investment toward state highways with the greatest need for pedestrian improvements.

Learn more

MnDOT pedestrian information

www.dot.state.mn.us/peds/

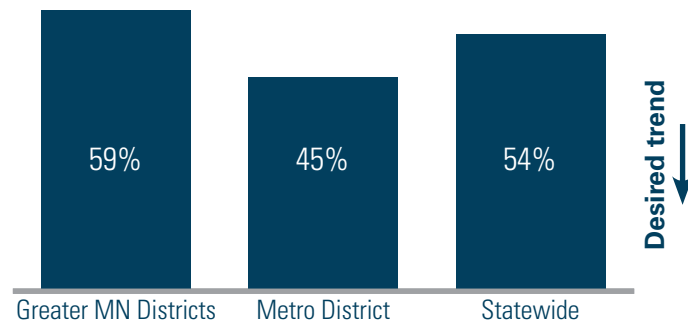
MnDOT ADA Program

www.dot.state.mn.us/ada

U.S. Department of Justice ADA

www.ada.gov

Percent of state highway sidewalk miles that are not compliant with ADA requirements



Source: MnDOT Operations Division – Shared Services

MnDOT completed its sidewalk inventory in 2013 and identified 336 miles of 620 total sidewalk along state highways that do not comply with the Americans with Disabilities Act—91 miles in the Metro and 245 miles in Greater Minnesota. This represents 54 percent of sidewalk-miles along state highways. The most common deficiency in the network is greater than 2 percent cross slope at driveways. MnDOT expects near-term changes in sidewalk condition to be modest due to limited budget and the long life cycle of sidewalks. MnDOT often delays sidewalk improvements until the adjacent roadway needs reconstruction because it is typically more cost effective to replace highways and sidewalks at the same time.

ADA curb ramp compliance: 2012 baseline

DISTRICT	TOTAL # OF CURB RAMPS	# COMPLIANT	# COMPLIANT WITHOUT DETECTABLE WARNINGS
1 - Duluth	1,755	310	420
2 – Bemidji	1,291	162	296
3 – Baxter	2,249	501	582
4 – Detroit Lakes	1,381	230	324
6 – Rochester	2,122	539	882
7 – Mankato	2,568	408	541
8 – Willmar	2,019	218	390
Metro	7,800	1,832	2,439
Total	21,185	4,200	5,874

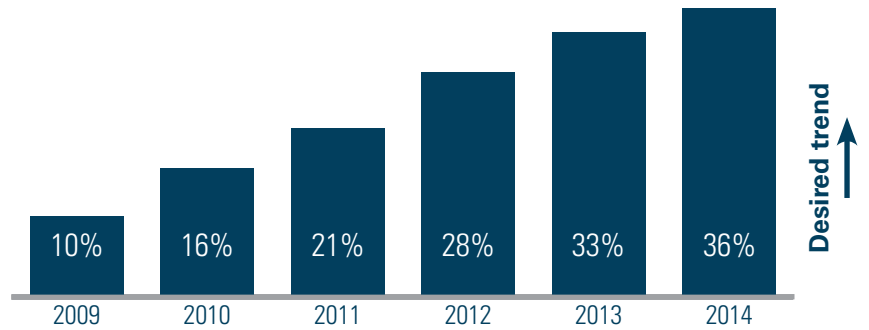
Source: MnDOT Operations Division – Shared Services

MnDOT also evaluates ADA compliance by measuring the number of curb ramps that meet ADA standards and the percentage of eligible state highway intersections with accessible pedestrian signals, or APS, installed. As of 2014, 20 percent of the inspected curb ramps on the state highway system were completely compliant with current ADA standards and 28 percent were compliant except for the requirement for detectable warnings.



Source: MnDOT

Percent of eligible state highway intersections with accessible pedestrian signals (APS) installed.



Source: MnDOT Operations Division – Shared Services

In 2013 and 2014, 124 additional APS were installed, increasing the statewide percentage of eligible intersections with APS installed by 38 percent since 2012. MnDOT plans to install 30 additional APS signals in 2015 and expects to achieve 100 percent statewide APS compliance by the year 2030 based on normal replacement intervals for aging signals.

Accessible pedestrian signals use visual and non-visual formats to identify the beginning of the WALK interval and the direction of the crosswalk. Examples of non-visual formats include verbal messages, audible tones and vibrating surfaces.

Truncated domes are a textured surface that alerts the visually impaired to an elevation change or other hazard.

Sidewalk in Condition Rating 3



Sidewalk in Condition Rating 4



Source: MnDOT

How this information is used

MnDOT’s ADA Transition Plan details how the department will ensure that its facilities, services, programs, and activities are accessible to all individuals. As part of this plan, MnDOT adopted the national Public Right of Way Accessibility Guidelines as a basis for updates to facility design standards and policies. MnDOT also dedicated additional staff to evaluate the accessibility of construction projects, respond to complaints, and manage an ADA investment program.

Consistent with the ADA Transition Plan, intersections are selected for conversion to APS using a rating tool that considers, among other things, pedestrian use, surrounding properties, transit availability, and user requests. For sidewalks and curb ramps, MnDOT is using inventory data to identify barriers and prioritize need. MnDOT is also working at a policy level to include accessibility standards earlier in the design and right of way acquisition phases of project development. Facilities that are accessible but do not meet current standards will continue to be improved through MnDOT’s routine construction program, and facilities that are inaccessible but will not be improved in the course of a typical roadway project will be prioritized by districts as part of a separate barrier removal program.

In addition, MnDOT is developing its first statewide pedestrian plan. This plan will direct MnDOT’s efforts to increase the safety and mobility of people walking along the state highway network. It will also establish performance measures that track progress toward pedestrian-related goals, including, but not limited to, ADA compliance.



Source: MnDOT

Measure explanation:

All taxable sales of gasoline and diesel fuel in Minnesota are included. To be consistent with other reports, this measure includes fuel sales for off-road uses (boats, ATVs, dirt bikes, snowmobiles) but does not include sales of fuel for aviation.

Why this is important:

Minnesota's total gasoline and diesel fuel consumption is a strong indicator of how much air pollution the transportation system is emitting. Air pollution can cause breathing problems and contribute to other health conditions, especially in the young and elderly.

For comparison:

In 2013, the transportation sector in Minnesota ranked 24th of the 50 states by per capita gasoline use, according to MnDOT analysis of data from the U.S. Energy Information Administration and the U.S. Census.

Learn more

Minnesota Petroleum Taxes Annual Report

<http://www.revenue.state.mn.us/businesses/petroleum/Pages/Tax-Information.aspx>

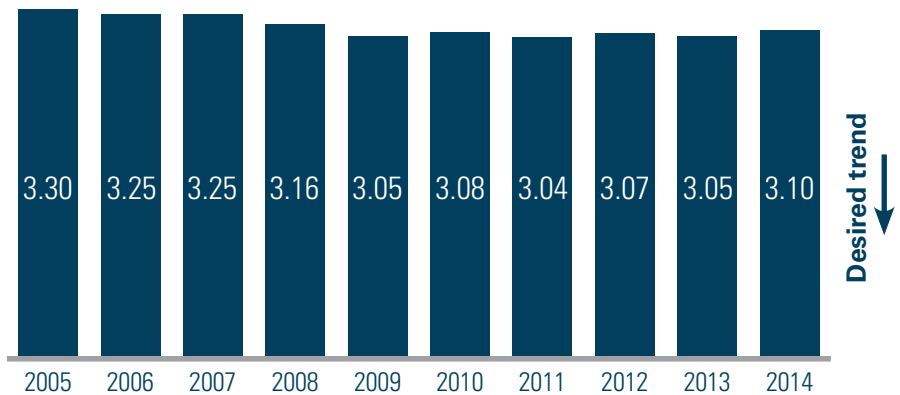
MnDOT Traffic Volume Reports

<http://www.dot.state.mn.us/traffic/data/>

MnDOT Office of Environmental Stewardship

<http://www.dot.state.mn.us/environment/>

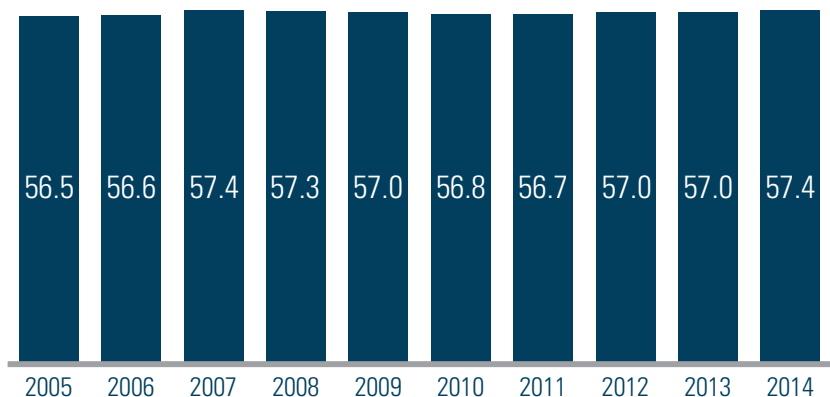
Total gallons of fuel sold for transportation (billions)



Source: Minnesota Department of Revenue 2014 Petroleum Taxes Annual Report

Fuel use increased slightly in 2014 and has remained generally stable since peaking in 2004. Improving vehicle fuel efficiency and changing travel behavior have offset increases in population and economic activity to result in a stable five-year trend.

Vehicle miles traveled in Minnesota (billions)



Source: MnDOT Office of Transportation System Management

How this information is used

While MnDOT does not have authority over individual travel choices or local land use decisions, it does plan, facilitate and promote the use of transportation alternatives. This includes the construction and operation of managed lanes, ramp meter bypasses, bus shoulders and other strategies that give transit and carpools an advantage over single occupancy vehicles. MnDOT also supports non-motorized travel by constructing bicycle and pedestrian facilities along urban highways and by coordinating education and bicycle planning efforts with transportation stakeholders, including the Share the Road campaign.

Additional efforts to reduce emissions involve broad participation by the traveling public, the private sector and public agencies. MPCA has several initiatives related to mitigating transportation's impact on air quality. These include the Drive Electric Minnesota partnership, which includes businesses, governments and utilities and promotes the use of electric vehicles in Minnesota and the installation of charging stations. Another initiative retrofits older diesel trucks and buses with improved emission controls.

Transportation Systems in Minnesota

	System	Size	Ownership	Funding source	MnDOT role
Streets, roads and highways	State Trunk Highways	11,814 miles	<p>By share of centerline miles:</p> <p>By share of vehicle-miles traveled:</p>	State fuel tax, motor vehicle sales tax, registration fees, federal funds	Construction, operation, maintenance, management
	County State Aid Highways (CSAH)	30,624 miles		<p>State fuel tax, motor vehicle sales tax, registration fees, federal funds, local funds</p>	<p>Coordination of projects that impact state trunk highways, administration of state and federal funding (68% of county roads and 15% of city streets are eligible for state aid funds)</p>
	Other County Roads	14,197 miles			
	Municipal State Aid Streets (MSAS)	3,505 miles			
	Other City Streets	18,911 miles			
	Township	58,686 miles			
	Other	5,177 miles			
	Total	142,914 miles			
Transit	Twin Cities area	213 bus routes, 1 bus rapid transit and 2 light rail routes, 1 commuter rail route, demand response systems	Metropolitan Council (including Metro Transit and contracted operators), Suburban Transit Providers, and University of Minnesota	Motor vehicle sales tax, Counties Transit Improvement Board sales tax (in five Metro counties only), state general funds, federal funds, local funds, fares	Construct and maintain transit infrastructure on state roads
	Greater Minnesota	51 public transit systems serving 79 counties	Local governments, joint powers organizations, non-profits, and tribal governments	State and local funds	Administration of funding
Rail	Freight	4,444 track-miles	20 railroads operate and own track: 4 Class I (82% of network), 1 Class II (1%), 14 Class III (16%) and 2 private (1%)	Private funds for operations, state and private funds for track	Planning and policy, support for infrastructure improvements
	Passenger Rail	Amtrak Empire Builder (Chicago to Seattle)	Federally operated on privately-owned track	Federal funds, fares	Planning, policy, research, federal and state program administration
Air	Passenger and cargo	135 airports, 9 with airline service	Airports are owned by cities, counties and airport authorities. Metropolitan Airport Commission owns MSP and eight other airports	Aircraft registration tax, aircraft sales taxes, airline flight property tax, aviation fuel tax, federal funds, local funds	Collection of aviation taxes, administration of state and federal funds, planning, policy, licensure, inspection, navigation systems, education, and research
Waterways	Great Lakes	Four ports on Lake Superior	Local port authorities and private companies provide port operations. Channels (9 ft. draft on rivers, 29 ft. on Great Lakes) are maintained by the U.S. Army Corps of Engineers.	Local port authority receipts, state general funds, federal funds	Planning and policy, support for infrastructure improvements
	Rivers	Five ports on 222 miles of the Mississippi River system			



22 September 2015