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Minnesota Department of Transportation

SUSTAINABILITY REPORT

Establishing a Baseline (2016)

DEPARTMENT OF TRANSPORTATION

FEBRUARY 2017

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In 2016, US DOT designated I-94 as an alternative fuel corridor. In 2017, Minnesota, Wisconsin, Illinois, Indiana and Michigan rebranded it as the Great Lakes Zero Emission Vehicles Corridor.

Overview

This report outlines the Minnesota Department of Transportation (MnDOT)'s current sustainability efforts and performance targets. It will be used to support decision-making, agency sustainability goals, performance measures, and reporting. This version provides the baseline to help MnDOT identify future strategies to achieve the targets outlined in the sustainability dashboards.

The report will be updated annually by the MnDOT Sustainable Transportation Steering Committee (STSC), a management-level group that provides leadership, strategic direction, and oversight for sustainability activities.

What does sustainability mean to MnDOT?

Sustainability is commonly described in terms of the triple bottom line of economy, environment, and society (Figure 1). While the MnDOT vision describes a "triple bottom line" vision to inform all agency decision-making, this report focuses primarily on the following environmental sustainability efforts:

- **Climate Mitigation:** reduce greenhouse gas (GHG) emissions in enterprise operations, from construction of our facilities, and from vehicles operating on MnDOT facilities.
- **Climate Adaptation:** design, construct, operate, and maintain infrastructure to be resilient to the changing climate.
- **Resource Efficiency:** use resources efficiently as stewards of taxpayer funds and the environment.
- **Pollinator Habitat:** enhance roadside habitat to promote pollinator health and provide engineering benefits.
- **Chloride Reduction:** strive for the most efficient and effective methods of snow and ice control to prevent road salt from entering lakes and rivers.

Subsequent sections will provide additional detail on climate mitigation and adaptation. Future versions of the report will expand to include more detail on resource efficiency, pollinator habitat, and chloride reductions.

Figure 1. "Triple Bottom Line"

Minnesota's multimodal transportation system maximizes the health of people, the environment, and our economy.

- MnDOT Vision

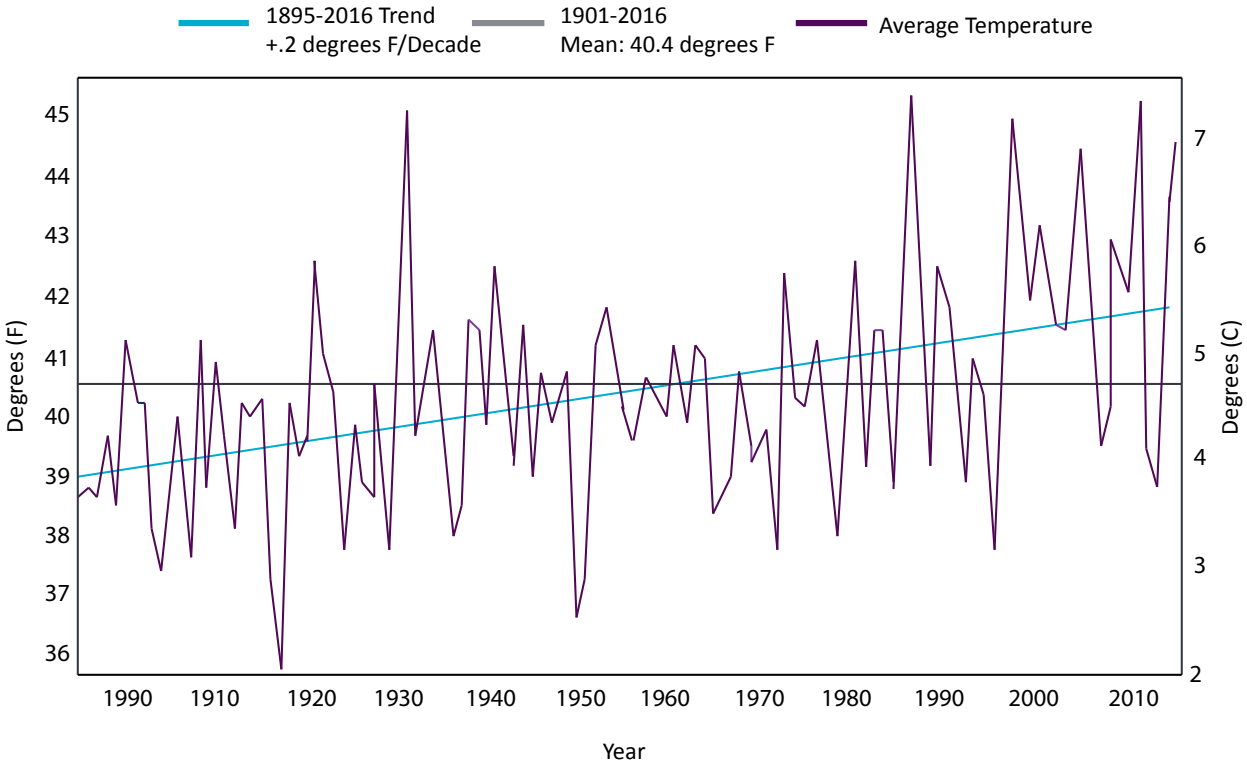
Why are climate change mitigation and adaptation important?

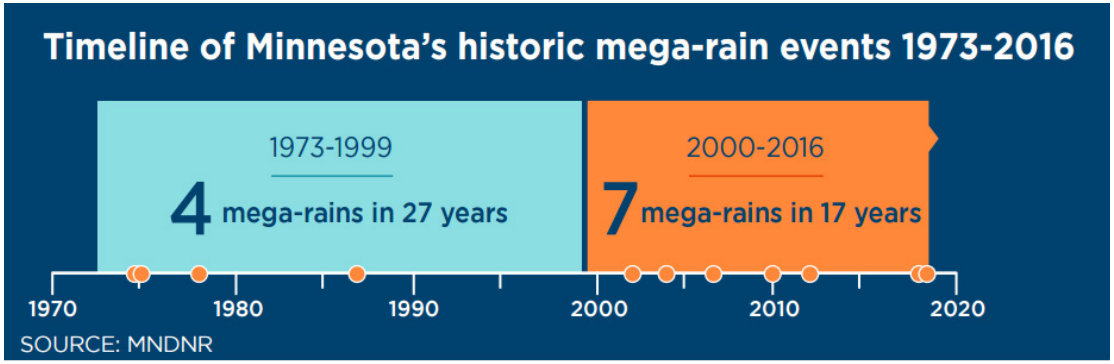
CLIMATE CHANGE IS ALREADY OCCURRING IN MINNESOTA

Climatic change already impacts every region of the country and every sector of the economy. Changes will amplify existing risks climate poses to people, ecosystems, and infrastructure. Direct effects in Minnesota include increased heat stress, flooding, drought, and late spring freezes. Climate change also increases pests and disease prevalence, land-use changes, landscape fragmentation, atmospheric and watershed pollutants, and economic shocks like crop failures, reduced yields, and toxic algae blooms from extreme weather events. These global and national trends are visible in Minnesota, as well (Figure 2).

Flooding on Minnesota Highway 60

Figure 2. Minnesota, Average Annual Temperature (NOAA)



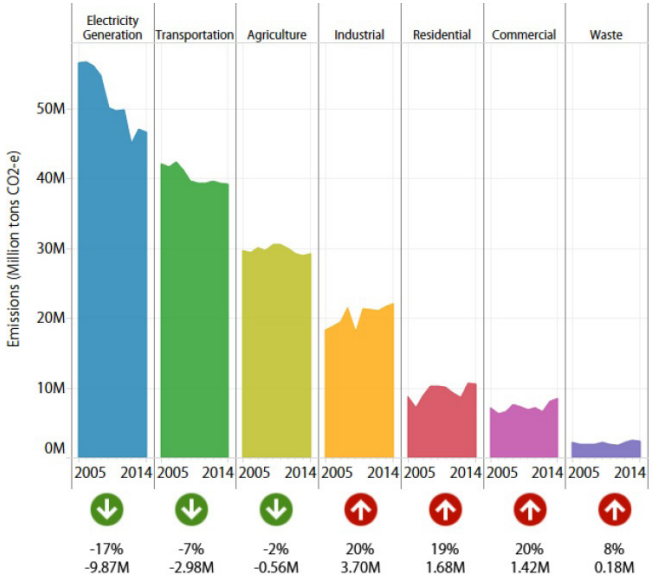


TRANSPORTATION IS THE #1 SOURCE OF GREENHOUSE GASES IN THE U.S.

In 2015, transportation emitted more carbon dioxide (CO_2) than power plants.[1] The majority of transportation GHG emissions are from internal combustion engines in passenger cars and light-duty trucks (Figure 3, Figure 5). Other transportation GHG emissions come from freight trucks, commercial aircraft, ships, boats, and trains, pipelines, and lubricants.

In Minnesota, transportation GHG emissions are still second to electric utility emissions (Figure 4). However, GHG emissions from electric utilities have been declining at a faster rate than transportation GHG emissions as utilities convert from coal to a larger share of natural gas and renewable energy.

Figure 4. MN GHG Emissions by Sector: 2005-2014[2]



Transportation was 25% of total GHG emissions statewide, per "Greenhouse Gas Emissions Reduction Biennial (2017)"

Figure 3. Minnesota Greenhouse Gas Emissions by Transportation Source: 2005-2015

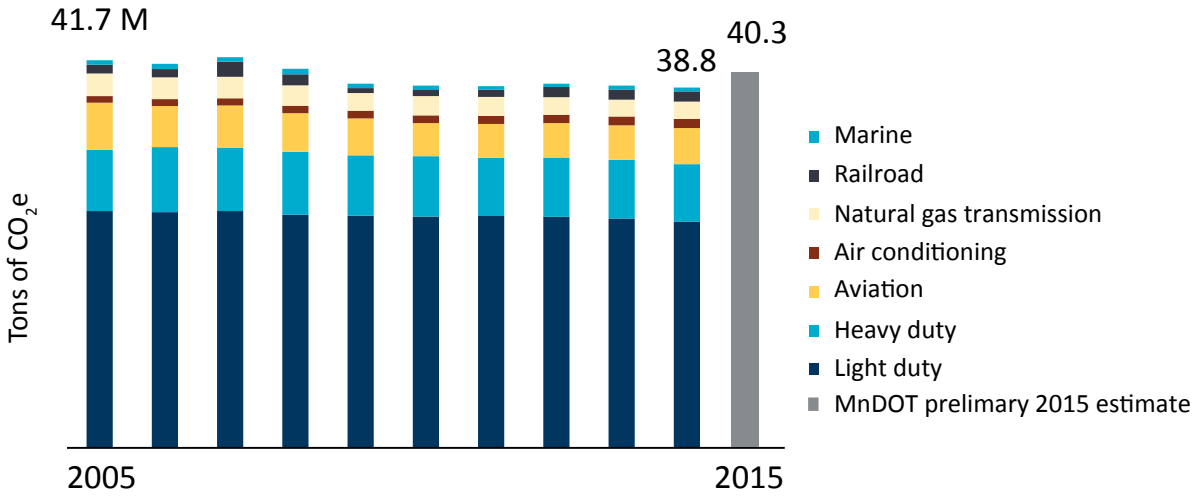
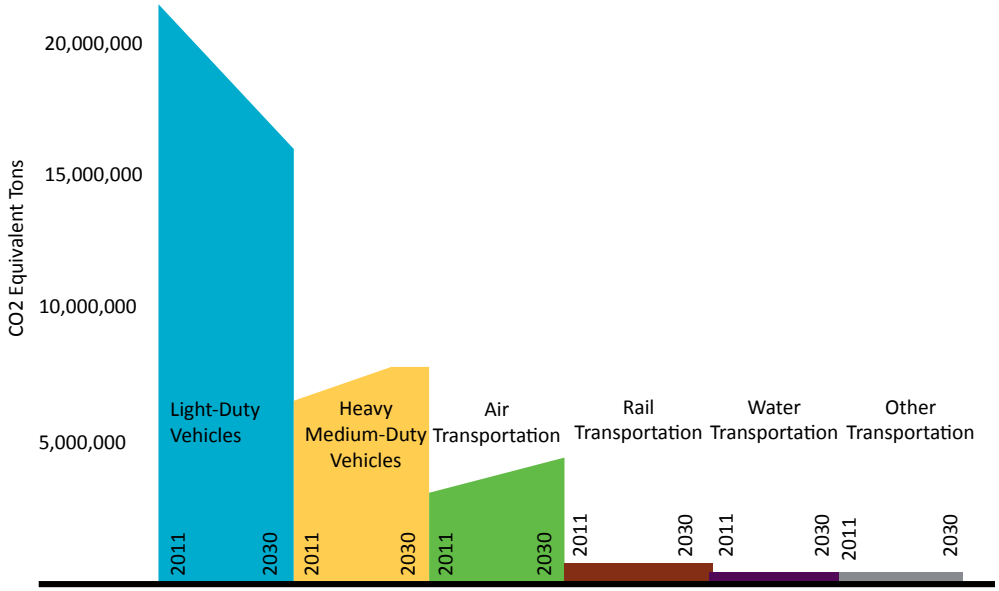


Figure 5. Minnesota's Forecasted Greenhouse Emissions by Transportation Mode, 2011-2030[3]



MnDOT plays a critical role in reducing GHG emissions and preparing for climate change

LEADING BY EXAMPLE

While MnDOT manages about 10 percent of all Minnesota roadways, the agency plays a larger role influencing statewide transportation policy and decision-making. There is an important opportunity to lead by example when addressing climate change in transportation. Fundamental changes are needed in the transportation sector, including design, construction, operation, and maintenance, to meaningfully reduce GHG emissions and reduce future effects of climate change on the transportation system.

In response to GHG emissions targets established in state law and reinforced by the Governor's Office, MnDOT committed to reduce transportation sector GHG emissions according to the Next Generation Energy Act 2025 target in the 2017 MnDOT Statewide Multimodal Transportation Plan (SMTP) (Figure 6).

While federal fuel economy standards will lower emissions in the future, further strategies are need to reach the 2025 GHG emissions target (Figure 7). MnDOT has applied these reduction targets uniformly to enterprise GHG emissions (MnDOT fleet fuel use, MnDOT facilities heating, cooling, and lighting) and emissions from the fuel and materials used to construct MnDOT construction projects. The strategies needed to achieve these targets will be identified in calendar year 2017 (Table 1).

Figure 6. Minnesota Transportation Sector Annual GHG Emissions

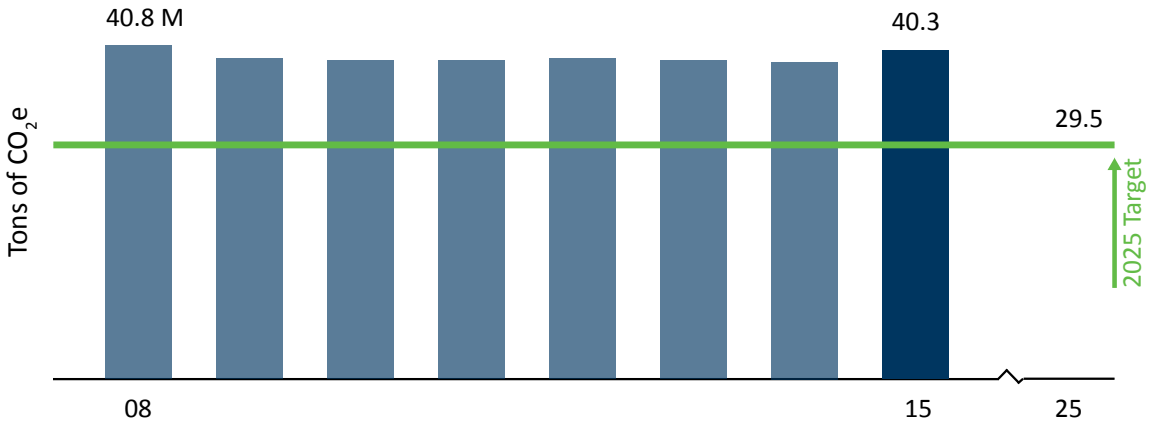
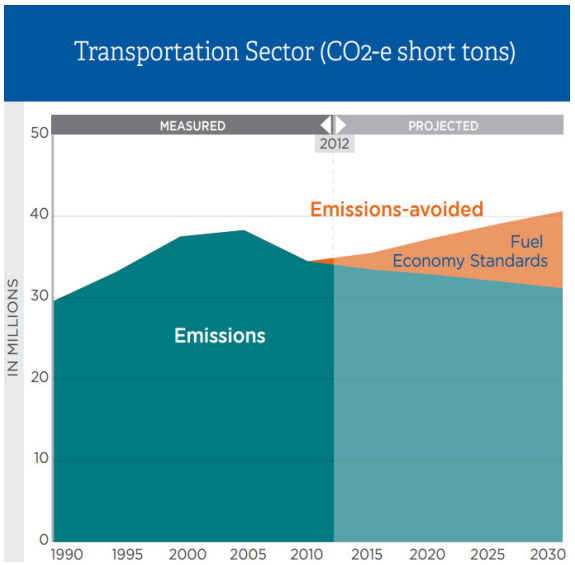


Figure 7. Minnesota Transportation Sector Measured and Projected GHG Emissions: 1990-2030

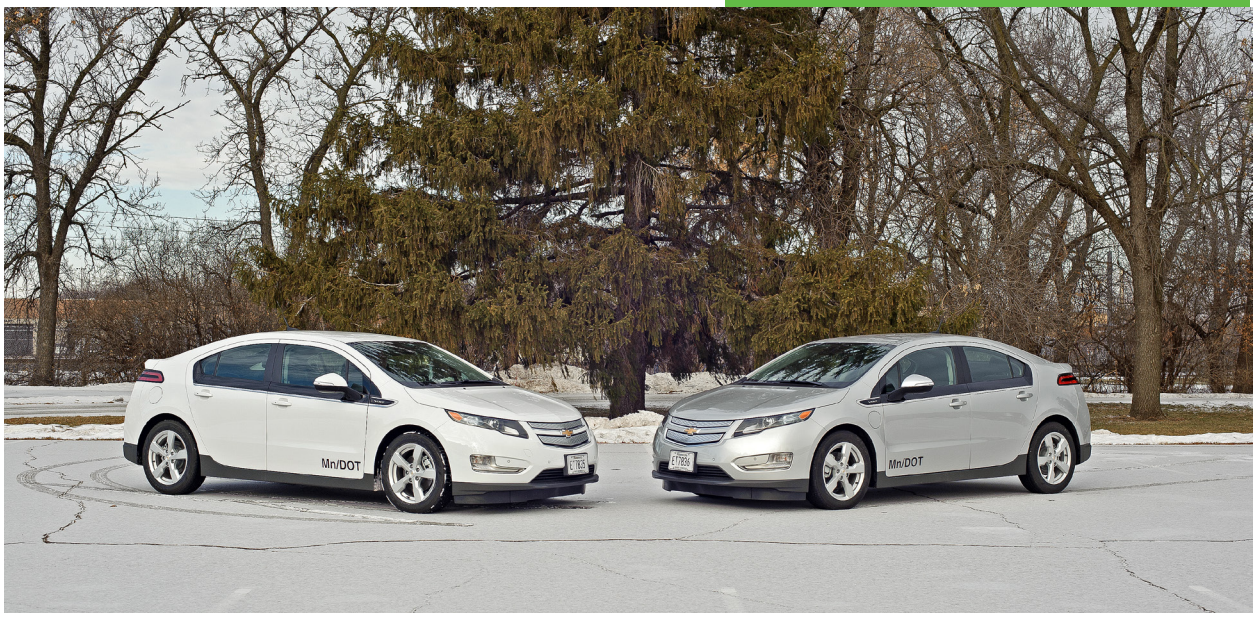


GHG EMISSIONS REDUCTION

Two statewide efforts in particular drive current MnDOT efforts to reduce GHG emissions from transportation:

1. MN Statute 216H.02 (Next Generation Energy Act): Goal to reduce statewide GHG emissions across all sectors, including transportation, at least 15% below 2005 levels by 2015, 30% below 2005 levels by 2025, and 80% below 2005 levels by 2050.

2. Under2MOU[4]: (signed by Gov. Dayton 10/16/15) Minnesota commits to 80% - 90% GHG reduction targets from 1990 levels by 2050, including a goal to further adopt Zero Emission Vehicles (ZEV).



MnDOT Chevrolet Volts (David Gonzales)

Table 1. GHG Emissions Targets

Metric	2025 Target	Results	Analysis
Sector Level Total annual GHG emissions generated by Minnesota's transportation system	29,500,000 tons CO_2e	40,300,000 tons CO_2e	MnDOT is still evaluating the cause of increased GHG emissions between 2014 and 2015. 2015 data is based on MnDOT preliminary estimate.
State Highway Construction Total annual GHG emissions from the fuel and materials use to construct MnDOT projects	2,500,000 metric tons CO_2e	3,600,000 metric tons CO_2e	The target for facilities, fleet, and construction emissions are only preliminary at this point. In 2017, MnDOT will determine where to focus efforts and the strategies needed to achieve a 30% GHG reduction agency-wide.
MnDOT GHG emissions - Operations			
Facilities Total annual GHG emissions generated by MnDOT-owned facilities	21,800 metric tons CO_2e	30,113 metric tons CO_2e	
Fleet Total annual GHG emissions generated by MnDOT-owned fleet	26,500 metric tons CO_2e	37,766 metric tons CO_2e	

PREPARING FOR CLIMATE CHANGE

MnDOT also has a responsibility to adapt transportation infrastructure to changes in the climate to reduce disruptions to the movement of people and goods within the state. Climate adaptation is often viewed in terms of resilience to extreme weather, such as flooding or drought, but MnDOT must also prepare to adapt to smaller changes that will also impact agency resources for things like snow and ice control, invasive species and pest management, pavement performance, and others.

The Minnesota State Climatology Office predicts changes to Minnesota's climate with varying levels of confidence (Table 2). The following table describes potential impacts, the likelihood of changes, and potential negative implications to the transportation system.

MnDOT is already working to address system vulnerabilities to climate change and working to prepare for a changing climate.

- Climate Vulnerability Assessment Pilot Project for resilience to flash flooding.
- Dedicated bond-funding to mitigate and ensure resilience for flood prone highways.
- Manage bridge scour monitoring information for all 30 scour critical bridges
- Support up-to-date hydrology through a cooperative agreement with U.S. Geological Survey
- Provide funding for National Oceanic and Atmosphere Administration to develop Atlas 14, a new source for updated precipitation data

Table 2. Potential Effects of Climate Change in Minnesota

Climate Impact	Likelihood this will change in MN over next 20 years	Potential Negative Implications for the Transportation System
Heavy precipitation / flooding	Very High	• Damage to highway and rail infrastructure, airport runways • Flooded roads will slow operations and performance • Slope failures and erosion
Warmer winters	Very High	• More ice • Reduced pavement conditions and life cycles • Downed power lines with ice storms
New species ranges	High	• Changes in roadside vegetation mixes • Soil erosion • Increase in invasive species populations • Increased exposure of construction and maintenance crews to vector-borne diseases
Drought	Medium	• Reduced river navigability for barges • Roadside vegetation stress, reduces rainwater storages and increases soil erosion
High heat	Low	• Pavement and rail buckling • Vehicles overheating • Electrical system malfunctions • Limitations on construction hours
Wildfires	Unknown	• Road closures • Immediate and significant threat to human safety • Damage to roadside infrastructure

Data-driven sustainability approach

SCIENTIFIC ADVANCES & BEST PRACTICES

MnDOT will continue to expand the agency knowledge base about climate mitigation and adaptation by staying up-to-date on recent scientific developments and experiences of practitioners in other states. MnDOT also coordinates on climate change and transportation at the local, state, national, and international levels through state and national technical working groups, the American Association of State Highway and Transportation Officials (AASHTO), and the National Academies of Science's Transportation Research Board (TRB).

More information on MnDOT efforts to reduce GHG emissions and adapt to climate change are available online at: http://www.dot.state.mn.us/climate/index.html.

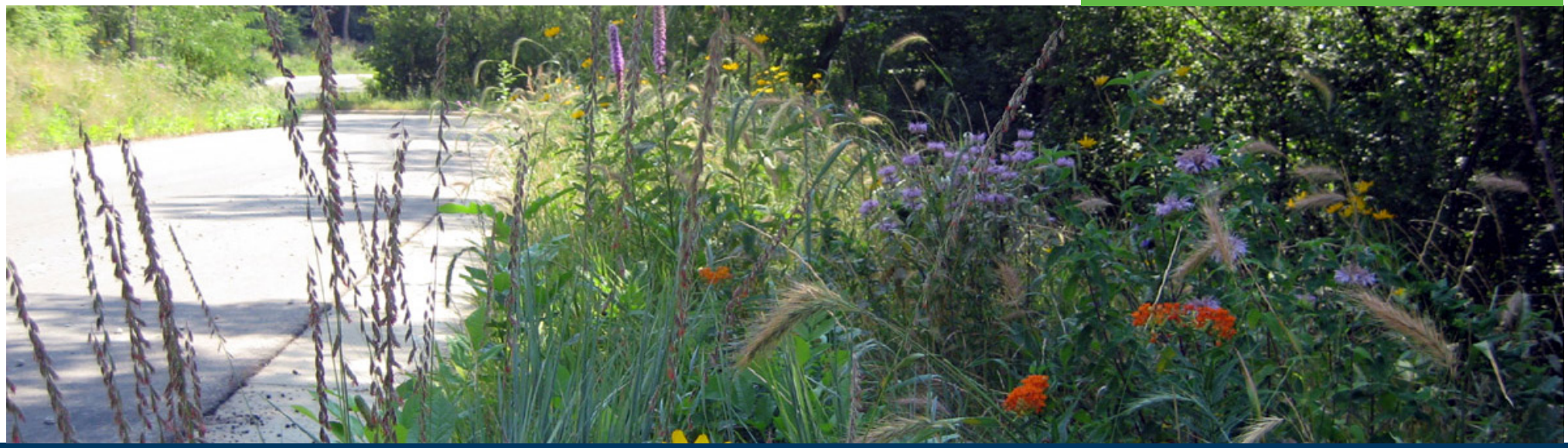
MEASURING SUSTAINABILITY AT MNDOT

The next section of this report includes five dashboards describing MnDOT's sustainability metrics. Metrics were selected based on a scan of transportation and corporate sustainability reports and existing MnDOT plans. The STSC and other MnDOT staff reviewed research, revised the metrics, and gathered data to develop the dashboards.

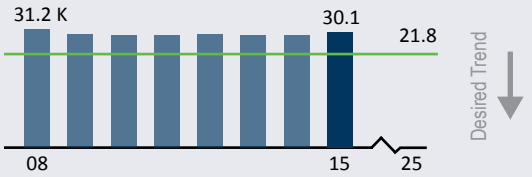
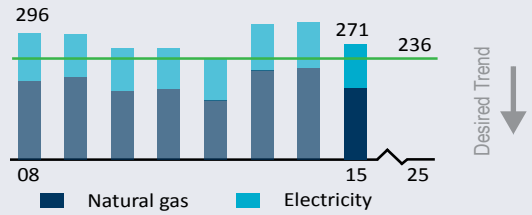
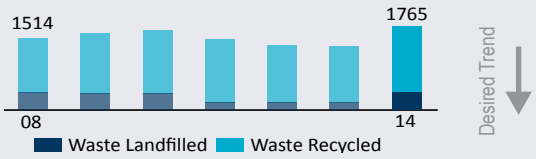
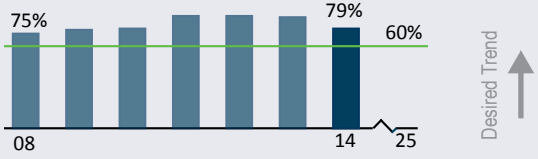
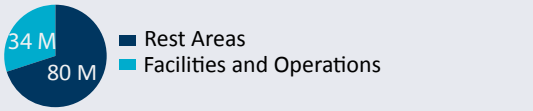
Each dashboard focuses on a functional area within MnDOT. These include: facilities, fleet, highway operations, roadside management, and construction. Information is provided for each metric, including a brief description, target, current results as of Calendar Year 2016 (unless noted otherwise), data trend, and analysis of the trend.

Future year targets are shown on the graphs as a green line. When projections are illustrated, they are shown in gray.

Native plantings reduce erosion and help manage stormwater along a roadside in Southeastern Minnesota

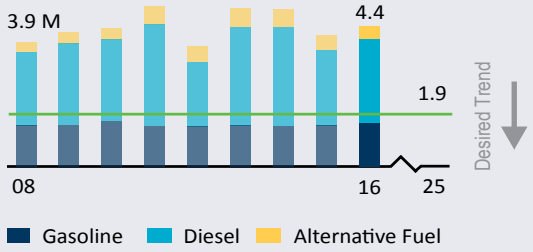
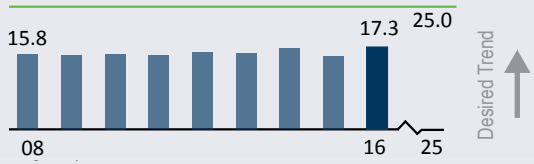
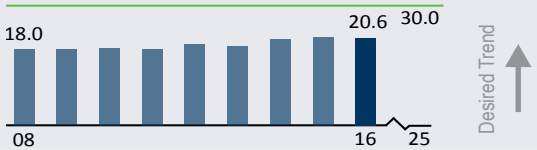
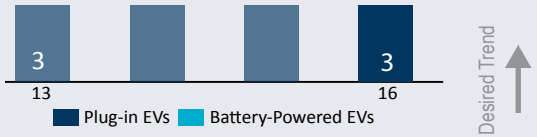
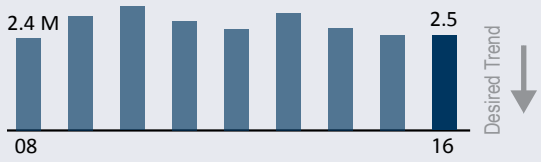


Facilities

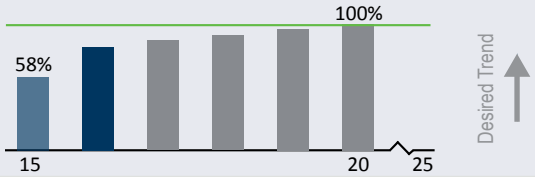
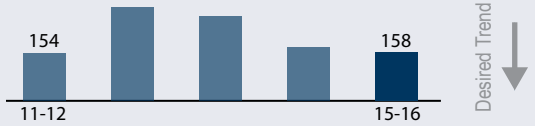
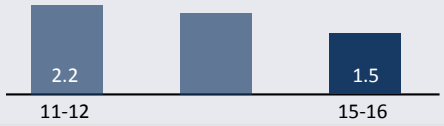
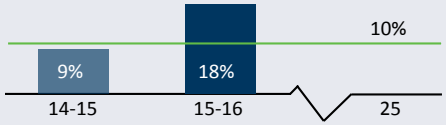
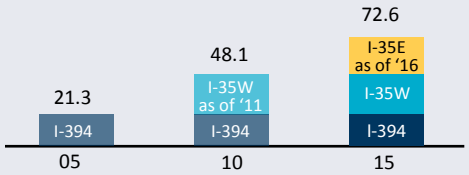
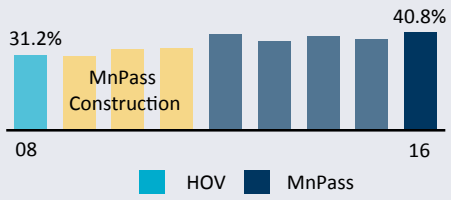
Metric	Target	Results	Trend	Analysis
Greenhouse Gas Emissions Total carbon dioxide equivalent (CO_2e) emissions generated annually by MnDOT-owned facilities	21,880 metric tons CO_2e -30% by 2005 from 2025	30,113 metric tons CO_2e* 2015		1.8 MMT CO_2e[5] reduction (-3% from CY15 total) needed each year to meet 2025 target. **Progress Needed: -27%**
Total Energy Use Total annual electricity and natural gas consumption at MnDOT-owned facilities in billion British Thermal Units (BBTU)	236 BBTU -20% from 2008 to 2025[5]	271[6] BBTU 2015		MnDOT used less energy in 2015 than in 2008. Usage fluctuates partly due to weather. 3.5 BBTU average reduction (-1% from CY15 total) needed each year to meet target. **Progress Needed: -13%**
Renewable Energy Amount of renewable energy as percent of total energy used by MnDOT**	25% Total energy by 2025[7]	0.3%	Capacity Solar = 40 kW Wind=35 kW Geothermal=80,000 kBTU	2.5% annual increase needed to meet 2025 target. **Progress Needed: +25 percentage points**
Waste Generated Total annual waste generated by the Metro District facilities owned by MnDOT	To be set in 2018 -25% from 2017 by 2025	1765 metric tons*** 2014		Metro District data is illustrative as MnDOT begins collecting statewide data in CY17. Related efforts include agency-wide elimination of F-list hazardous chemicals. **Progress Needed: NA**
Waste Recycled Total annual waste diverted through recycling by Metro District facilities owned at MnDOT[8]	60% reduction until 2030 then 75% for Metro[9]	79% of total waste generated*** 2014		MnDOT begins collecting statewide data in CY17. Metro District data is illustrative only. **Progress Needed: Target currently exceeded for Metro District**
Water Consumption Total water consumed at MnDOT-owned sites annually	TBD	114 million gallons****		MnDOT conserves water through EPA Water Sense best practices and on-site treatment. Weather also affects water needs for winter brine and summer dust control.

* Some minor differences in report GHG emissions stem from historical GHG emissions calculated using B3 benchmarking system and future emissions based on emissions from The Climate Registry.
** Includes MnDOT 35 kW wind turbine at D8 Slayton Truck Station and 40 kW solar array at D6 headquarters in Rochester. Geothermal energy indirectly helps MnDOT with on-site renewable energy goals by reducing the total energy we consume.
*** Currently, Metro District only. 2016 waste generation data will be available for all Districts beginning March 2017.
**** Annual water consumption includes a combination of metered values and estimates typical wastewater flow rates for various facility types and sources (e.g., rest areas, office buildings, etc.)

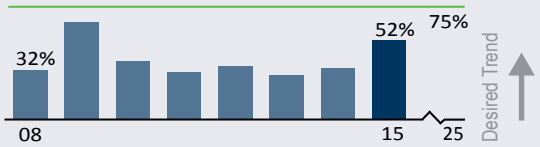
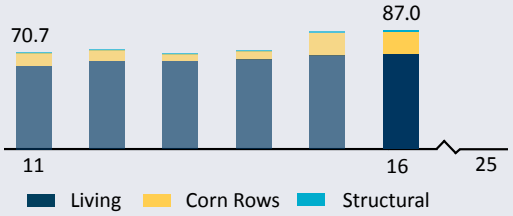
Fleet

Metric	Target	Results	Trend	Analysis
Greenhouse Gas Emissions Total annual GHG emissions related to fuel use from ground and air-based MnDOT vehicles	26,500 metric tons CO_2e	37,766 metric tons CO_2e[10] 2015	Not Available	The target for fleet is descriptive only at this point. In 2017, MnDOT will determine where to focus efforts and strategies needed to meet target.
Total Fuel Use Total annual fuel use by ground-based MnDOT vehicles	1.9 million gallons 50% reduction from 2005 by 2025	4.4 million gallons[11] FY 2016		Diesel use is largely driven by snow control and dependent on winter weather. 2008 is used to represent baseline levels because of data gaps in 2005 data. -9% reduction need each year on average to meet 2025 target. **Progress Needed: -54%**
Diesel Fuel Use Total annual diesel fuel use by ground-based MnDOT vehicles	1.1 million gallons 25% reduction from 2005 by 2025	2.6 million gallons[11] FY 2016		
Fleet Vehicle Fuel Efficiency Average miles per gallon achieved by all MnDOT vehicles annually	25 mpg 2025	17.3 mpg[11] FY 2016		Average vehicle efficiency increased 9% between 2008 and 2016. **Progress Needed: +25%**
Light Duty Vehicles Average miles per gallon achieved by light duty MnDOT vehicles annually	>30 mpg	20.6 mpg[11] FY 2016		Light duty vehicle efficiency increased 10.7% between FY 2013 and 2016. Since 2005, light duty vehicle efficiency has improved. **Progress Needed: +45%**
Electric Vehicles Total number of plug-in hybrid electric and battery electric light duty MnDOT vehicles	2	3[12]		Three plug-in hybrid electric vehicles were purchased in 2013 and are .003% of the MnDOT fleet. **Progress Need: Target exceeded**
Employee-Owned Auto Mileage Total number of miles annually traveled by MnDOT employees in personal vehicles for work purposes	No target	2.5 million miles FY 2016		MnDOT has no previously set target for reducing employee-owned auto mileage. MnDOT encourages employees to carpool, telecommute, bike, and walk, which will be captured in future versions of this report.

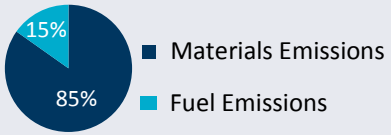
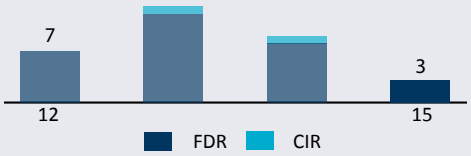
Highway Operations

Metric	Target	Results	Trend	Analysis
LED Bulb Replacement % Total count of LED lighting installed on MnDOT roadways	100%	82%[13] 23,500 lights		23,500 lights have been converted so far, saving $2.6 M in 2016 electricity costs. MnDOT estimates 28,586 MWh/ year energy savings once all conversion are complete. **Progress Needed: 18% remaining**
GHG Emissions Reductions Total GHG emissions reduced by converting to LEDs	18,571 metric tons CO_2e	9,657 metric tons CO_2e[14]	Not Available	Converting from high-pressure sodium (HPS) to LED saves an estimated 65% on electricity costs/use per luminaire.
Salt Use Total salt applied to MnDOT roadways annually	No Target	158 tons[15] Winter 15-16		Overall, salt use has declined since the 2011-2012 winter, including a 9% reduction from between Winter 14-15 and 15-16, driven by warmer average temperatures across the state. Due to salt's reduced effectiveness at low temperatures salt use and winter severity do not correlate.
Adjusted Salt Use Tons/Winter Severity Index	No Target	1.5 Winter 15-16		
% Above MDSS Recommendation Total use by MnDOT compared to modeled optimal 2015-2016	<10%	18%[16] Winter 15-16		The percentage above the modeled optimal salt use doubled between the winter of 2014-15 and 2015-16. **Progress Needed: -8 percentage points**
MnPASS Total miles of MnPASS Express Lanes	Tier 1 complete by X?	72.6[17] direct miles		The MnPASS Express Lane system consists of three corridors: I-394, I-35W and I-35E (complete Dec.'16). Funding is secured for MnPASS extensions on I-35W in 2017 (46th-26th Street in Mpls.) and 2019 (Roseville to Blaine) and I-94 in 2021 (Mpls. to St. Paul).
Person Throughput at I-35W & Black Dog Road Person throughput on northbound (NB) HOV/ MnPASS Express Lane as share of the total person throughput traveling on I-35W at Black Dog Road during the AM peak.	N/A	40.8%[17]		Compared to NB I-35W general purpose lanes, the NB I-35W MnPASS lane carried 38% more people at Black Dog Road and more than double the number of people at Lake Street during the AM peak. As a two lane facility, the I-394 MnPASS Lane has lower efficiency per lan but higher person throughput as a share of the corridor total, approaching 50% of the EB corridor total at Penn Ave during the AM peak.

Roadside Management

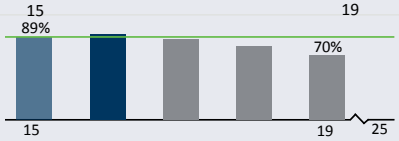
Metric	Target	Results	Trend	Analysis
Native Planting Total percentage of acres planted with native seeds as part of larger MnDOT projects	75% 2025	52%[18] 2015		The 18% increase from 2014 to 2015 was likely due to an agency effort to emphasize using native vegetation. **Progress Needed: +23%**
Restoration Seeding Annual new acres of native grasses and forbs replace non-native grasses on stand-alone restoration projects	TBD	TBD	TBD	MnDOT will explore tracking in future years.
Snow Fences Total miles of structural snow fences, living plants, and corn rows installed to manage blowing and drifting snow	TBD	87.0 miles[19]		The snow fence increase in 2014-2015 is largely from more than doubling the standing corn rows due to snow plow operators actively recruiting landowners to participate.

Construction

Metric	Target	Results	Trend	Analysis
Greenhouse Gas Emissions Total annual GHG emissions from the fuel and materials use to construct MnDOT projects*	252,573 metric tons CO_2e 30% reduction by 2025	360,818 metric tons CO_2e 2015		1st year of analysis and first attempt nationally to estimate a full construction program (CY15) using FHWA ICE tool. Future analysis may change these results and targets.
"Sustainable" Pavements Total annual number of jobs using warm mix asphalt (WMA), cold-in-place recycling (CR), or full depth reclamation (FDR)**	TBD	3		WMA, CR, and FDR have the potential to reduce GHG emissions compared to conventional pavement preservation techniques. MnDOT will explore tracking lane miles in the future.
Recycled Materials Total annual quantity of recycled materials used in MnDOT projects (e.g., recycled asphalt pavement and concrete fly ash)	TBD	TBD	Not currently tracked	MnDOT estimates about 20% average use of recycled materials program-wide but does not currently track actual use. MnDOT will explore tracking in the future.

Complete Streets Projects

Projects including improvements to address identified user needs or where existing conditions adequately meet needs in FY 2016. These projects were highlighted because they support non-motorized modes of transportation, which advances our broader vision for transportation and can reduce GHG emissions over time. Future projects are shown in gray. Excludes projects where the user is legally prohibited according to Minnesota Statutes 169.305 or where there is no evidence of a current need to provide for the user group, no plans identify the project corridor for future use, and land use trends suggest an absence of future need over the life of the project.

	Target	Results	Trend	Analysis
Pedestrians	No target	98% of projects met need		Projects with improvements for pedestrians, or in areas already meeting these needs, increased 8.3% between 2015 and 2016. Project reports suggest MnDOT projects will continue to meet pedestrian needs at a high rate.
Bicyclists	90% of projects meet need	93% of projects met need		In 2015 and 2016, 90% of MnDOT projects met bike users' needs. Currently, projects in 2018-19 do not meet the target. **Progressed Needed: Target met for 2016**
Transit	No target	100% of projects met need		Projects in areas already meeting transit users' needs and projects that scope improvements for transit users increased 5.0% between 2015 and 2016.
Freight	No target	99% of projects met need		Projects in areas already meeting freight users' needs and projects that scope improvements for freight users increased 2.4% between 2015 and 2016.

* Emissions from construction include inputs from the state-run construction program and vary by year based on program size

** Includes stabilized (SFDR) and non-stabilized full depth reclamation (FDR)

References

[1] The National Climate Assessment summarizes the impacts of climate change on the United States, now and in the future.

[2] Greenhouse Gas Emissions Reduction Biennial report to the Minnesota Legislature January 2017

[3] MPCA

[4] The Under2MOU has the goal of limiting warming to below 2○ C, which the UN Intergovernmental Panel on Climate Change (IPCC) scientists says is need to avoid dangerous consequences.

[5] MN Executive Order 11-12 Providing for Job Creation through Energy Efficiency and Renewable Energy Programs for Minnesota's Public Buildings, state agencies shall achieve at least 20% reduction in energy use through efficiency and renewable energy compared to baseline (first year using B3 Energy Benchmarking). No target date.

[6] MnDOT B3 Annual Benchmarking Report, 2016

[7] MN Executive Order 11-13 Strengthening State Agency Environmental, Energy and Transportation Sustainability

[8] Metro District, MPCA Recycling Report 2014

[9] MN Statute, Sec. 115A.15, Subd.9. "Recycling goal" requires State agencies to recycle at least 60 percent by weight of the solid waste generated by state offices in the metropolitan area, and other operations located outside of the metropolitan area.

[10] MN Executive Order 11-13 Strengthening State Agency Environmental, Energy and Transportation Sustainability

[11] MnDOT M5 Fleet Management Software

[12] MnDOT Crystal Reports

[13] MnDOT Maintenance Operations and Administration Efficiencies, September 2016

[14] Emissions savings based on MnDOT desktop analysis confirmed by the Climate Registry

[15] MnDOT Winter Maintenance Report, 2016

[16] MnDOT Resource Consumption Application, Business Intelligence Report, 2016

[17] MnDOT Regional Transportation Management Center

[18] MnDOT Annual Average Bid Prices Report, 2008-2015

[19] MnDOT Snow Fence Activity Annual Report, 2008-2015

Appendix A

The following are statutes and Executive Orders related to efforts in the 2016 MnDOT Sustainability Report.

State Laws

- MN Statute 174.01 – Transportation Goals
  - (10) ensure planning and implementation of all modes of transportation are consistent with the environmental and energy goals of the state
  - (15) reduce GHG emissions from state transportation sector
- MN Statute 174.02 Subd 1a (3): Department mission that, within department resources, commissioner shall endeavor to minimize degradation of air, water, and the climate, including reducing GHG emissions.
- MN Statute 174.03 Subd 1a (3): [in the SMTP] identify performance targets for measuring progress and achievement of transportation system goals, objectives or policies
- MN Statute 216H.02 (Next Generation Energy Act): Set goal to reduce statewide GHG emissions across all sectors, including transportation, at least 15% below 2005 levels by 2015, 30% below 2005 levels by 2025, and 80% below 2005 levels by 2050.

Executive Orders

- EO 11-12 (Providing for Job Creation through Energy Efficiency and Renewable Energy Programs for Minnesota's Public Buildings): directs state agencies to adopt cost-effective energy conservation and renewable energy to reduce energy consumption by up to 25%
- EO 11-13 (Strengthening State Agency Environmental, Energy and Transportation Sustainability): directs state agencies to prevent pollution through waste reduction and recycling and conserve energy and reduce GHG emissions from state buildings and vehicles.
- EO 16-07 (Directing Steps to Reverse Pollinator Decline and Restore Pollinator Health in Minnesota): directs state agencies to coordinate efforts to promote pollinator health.

International Agreements

- Under 2 MOU: Minnesota commits to 80% - 90% GHG reduction targets from 1990 levels by 2050, including a transportation goal to further adopt ZEVs. 167 jurisdictions in 3 counties on six continents have signed on.

DEPARTMENT OF
TRANSPORTATION