



**MnDOT Response:
2021 Sustainable Transportation Advisory
Council Recommendations**

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Letter from the STAC Co-Chairs

The STAC's charge is to: "Help Minnesota transition to a low-carbon transportation future in a way that is consistent with statutory goals for energy and emissions reductions and maximizes benefit to Minnesota, while recognizing the importance of continued work towards improving safety, reducing inequities, and supporting economic development." The charge is significant and urgent. We must transition to a clean energy economy and reduce transportation pollution, the state and nation's #1 source of greenhouse gas (GHG) emissions, to avoid the most catastrophic consequences of climate change. Climate change already impacts Minnesota. In 2022, the UN Intergovernmental Panel on Climate Change (IPCC) [report](#) reminded the world about how climate change impacts elsewhere can also impact our state.

If temperatures keep rising, many parts of the world could soon face limits in how much they can adapt to a changing environment. If nations don't act quickly to slash fossil fuel emissions and halt global warming, more and more people will suffer unavoidable loss or be forced to flee their homes, creating dislocation on a global scale. – [NY Times, February 28, 2022](#)

We are pleased to present the second annual report on STAC recommendations and MnDOT responses. The report marks the end of the inaugural term, and 2nd report, of the STAC 2021-2022 cohort. We are grateful to STAC members for their time, expertise, and engagement. Their recommendations contributed to many discussions internally and with external partners about the role of transportation in Minnesota.

The second report reflects efforts to refine and focus STAC recommendations to MnDOT on implementation of the recommendations in the year one report. 2021 STAC recommendations prompted new conversations within MnDOT and with agency partners across sectors, from governments and private business to nonprofits, healthcare, community organizations and more. MnDOT staff also continued conversations about the initial STAC recommendations, including stakeholder engagement around a Clean Fuels Policy, VMT reduction target, multi-state EV coalition (i.e., REV Midwest), and the 2021 EV Assessment.

Similar to year one, the 2021 STAC recommendations and MnDOT responses serve as a starting point to future conversations and actions. We look forward to continued engagement and collaboration between the STAC, MnDOT, and the communities we all serve in the years to come.

Tim Sexton
Assistant Commissioner, MnDOT
STAC Co-Chair (temporary)

Chris Clark
President, Xcel Energy, MN, ND, SD
STAC Co-Chair

Summary

In 2020, MnDOT created a new process to invite business, nonprofits, local governments, legislators and community groups to partner with the agency to help us make progress toward our goals.

The Sustainable Transportation Advisory Council (STAC) was designed as a unique type of long-form public engagement to provide new ideas for how the state could move toward a low carbon transportation future. STAC members are appointed by the Commissioner of Transportation and meet regularly throughout the year. The agency plans for the STAC to be an ongoing collaboration, with members generally serving two-year terms.

MnDOT facilitates the STAC process but does not actively participate in the development of recommendations, which come directly from STAC members. The agency coordinates internally and with external stakeholders and subject matter experts to develop responses to the STAC recommendations.

About this Document

This report presents MnDOT responses to STAC recommendations finalized in December 2021. For many of the recommendations, the agency expects this response will be the start of ongoing conversations.

Note: MnDOT provided very few constraints for STAC recommendations. Both STAC members and MnDOT recognize that some recommendations to MnDOT may not be within direct agency ability to control, which is described in the MnDOT responses. In drafting responses to STAC recommendations, MnDOT review teams considered equity in each of the recommended actions.

MnDOT Response to Fueling and Powering Transportation Recommendations

Recommendation #1: Lead by example by transitioning state fleet to zero-emission vehicles, including metrics that build on MnDOT's existing goals

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> Existing goal: transition 100% of MnDOT-owned sedans and SUVs to zero-emission vehicles by 2030 EV Suitability Assessment and Infrastructure Optimization analysis for MnDOT fleet EV charging investments Additional efficiency and alternative fuels activities 	<p>Explore Further: MnDOT will explore opportunities to transition all light duty vehicles in the agency fleet to ZEVs, considering existing barriers and challenges.</p>

Recommendation #2: Support medium- and heavy-duty EV market including education, incentives, charging infrastructure/travel corridors, partnerships

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> Education about electrification for fleet operators and state agencies Engaging the freight industry Statewide coordination 	<p>Support: MnDOT supports the recommendation and will continue existing initiatives to support the medium- and heavy-duty EV industry.</p>

Recommendation #3: Take a proactive leadership role in working with other states to establish a Midwest DC fast charging network that enables a seamless charging experience across the U.S.

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> Regional Electric Vehicle Midwest Coalition (REV Midwest) Memorandum of Understanding MnDOT EV Assessment 	<p>Support: MnDOT supports the recommendation to provide leadership on REV Midwest to advance Midwest DC Fast Charging.</p>

Additional Fueling and Powering Transportation workgroup recommendations:

- Leverage existing collaborative partnerships to accelerate electrification of transportation – **Support**
- Expand eligibility under the existing MN Railroad Service Improvement Program to include grants to railroads to decarbonize rail – **Support**
- Collaborate with other state agencies (MN Department of Commerce, MPCA) to design and implement an EV incentive program (either for all Minnesotans or only for income-qualified families) – **Support**

MnDOT Response to VMT & Transportation Options Recommendations

Recommendation #1: Implement the VMT reduction goal and incorporate it into the Purpose and Need section of every major transportation project

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> Statewide Multimodal Transportation Plan (SMTP) MnDOT will continue to develop a multimodal accessibility tool and an induced demand calculator to support future consideration of VMT in plans and projects. MnDOT will pursue research to improve understanding of costs/benefits of VMT reduction strategies specific to Minnesota, the current landscape of VMT reduction strategies in Minnesota, and stakeholder communication. 	<p>Implementing VMT—Explore Further: MnDOT will work with partners to identify and advance statewide strategies for reducing VMT 20% per capita (7% statewide) by 2050. MnDOT will continue to develop tools and pursue research to support future consideration of VMT in plans and projects.</p> <p>VMT in Purpose and Need—Explore Alternatives: MnDOT will work with the Federal Highway Administration (FHWA) to explore the potential to incorporate a VMT target or supporting strategies into the NEPA process, including discussions about ability to include and any funding risks/constraints.</p> <p>MnDOT will update the STAC on these efforts to and collect feedback on implementation throughout the 2022-23 membership term.</p>

Recommendation #2: Partner with Metropolitan Council and other Metropolitan Planning Organizations (MPOs) to adopt a similar VMT reduction goal and ensure that state and federal dollars coming into Minnesota are invested consistent with the VMT reduction goal

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> Initial outreach focused on MnDOT’s approach to VMT reduction with local partners in Summer 2021 through the Statewide Multimodal Transportation Plan (SMTP) planning process. 	<p>Explore Further: Following adoption of a VMT target through the SMTP, MnDOT will coordinate with MPOs and other local partners on implementing VMT strategies starting in Fall 2022. MnDOT will explore further how projects directed by the legislature (e.g., Corridors of Commerce) and projects that advance other agency priorities (e.g., safety) relate to VMT.</p>

Recommendation #3: Build public and local support for providing transportation choice for travelers and reducing VMT through MnDOT’s educational programs, traditional media, social media, local units of government and extensive direct outreach to, and partnering with, multiple stakeholders

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> • Walk! Bike! Fun! Curriculum • Greater MN Shared Mobility webinars • Pedestrian Safety campaigns • Complete Streets case studies 	<p>Support: MnDOT will expand the scope and scale of education and communication strategies to help build public and local support for providing transportation choice for travelers and reducing VMT. This will include:</p> <ul style="list-style-type: none"> • Creative approaches for public engagement • Communications research • Education and communication outreach plan • Develop and disseminate materials

MnDOT response to joint workgroup recommendation

Recommendation: Develop a toolkit/guide for sustainable transportation projects

MnDOT Related Activities	MnDOT Proposed Action
<ul style="list-style-type: none"> • Transportation Project Development Process website (resource for project managers and planners) • Internal MnDOT VMT workgroup and guidance • Complete Streets policy update • MN Electric Vehicle Assessment • Infrastructure Investment & Jobs Act (IIJA) guidance (upcoming) 	<p>Support: MnDOT will compile resources for staff and partners to help them consider vehicle electrification and VMT reduction strategies in transportation projects.</p>

Background

Transportation is the #1 source of climate pollution in Minnesota and the US. Past work to reduce climate pollution has been directed by the legislature and through internal leadership in plans, goals, and performance measures. Despite past efforts, limited progress had been made to reduce carbon pollution from transportation to meet our state's climate change goals. In 2020, the Minnesota Department of Transportation (MnDOT) created a new ongoing process to invite business, nonprofits, local governments, and community groups to partner with agency to help us make progress towards our goals. State legislators and other state agency representatives were invited to join in ex-officio status.

The Sustainable Transportation Advisory Council (STAC) was designed as long-form public engagement with stakeholders to provide new ideas for how the state could move towards a low-carbon transportation future. The STAC is facilitated by MnDOT staff but led by STAC members appointed by the Commissioner of Transportation. STAC meetings are open to the public and held every two months throughout the year. Smaller workgroup meetings with official STAC members and invited non-STAC members are held approximately every two weeks. The workgroups develop recommendations for the full STAC, who vote on final recommendations that are sent to MnDOT each December. 2021 was the second and final year for the first cohort of STAC members.

This report is the MnDOT response to STAC recommendations. MnDOT coordinated with internal and external stakeholders and subject matter experts to respond to the STAC recommendations. Note: very few constraints were suggested by MnDOT for STAC members related to transportation climate actions. Both STAC members and MnDOT recognize that some of the recommendations to MnDOT may fall outside of direct agency ability to control, which is described in the MnDOT responses.

Legislative Direction

Next Generation Energy Act

In 2007, the state passed the bipartisan Next Generation Energy Act (NGEA), which established goals for the state to reduce greenhouse gas emissions 15% 30% by 2025 and 80% by 2050, compared to 2005 levels. The state did not meet the 2015 goal and is not on track to meet our future goals. Transportation became the largest emitter of GHGs in the state in 2016.

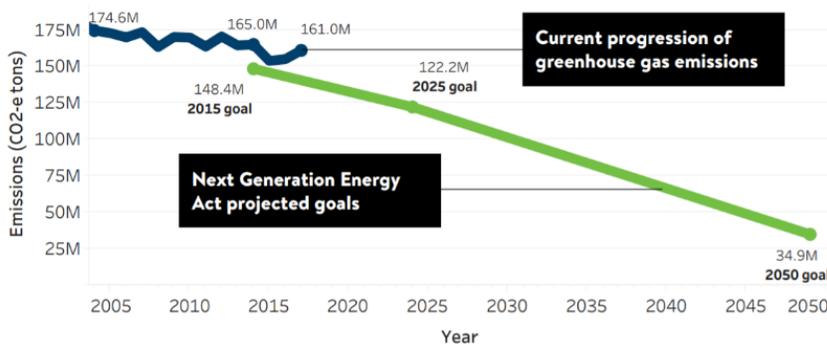


Figure 1. Minnesota's GHG emissions 1990-2018 (blue) and Next Generation Energy Act goals (green). (Minnesota Pollution Control Agency Greenhouse Gas Inventory, 2005-2018)

Minnesota Statute 174.01

MnDOT has 16 primary goals defined in statute (174.01) that guide agency work to create an integrated transportation system in Minnesota. A number of these goals directly relate to the goals of the STAC.

- (10) to ensure that the planning and implementation of all modes of transportation are consistent with the environmental and energy goals of the state;
- (11) to promote and increase the use of high-occupancy vehicles and low-emission vehicles;
- (13) to increase use of transit as a percentage of all trips statewide by giving highest priority to the transportation modes with the greatest people-moving capacity and lowest long-term economic and environmental cost;
- (14) to promote and increase bicycling and walking as a percentage of all trips as energy-efficient, nonpolluting, and healthy forms of transportation;
- (15) to reduce greenhouse gas emissions from the state's transportation sector; and
- (16) to accomplish these goals with minimal impact on the environment.

Pathways to Decarbonizing Transportation

In 2019, MnDOT initiated the interagency *Pathways to Decarbonizing Transportation* project to identify options to move toward a low-carbon transportation future and put the state on track to meet our climate goals in the NGEA. The project built on goals MnDOT adopted in 2017 to apply the NGEA goal to the transportation sector in Minnesota. The purpose of Pathways was to explore opportunities for GHG emissions reductions from surface transportation: passenger cars and trucks, medium-duty and heavy-duty trucks, buses, motorcycles and mobile air conditioning. The project had three connected parts:

1. Coordinate with state and national experts to develop a model with inputs and assumptions based on their expertise
2. Model future scenarios of GHG emissions
3. Engage with Minnesotans around the state to hear their thoughts on opportunities and challenges for reducing GHG emissions from transportation in their communities

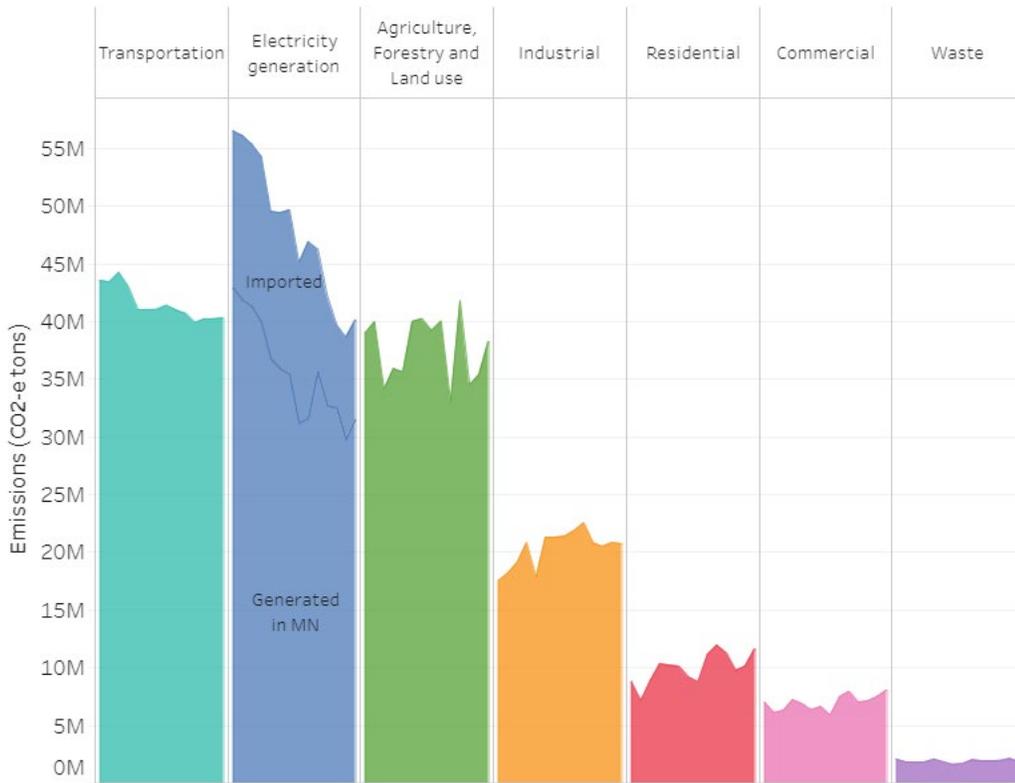


Figure 2. Minnesota Pollution Control Agency greenhouse gas inventory by sector, 2005-2018

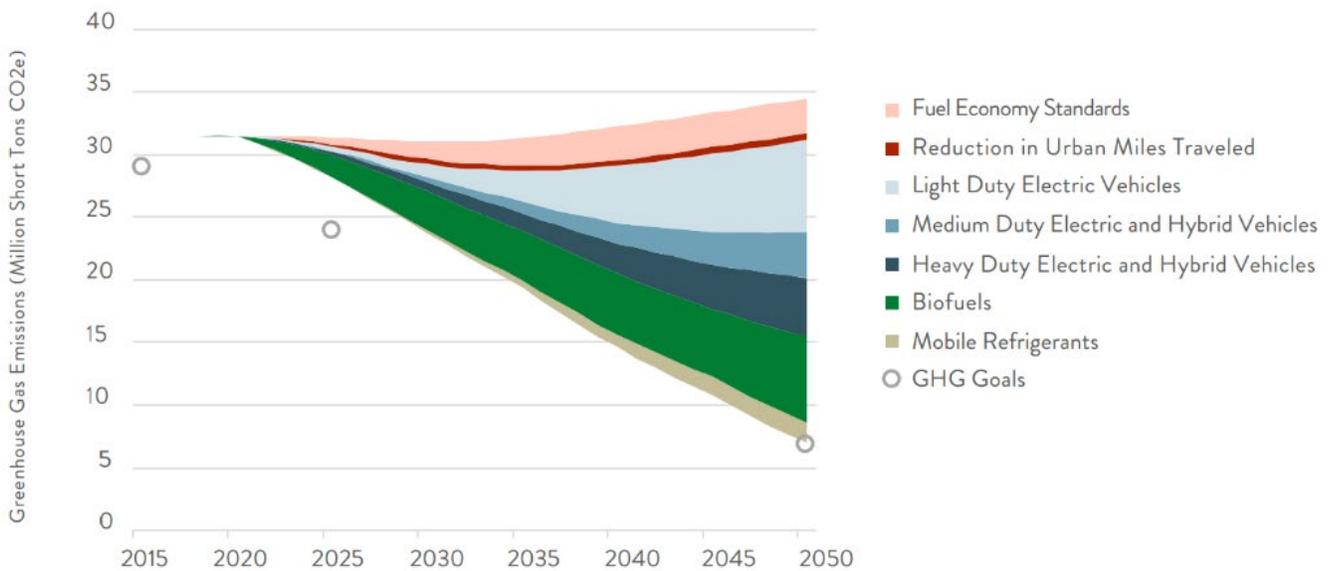


Figure 3. Emissions reduction by measure, 80x50 scenario, from Pathways 2019 report

Public Input

The project team held meetings across the state, offered an online survey and a webinar to get additional public input and received more than 400 comments. The following general themes emerged:

- 1) There is a climate crisis and swift action across all sectors is needed.
- 2) More transportation options are needed: from EVs, to safe and accessible walking and biking infrastructure, to high-quality transit and electric buses.
- 3) Environmental justice and equity should be at the center of climate action.
- 4) Both local and statewide solutions are needed. The differences between urban and rural areas should be factored into solutions.
- 5) Transportation solutions must be integrated with other systems, including energy generation, land use decisions, and other state and local policy.
- 6) Climate policies can and should also lead to healthier, more equitable, resilient, and economically robust communities.

Recommendations and Next Steps

MnDOT used feedback from technical experts and the public to develop actions and recommendations for the Pathways report. One action identified was to create the Sustainable Transportation Advisory Council (STAC) to advise the state on reducing transportation GHG emissions, while promoting safety, equity, economic development, and multimodal transportation options.

Sustainable Transportation Advisory Council: MnDOT will create a new council to advise the state on reducing transportation GHG emissions, while promoting safety, equity, environmental justice, economic development, and multimodal transportation options. STAC will include leaders from state agencies, local government, frontline communities, and the public, private, and nonprofit sectors.

– Pathways, 2019

STAC Overview

Goals

Purpose of the STAC

The STAC advises MnDOT and provides the agency with recommendations for reducing carbon pollution from transportation, consistent with the MnDOT statutory goals outlined in 174.01.

Goal of the STAC

The STAC will help Minnesota transition to a low-carbon transportation system consistent with statutory goals for energy and emissions reductions to maximize benefits to Minnesota, while recognizing the importance of continued work towards improving safety, reducing inequities, and supporting economic development.

Scope of the STAC

The full breadth of transportation activities in Minnesota may be reviewed, including those where MnDOT has direct responsibility and indirect influence. This includes, but is not limited to, system planning, project design, construction, operations, infrastructure maintenance, and engagement, education, and outreach.

Membership

Organization of the STAC

The STAC includes approximately 18 members appointed by the MnDOT Commissioner and additional ex-officio members from partner agencies and the legislature.

The council will submit a report to MnDOT in December each year. The report describes the actions taken by the STAC during the previous year and specific recommendations for MnDOT. MnDOT will have 90 days to respond to each recommendation in the report.

Co-Chairs

The STAC is co-chaired by the MnDOT Commissioner¹ and Christopher Clark, President of Xcel Energy MN, SD, ND.

Members

STAC members are appointed by the MnDOT Commissioner to provide recommendations to the agency that support the STAC goals, including through development of an annual report. Members vote and approve formal recommendations of the STAC to MnDOT.

¹ 174.02 Commissioner's Powers and Duties. Subd. 1a. (3) minimize the degradation of air, water quality, and the climate, including reduction in greenhouse gas emissions.

2020-21 STAC Members:

Margaret Anderson Kelliher, Co-Chair – Former Commissioner, Department of Transportation

Chris Clark, Co-Chair – President, Xcel Energy Inc.

Katie Bell – Private Sector EV & Infrastructure Manufacturing Expert

Katie Frye – Minnesota Power

Dorian Grilley – Bicycle Alliance of Minnesota

Greg Ilkka – Steele County

Katie Jones – The Center for Energy and Environment

Ashwat Narayanan – Our Streets Minneapolis

Michael Noble – Fresh Energy

Rolf Nordstrom – Great Plains Institute

Daniel Schellhammer – Midstate Reclamation, Inc.

Patrick Seeb – Destination Medical Center

Russ Stark – City of St. Paul

Emma Struss – City of Bloomington

Vishnu Laalitha Surapaneni – University of Minnesota Medical Center

Lisa Thurstin – American Lung Association – Twin Cities Clean Coalition

Peter Wagenius – Sierra Club North Star Chapter

Tara Wetzel – Mathy Construction Company

LaShella Sims – Minnesota Pollution Control Agency Environmental Justice Advisory Group

Ex officio members

Ex officio members are appointed by the MnDOT Commissioner to provide expertise and may help present recommendations to the STAC. Ex officio members will participate in all STAC activities but do not vote on formal recommendations.

Current ex officio members:

Sen. Scott Dibble – Minnesota State Senate

Rep. Frank Hornstein – Minnesota House of Representatives

Sen. Scott Newman – Minnesota State Senate

Nick Thompson – Metro Transit

Public comment period

Public input and participation are encouraged. Each meeting shall include a period for public comment so that non-members can provide input on topic(s) discussed during that meeting. Meeting information and materials are available on the MnDOT Sustainability and Public Health website.

Process and Timing

The STAC held its first meeting in February 2020. In Summer 2020, STAC members formed three workgroups focused on:

- 1) Fueling and Powering Transportation
- 2) Reducing Vehicle miles traveled (VMT) and promoting transportation options
- 3) Climate resilience and adaptation



Figure 4. A multi-pronged approach to transportation sector GHG emissions reduction

STAC Process and Timing

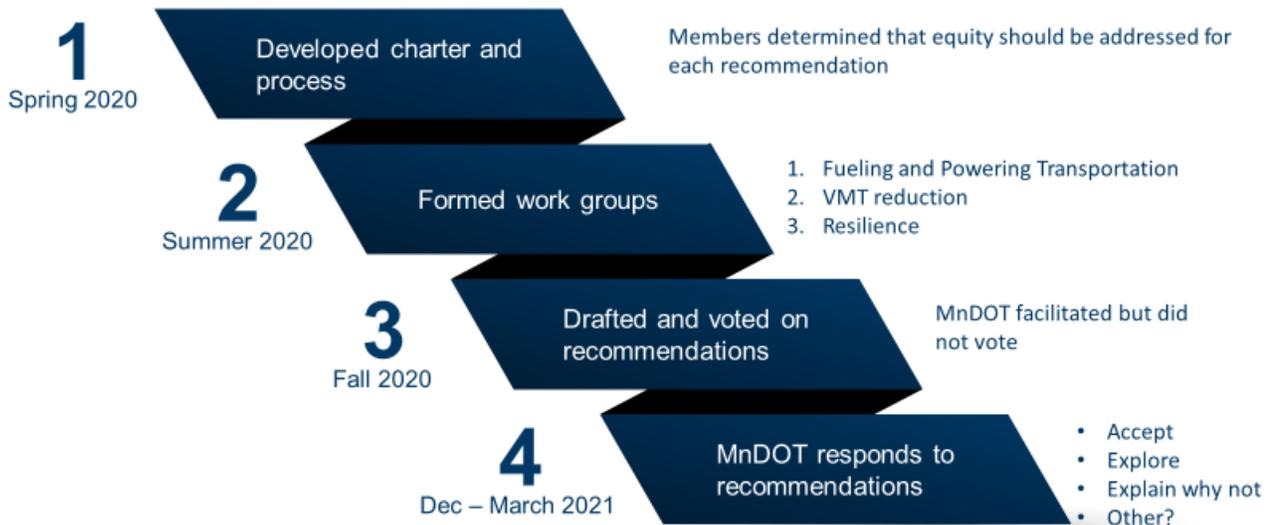


Figure 5. Diagram showing the STAC process and timing

Workgroups regularly met outside of the full STAC meetings to develop recommendations for MnDOT. The first set of recommendations was submitted to MnDOT in December 2020 and MnDOT staff responded in March 2021. In December 2021, STAC members submitted new recommendations to MnDOT. MnDOT staff coordinated responses to the 2021 recommendations in mid-March 2022.

STAC Workgroups

Two STAC workgroups submitted recommendations in December 2021:

- 1) Fueling and Powering Transportation
- 2) VMT Reduction and Transportation Options

The Fueling and Powering Transportation workgroup divided their recommendations into two tiers: high-priority and second-tier recommendations. The VMT Reduction and Transportation Options workgroup submitted only high-priority recommendations. The workgroups collaborated on one joint recommendation. The Transportation System Resilience workgroup submitted recommendations to MnDOT and received responses on a separate timeline in 2021.

Workgroup Recommendations – Fueling and Powering Transportation

High-priority recommendations

1. Lead by example by transitioning state fleet to zero-emission vehicles, including metrics that build on MnDOT's existing goals
2. Support medium- and heavy-duty EV market including education, incentives, charging infrastructure/travel corridors, partnerships
3. Take a proactive leadership role in working with other states to establish a Midwest DC fast charging network that enables a seamless charging experience across the U.S.

Second-tier recommendations

- Leverage existing collaborative partnerships to accelerate electrification of transportation
- Expand eligibility under the existing MN Railroad Service Improvement Program to include grants to railroads to decarbonize rail
- Collaborate with other state agencies (MN Department of Commerce, MPCA) to design and implement an EV incentive program (either for all Minnesotans or only for income-qualified families)

Workgroup Recommendations – VMT Reduction and Transportation Options

High-priority recommendations

1. Implement the VMT reduction goal and incorporate it into the Purpose and Need section of every major transportation project
2. Partner with Metropolitan Council and other MPOs to adopt a similar VMT reduction goal and ensure that state and federal dollars coming into Minnesota are invested consistent with the VMT reduction goal

3. Build public and local support for providing transportation choice for travelers and reducing VMT through MnDOT's educational programs, traditional media, social media, local units of government and extensive direct outreach to, and partnering with, multiple stakeholders

Joint VMT Reduction and Fueling and Powering Transportation Workgroup Recommendation

Develop a toolkit/guide for sustainable transportation projects

FUELING AND POWERING TRANSPORTATION WORKGROUP

Recommendations and Response

Workgroup Purpose

The Fueling and Powering Transportation Workgroup was created to develop greenhouse gas (GHG) emissions reduction recommendations related to electric vehicle (EV) charging infrastructure, incentives, biofuels and clean fuels policies, and vehicle fuels and efficiency, including emerging fuels like hydrogen, for the Minnesota Department of Transportation (MnDOT).

Membership

- Rolf Nordstrom, Great Plains Institute (GPI), Co-chair
- Katie Frye, Minnesota Power, Co-chair
- Anjali Bains, Fresh Energy
- Chris Clark, Xcel Energy
- Holly Hinman, Xcel Energy
- Katie Bell, Cummins
- Lisa Thurstin, American Lung Association
- Michael Noble, Fresh Energy
- Ex-officio: Rep. Frank Hornstein, Minnesota House of Representatives

RECOMMENDATION #1

Lead by example by transitioning state fleet to zero-emission vehicles, including metrics that build on MnDOT's existing goals

Workgroup Recommendation

Why is this important?

Transportation remains the number one source of greenhouse gas emissions in the state. Electrifying our passenger vehicles and other vehicles are a key part of our state's decarbonization strategy. EVs also have other benefits, from reducing air pollution that harms human health in high concentrations to cost savings related to cheaper fuel costs and fewer maintenance costs.

While the transition to EVs is underway, we are still at the inflection point, where EVs have gained much media attention and consumer interest in some parts of the state and population while remaining an unknown quantity to other parts. The state of Minnesota has a key responsibility to "show the way" on EVs by demonstrating how its own fleet can be electrified. Fleet operators in general will be among the first to commit to electrifying their vehicles, given their general sophistication on automobile technology and more rational decision-making that values the lower fuel and maintenance costs of EVs. Fleets are also among the most efficient way to electrify our transportation, given the ratio of decision-maker to vehicles – i.e., instead of convincing one consumer to buy one EV, effort can be focused on encouraging and supporting a few decision-makers into converting many vehicles to electric. Minnesota taking leadership in electrifying its own fleet could have a domino effect on other local fleet operators and on consumers in general purchasing more EVs. Even more importantly, by committing to an all-electric state fleet, Minnesota will "walk the talk" on the importance of electric transportation for meeting our state's climate goals.

Moreover, as Clean Cars Minnesota is implemented and more automakers send their EVs to the state, the state can serve as an EV customer for auto-dealerships around the state, thereby supporting state economic development and ensuring that dealerships have a known buyer for some portion of the EVs they will receive.

Finally, in light of [United Nations Framework Convention on Climate Change Conference of the Parties] (COP) 26 and the federal government's goal of electrifying its fleet, it's important for Minnesota to step up and show it's a leader in the Midwest on issues of EVs. Committing to electrify the state fleet will not only be in line with what's required globally to combat climate change, but also support the state's large goal of electrifying 20% of all light-duty passenger vehicles on the road by 2030.²

² <https://www.dot.state.mn.us/sustainability/docs/mn-ev-vision.pdf>

How can this move forward?

There are a total of 4,633 vehicles and equipment pieces in the MnDOT fleet as of 2020. Out of these 4,633 vehicles there are 1,314 light-duty vehicles; there are 67 regular gasoline vehicles, two diesel, 20 hybrid vehicles, 36 gasoline extended-range vehicles and 1,189 flex fuel vehicles.

With the baseline of this data compiled by AFLEET analysis we recommend the MnDOT fleet commit to switch 100% of light-duty vehicles and at least 25% of medium- and heavy-duty vehicles to EVs by 2030, and more quickly if technology readiness allows. In the meantime, state vehicles should use E85 in internal combustion engine (ICE) vehicles a minimum of 50% of the time (as opposed to the 6-11% of the time currently, depending on vehicle type). This would reduce emissions as the fleet transitions to EVs, and as the technology scales up and becomes more available.

How can MnDOT advance equity and environmental justice by implementing this recommendation?

It is important to acknowledge that the most direct beneficiary of this recommendation would be the state and the employees who use its fleet, who will benefit from a cleaner driving experience and lower operating costs. Auto dealers in the state may also benefit, as could EV charging providers that could install the charging infrastructure to support the state's electric fleet. We encourage MnDOT to privilege Minnesota-based EV charging companies in making its vendor selection.

Indirectly, those who live in communities most harmed by transportation pollution may benefit from improved air quality if some of the state's fleet has concentrated use in those communities and if those vehicles are electrified first. We recommend MnDOT optimize the potential air quality benefits of electrifying its fleet by prioritizing the replacement of gas-powered vehicles with EVs in communities most burdened by transportation and air pollution, which also tend to have higher proportions of Black, Indigenous, and People of Color (BIPOC) residents as well as under-resourced households. MnDOT could do so by analyzing the typical routes of its fleet and overlaying air pollution maps and the Minnesota Pollution Control Agency's (MPCA) "areas of environmental justice concern" map. Additionally, MnDOT could prioritize deployment of EVs in the communities most harmed by highway building in Minnesota, in particular the building of I-94 through Saint Paul and Minneapolis.

In addition to the above, MnDOT could consider geographic equity in its transition to EVs and ensure that its vehicles outside of the Metro are electrified at a similar rate as those within the Metro area.

MnDOT Review and Response

Target to transition MnDOT-owned sedans and SUVs to zero emission vehicles by 2030

MnDOT has a goal to transition all sedans and small SUVs in the agency fleet to zero emission vehicles by 2030. The agency tracks progress toward the target in the annual MnDOT Sustainability and Public Health Report. In 2020, 15% of MnDOT sedans and small SUVs were zero emission vehicles, including battery electric vehicles and plug-in hybrid electric vehicles (PHEVs). As MnDOT transitions the fleet to zero emission sedans and SUVs, the agency will gather valuable data about where EV charging and where challenges exist. The effort will provide opportunities to learn lessons about EV infrastructure needs, particularly in Greater Minnesota.

Integrating and optimizing EVs into the MnDOT fleet in 2022 and 2023

MnDOT is partnering with Xcel Energy and Sawatch Labs to conduct an EV Suitability Assessment and Infrastructure Optimization analysis for a sub-set of the agency's fleet. The suitability assessment will study 100 light- and medium- duty vehicles in the agency fleet and generate recommendations about cost-effective opportunities to replace internal combustion engine vehicles with EVs. The study will also identify additional EV charging needs for current and planned EVs in the MnDOT fleet.

The study area for the EV Suitability Assessment aligns with the STAC's recommendation to replace gas-powered vehicles with EVs in communities most burdened by transportation and air pollution and communities most harmed by highway building in Minnesota.

MnDOT will also pilot electric pick-up trucks beginning in 2022 or 2023, pending supply chain delays. The agency recently ordered two Ford Lightning pick-up trucks for the MnDOT District 6 fleet in southeastern Minnesota.

EV Infrastructure Investments

In 2020, MnDOT installed 30 EV chargers at agency facilities around the state. In 2022, the agency will install another 43 chargers at agency facilities that were purchased from by ZEF Energy, a Minnesota EV charging company.

Additional efficiency and alternative fuels activities

MnDOT is also committed to reducing carbon emissions from agency fleet operations through right-sizing and biofuels. MnDOT continuously reviews vehicle use and takes steps to right-size the fleet by phasing out under-utilized vehicles. The agency recently completed two biofuel pilots. The MnDOT District 8 fleet used about 4,860 gallons of B29 and 7,012 gallons of B50 in medium- and heavy-duty vehicles during summer months when the fleet would typically use B20.³ MnDOT District 8 will pilot B100 in 5 plow trucks beginning in 2022. The agency will continue to apply lessons from biofuel pilots and develop guidance to scale up biofuel use in the agency fleet.

³ B20 is 80% petroleum diesel, B29 is 71% petroleum diesel, and B50 is 50% petroleum diesel

Opportunities and Considerations

MnDOT vehicles are replaced on a schedule that optimizes maintenance and operations costs. The agency recommends replacing light-duty vehicles every 5-8 years. Financial constraints can make it hard to consistently follow the targeted replacement schedule, and about 20% of vehicles in the fleet are overdue for replacement.

Vehicle availability also impacts the fleet transition to light-duty vehicles. There are several electric sedans and SUVs available on state contract, but supply is limited and very few trucks and SUV options are available to meet MnDOT business needs. More funding, more lower cost EV models, and more depot and public fast-chargers are needed before it will be feasible to transition 100% of MnDOT light-duty vehicles and 25% of medium duty vehicles to EVs by 2030. If additional funds became available, those could be used to accelerate the transition.

The agency will explore opportunities to successfully transition to EV technology without negatively impacting business operations. Training is needed to equip MnDOT shop staff with skills and knowledge to repair, service, and maintain EVs in the fleet. A viable network of EV charging infrastructure is necessary to ensure reliable EV travel throughout the state, particularly in Greater Minnesota. Fast chargers will be essential to support around-the-clock maintenance and operations. In some cases, like snow plowing, EV technology may not be the right fit due to the time-sensitive nature of vehicle operations, and MnDOT will explore other low-carbon fueling options.

Proposed Action—Explore Further

MnDOT will explore opportunities to transition all light duty vehicles in the agency fleet to ZEVs, considering existing barriers and challenges. MnDOT will continue to publish annual updates on progress toward the ZEV sedan and SUV target and share the updates with the STAC. The agency will annually reassess opportunities to transition the fleet to more ZEVs as more vehicles become available, costs decline, and the state EV charging network expands.

RECOMMENDATION #2

Support medium- and heavy-duty EV market including education, incentives, charging infrastructure/travel corridors, partnerships

Workgroup Recommendation

Why is this important?

Medium- and heavy-duty (MHD) vehicles make up 5% of vehicles on the road, but 24% of U.S. transportation emissions. Supporting transformation in this market is imperative to deliver reduced emissions of greenhouse gases (GHG) that accelerate climate change.

A state leadership role for MnDOT reflects that MHD transportation electrification requires significant coordination – including eventual planning, logistics, data collection, and infrastructure development, as all are important components to increased electrification in this sector. This state leadership role could also support fleet operators' need for a coordinated approach to charging as they travel across freight corridors, for example.

How can this move forward?

MnDOT should support education about fleet electrification initiatives and opportunities aimed both at fleets operators and state agencies. Education initiatives could include developing a clearinghouse for electrification information for this sector based on stakeholder expertise and resources. MnDOT could also work with other relevant agencies who can assist in fleet electrification to create, identify, and promote tools to assist fleet operators to build the business case for transportation electrification investments.

In addition, MnDOT should work with other state agencies to establish incentives that cover the difference in upfront cost between conventional and electric MHD EVs, including clarity about how to navigate relevant state agencies. MnDOT should benchmark against other city and state programs (e.g. New York, Chicago).⁴

MnDOT should engage the freight industry in a dialogue to understand their interests and concerns, with the goal of accelerating the deployment of MHD EVs.

MnDOT should lead coordination of statewide and multi-state charging corridor development and develop directives for state agencies in support of state goals. This could involve convening partners/stakeholders, evaluating electrification needs, and developing a roadmap for the state to meet long term needs.

⁴ <http://www.drivecleanchicago.com/CleanTruck/Default.aspx>

How does this advance equity and environmental justice?

According to the EPA, the transportation sector is the largest contributor to GHG emissions in the United States, and MHD vehicles are responsible for 24% of those transportation emissions. The workgroup's vision includes prioritizing equity considerations when advancing electrification of the MHD sector. To advance this vision, MnDOT support for electrifying this sector should include focus on reducing emissions in communities disproportionately burdened by air pollution, where criteria pollutants pose increased health risks. In doing so, it could address environmental justice concerns that impact communities located near bus routes, freight corridors and distribution centers, for example. This effort has a clear environmental justice benefit when charging infrastructure is available along routes near disproportionately impacted communities where reducing diesel emissions has a greater public health benefit than elsewhere. The [MPCA's Environmental Justice map](#) could provide guidance to MnDOT.

MnDOT Review and Response

Related Activities

Education about electrification for fleet operators and state agencies

MnDOT is a member of Drive Electric Minnesota, a coalition facilitated by the Great Plains Institute that brings together electric vehicle industry stakeholders to accelerate the adoption of electric vehicles in Minnesota. Drive Electric Minnesota maintains an electric vehicle resource database that serves as a clearinghouse for educational information. The database currently offers 26 resources for fleet operators and state agencies.

Engaging the freight industry

MnDOT is committed to engaging the freight industry in discussions about electric transportation and exploring whether other zero or low-emission fuels are viable alternatives to achieving the carbon reduction goals. In 2021, the agency convened a special meeting of the Minnesota Freight Advisory Committee to discuss sustainable transportation strategies for the freight industry in Minnesota. MnDOT will build from what participants shared about opportunities and challenges to advance electrification of medium- and heavy-duty vehicles in the state. The agency partnered with the University of Minnesota to conduct foundational research on potential corridors for medium- and heavy-duty electric vehicle infrastructure. The research will be complete by the Fall/Winter 2022 and the results can be applied to statewide electric vehicle planning.

Opportunities and Considerations

The National Electric Vehicle Infrastructure (NEVI) Formula Program was authorized under the Bipartisan Infrastructure Law (BIL), which was signed on November 15, 2021. The \$5 billion NEVI Formula Program will provide dedicated funding to States to strategically deploy EV charging infrastructure and establish an interconnected network to facilitate data collection, access, and reliability. Initially, funding under this program is directed toward installing DC fast chargers every 50 miles along federally designated Alternative Fuel Corridors.

MnDOT is required to submit a plan to the US Department of Transportation and FHWA no later than August 1, 2022 for the state to be eligible for federal NEVI Formula Program funds. MnDOT will engage stakeholders during the planning process to identify corridors for investment. Given the limited timeframe, the required plan will focus on light-duty electric vehicle charging infrastructure. The agency will address medium- and heavy-duty electric vehicle charging infrastructure in the next update to the plan.

The plan will also be used to support pursuit of federal discretionary EV charging funds of approximately \$2.5B that will be awarded through a competitive process and could be used to fund medium- and heavy-duty electric vehicle charging infrastructure. Guidance for the discretionary funding program is expected later in 2022.

Proposed Action—Support

MnDOT supports the recommendation and will continue existing initiatives to support the medium- and heavy-duty EV industry. The agency will continue to engage stakeholders to identify corridors for electric vehicle charging stations investments through the Statewide Electric Vehicle Infrastructure Deployment Plan and subsequent planning efforts. MnDOT will also provide a link to the Electric Vehicle Resource Database on the Sustainability and Public Health website and provide Drive Electric Minnesota with additional resources for fleet owners and state agencies as they become available.

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Proactive leadership on a Midwest DC fast charging network

Workgroup Recommendation

Why is this important?

Range anxiety is among the top reasons that consumers cite when asked about whether they would consider purchasing an EV. Even though 80% of light-duty vehicle charging is done at home (for those with access to charging infrastructure), the existence of a ubiquitous, convenient fast-charging network in MN and across the country that offers a consistent consumer experience will be essential to the commercialization of EVs at scale.

Given the billions of dollars that automakers are investing in electrifying their vehicle offerings, with dozens of new models of all vehicle types expected between now and 2025, it is urgent that MnDOT collaborate with other states, the federal government, and private parties to accelerate the development of a robust Direct Current Fast Charging (DCFC) network across the Midwest that ultimately links with other regions of the country.

The lack of a robust charging network is also a barrier for MHD vehicles, both today and as more such vehicles hit the roads. As with light-duty EVs, MHD EVs have range and refueling time challenges. All EVs experience a drop in range during winter conditions.

How can this move forward?

Minnesota has already joined five other Midwestern states as a signatory to the REV Midwest MOU (Regional Electric Vehicle Midwest Coalition), committing the state to collaborate with Illinois, Indiana, Michigan, and Wisconsin to establish a DC fast-charging network, so there is now a formal mechanism in place to implement this recommendation. Thus, the STAC recommendation to MnDOT is to not only participate in executing the REV Midwest MOU, but also take a leadership role in ensuring that it is implemented in a timely manner. This will mean engaging in an ongoing way with all the relevant stakeholders—other state and federal agencies, utilities, electric vehicle supply equipment (EVSE) providers, consumer groups, environmental justice groups and others—to create the optimal charging network and user experience.

MnDOT should report back regularly to the STAC and Minnesota Clean Cities Coalition on implementation of this recommendation. MnDOT should seek to future-proof investments in the charging network to anticipate scale, changes in technology, and the need for standardization. MnDOT should complete designations of all highways as alternative fuels corridors to be EV-ready.

How does this advance equity and environmental justice?

VISION: All Minnesotans should have reasonable access to multiple sites of EV charging infrastructure regardless of zip code. MnDOT should work with other states to realize this same vision across the region.

- The first equity implication of this recommendation is simply the affordability of EVs in the first place since the charging infrastructure is only useful if households have the means to acquire an EV.
- MnDOT should consider disparities in car ownership in general and EVs in particular. This likely means additional policies that electrify transit (used by those who don't own cars), as well as policies that lead to the emergence of a robust secondary market for affordable EVs. This also means assuring that charging stations are installed at or near multi-unit dwellings so that EV benefits can be available to people who don't own a single-family home with a garage.
- This recommendation—if implemented poorly—could also negatively impact those living in multi-family dwellings that lack the electrical infrastructure to support EV charging, and EV car-sharing particularly in communities that have often received less public investment.
- Because of the contribution of MHD diesel vehicles to air pollution, which often affects frontline communities given their proximity to major roads, there should be special emphasis on advancing electrification in those market segments, including public transit buses, school buses, delivery trucks, and yard trucks.

MnDOT should proactively engage Black, Indigenous, and People of Color and other underrepresented communities in shaping its strategies for charging infrastructure deployment, including prioritizing vendor contracts with women- and minority-owned businesses.

Under the REV Midwest MOU, the five states promise to "work together to enable an equitable transition to EVs for all with specific consideration for communities that are historically disadvantaged." With the right policies and infrastructure investments, EVs of all kinds can reduce criteria air pollutants, reduce GHG emissions, create job opportunities, increase mobility, and enhance the quality of life for frontline and environmental justice communities.

Some of those communities are located near main highways or freight and shipping facilities—areas whose emissions and other negative impacts could be reduced by the switch to electric power.

MnDOT Review and Response

Related Activities

REV Midwest

On September 30, 2022, the Governors of IL, IN, MI, MN, and WI signed a [Memorandum of Understanding](#) (MOU) that created the Regional Electric Vehicle Midwest Coalition (REV Midwest). Creation of REV Midwest was co-led by MnDOT and the MI Department of Labor and Economic Opportunity (LEO). The states agreed to work together to accelerate vehicle electrification in the Upper Midwest, with a focus on medium- and heavy-duty vehicles, with the goals of creating jobs, expanding economic opportunities, and promoting equity and environmental justice.

To date, a Task Force of state agency representatives has been developed that includes state agency leaders from departments of transportation, environment, climate and energy, and economic development. The group plans to finalize a charter and work plan in Spring 2022.

In January 2022, REV Midwest states coordinated on formal comments to the US Department of Transportation on their National Electric Vehicle Infrastructure (NEVI) program that focuses on state formula funding to develop DCFC charging corridors across the US.

MnDOT EV Assessment

In January 2022, MnDOT also finalized the [2021 EV Assessment](#) that identified strategies the state could employ to advance EVs in Minnesota. The assessment focused on strategies to ensure equity and environmental justice are included in any state strategies to advance EVs and EV charging. The assessment will be used to inform actions taken by REV Midwest, along with similar efforts undertaken in other REV Midwest states.

Opportunities and Considerations

REV Midwest and similar groups in other regions were identified as eligible recipients of discretionary and competitive federal EV charging funds that were authorized in the Bipartisan Infrastructure Law (BIL) alongside formula NEVI funds. Guidance for the discretionary funding program is expected later in 2022. REV Midwest states are expected to work together to apply for funding to support DCFC charging corridors throughout the Midwest with a focus on economic development, equity, and environmental justice.

Proposed Action—Support

MnDOT supports the recommendation to participate and provide leadership on REV Midwest to support timely and productive efforts to advance Midwest DC Fast Charging. MnDOT also supports the recommendation to provide updates to the STAC and the Minnesota Clean Cities Coalition, along with other groups in Minnesota working to advance EVs and EV charging.

Second-Tier Recommendations

Workgroup Recommendation

- » Leverage existing collaborative partnerships to accelerate electrification of transportation

MnDOT Review and Response

Related Activities and Opportunities and Considerations

See response to Recommendations 2 and 3.

Proposed Action—Support

MnDOT will leverage existing collaborative partnerships to accelerate electrification of transportation.

Workgroup Recommendation

- » Expand eligibility under the existing MN Railroad Service Improvement Program to include grants to railroads to decarbonize rail

MnDOT Review and Response

Related Activities

Minnesota Rail Service Improvement (MRSI) provides state funding assistance for the purpose of improving freight rail service in the state. The MRSI Program provides grants and loans for freight rail service improvement projects that support economic development in accordance with Minnesota Statutes §222.50, Subdivision 6.

Railroads, rail users and political subdivisions of Minnesota and the federal government can apply for MRSI grants and loans to complete a major rail service improvement that supports economic development. Grant funds can only be used for direct railroad-related “fixed assets” on railroad right-of way or at railroad facilities. Examples of eligible projects include railroad tracks and turnouts, railroad bridge construction or rehabilitation, fixed railroad loading and unloading facilities which are used primarily for the shipment of goods by rail, and railroad components of intermodal facilities.

A total of \$6,500,000 is available for the current solicitation and applications are due March 1, 2022. Applications can score up to 130 points, 15 of which are based on an “environmental impacts” criterion. A portion of the points for the “environmental impacts” criterion are awarded based on the cost effectiveness of a project’s greenhouse gas emission reductions or avoidance.

Opportunities and Considerations

MRSI program eligibility can’t be updated immediately because the solicitation is open. Also, there are some restrictions on what the MRSI program can cover when it is funded by bonds. When general funds are used, there

is more flexibility. The commissioner may issue grants to entities for rail decarbonization purposes, including the purchasing of alternative fuel locomotives. However, locomotives, rolling stock, and other equipment may leave the state, so more research and refinement is needed to ensure that grants to decarbonize rail benefit Minnesota throughout the life cycle of the investment. Finally, any program eligibility changes must comply with the MnDOT Project Selection Policy.

Proposed Action—Support

The next MRSI program solicitation will take place after July 2022. MnDOT will assess the effectiveness of the environmental criterion used during the project selection process and identify opportunities to improve it. MnDOT will highlight the opportunities to fund low or no carbon models of equipment that is already eligible under the program. MnDOT will also conduct research and stakeholder engagement to assess opportunities to expand MRSI program eligibility to locomotives and equipment investments that decarbonize rail when the program is funded by general funds, so long as the projects support economic development. Depending on what changes are identified, statutory changes may be necessary. MnDOT may also seek additional funding for the MRSI program to invest in modal shifts that will reduce GHG emissions from the transportation system.

Workgroup Recommendation

- » Collaborate with other state agencies (MN Department of Commerce, MPCA) to design and implement an EV incentive program (either for all Minnesotans or only for income-qualified families)

MnDOT Review and Response

Related Activities

A proposed Minnesota Senate bill ([SF4091](#)) would create a fleet EV grant program that would be managed by the Department of Employment and Economic Development. The bill was heard on March 14th, 2022 in the House Workforce Committee, and a companion bill ([HF4355](#)) was introduced in the Minnesota House of Representatives on March 18, 2022.

Opportunities and Considerations

MnDOT supports efforts to promote EVs and e-bikes. However, MnDOT does not have legislative or funding authority to provide direct rebates for EVs. The decision to create state incentives for EV and e-bikes is made by the Governor and the state legislature.

Proposed Action—Support

MnDOT is committed to collaborating with other state agencies to identify opportunities for EV incentives.

REDUCING VMT AND IMPROVING TRANSPORTATION OPTIONS WORKGROUP Recommendations and Response

Workgroup Purpose

The Reducing Vehicle Miles Traveled (VMT) and Improving Transportation Options Workgroup developed recommendations that address transportation options, including biking, walking, and transit; MnDOT project planning and project selection process; and land use and transportation.

In 2021, the VMT reduction and transportation options work group's priority was to further advance the implementation of the adopted 2020 goals. The group focused on finding pathways to incorporate the existing STAC recommendations so they could be adopted into existing projects and investment plans currently underway.

How can MnDOT advance equity and environmental justice by implementing these recommendations?

Our transportation system today continues to perpetuate inequity in the following ways:

- Historically and today, Black, Indigenous and People of Color (BIPOC) communities bear the worst impacts of highway expansions that destroyed homes and businesses during their construction. Today, these communities—such as the Rondo Neighborhood in St. Paul and North Minneapolis—have higher rates of air pollution and direct health impacts, such as asthma. These highways continue to have negative impacts on these neighborhoods—cutting them off from accessing jobs and opportunity, exposing them to high particulate matter emissions and noise, and reduced property values.
- Today, Native and Black Americans are at the highest risk of being hit by a car. Streets in majority BIPOC neighborhoods often do not prioritize the needs of the community. Instead they act as conduits for others to speed through these neighborhoods—reducing quality of life.
- BIPOC neighborhoods continue to suffer from a lack of reliable public transit and active transportation infrastructure.
- A focus on reducing VMT and increasing transportation options will help project designers take the full context of transportation projects into consideration and create design alternatives that truly prioritize the health and wellbeing of impacted communities.

Historically BIPOC communities have higher rates of poverty and continue to be marginalized in transportation decision-making. Transportation access is one the strongest indicators of being able to break out of a cycle of poverty. Reliable mass transit access helps connect people to jobs, school, groceries, and opportunity. Providing transportation choices also helps advance health equity. Our current auto-centric approach to transportation and land use does not support active transportation like biking and walking, increases disease related to physical

inactivity, and exposes people, especially growing children, to pollution which causes asthma and other negative health effects. In addition, multiple studies show that regions which invest in multi-modal choices including transit, walking, and biking are more economically competitive. In particular, those regions are better able to attract and retain young people who increasingly choose where they want to live first before looking for a job.

Membership

Workgroup participants include STAC members, STAC ex-officio members, and invited technical experts:

- Ashwat Narayanan, Co-chair — Our Streets Minneapolis (STAC member)
- Emma Struss, Co-chair — City of Bloomington (STAC member)
- Dorian Grilley — Bicycle Alliance of Minnesota (STAC member)
- Katie Jones — The Center for Energy and Environment (STAC member)
- Peter Wagenius — Sierra Club North Star Chapter (STAC member)
- Russ Stark — City of St. Paul (STAC member)
- Sen. Scott Dibble — Minnesota State Senate (STAC ex-officio member)
- Vishnu Laalitha Surapaneni — University of Minnesota (STAC member)
- Sam Rockwell — Move MN (Technical expert)
- Wayne Hurley — (Technical expert)

RECOMMENDATION #1:

Implement the VMT reduction goal and incorporate it into the Purpose and Need section of every major transportation project

Workgroup Recommendation

Why is this important?

Identifying the need to reduce vehicle miles traveled as a key goal of every major project will help the creation of design alternatives that focus on providing mobility through a variety of zero and low carbon transportation options.

How can this move forward?

Our workgroup recommends that MnDOT implement this goal in the following ways:

- Create clear and consistent guidelines to incorporate the VMT reduction goal for all MnDOT led projects and provide training to staff involved in the planning, design, and community outreach for these projects.
- Estimate the VMT impacts of every new transportation project.
- Provide a progress report to the full STAC at every meeting of the body on how this recommendation is being implemented, and seek advice on its implementation along with the implementation of the proposed guidelines from STAC and its VMT Reduction Subcommittee.
- Move away from the traditional linear travel demand modeling process and take a holistic approach to measuring access to destinations by people and not just cars. For example, using accessibility as a measure.
- Create an induced demand calculator similar to one being used by Caltrans to estimate VMT increases from all new MnDOT-led transportation projects.
- In the alternatives selection process, identify ways to achieve the preliminary VMT reduction goal by evaluating alternatives that reduce per-capita VMT through Travel Demand Management (TDM), transit, biking, and walking. Some specific approaches to achieving this goal should include:
 1. A reduction in the number of through lanes dedicated to car travel.
 2. Addition of travel lanes permanently dedicated to use only by transit vehicles
 3. Convert existing general purpose lanes to HOV or HOT lanes.
 4. Addition of bike paths, lanes, trails, multi use paths, sidewalks, or other on and off road facilities that serve non-motorized travel.
- Dedicate funds for staff positions that will help create guidelines and maintain oversight for implementing and achieving the VMT reduction goals across the agency.

MnDOT Review and Response

Implementing VMT

The Statewide Multimodal Transportation Plan (SMTP) is Minnesota's highest-level policy plan for transportation that guides policy and investment decisions for all forms of transportation throughout the state. MnDOT will continue to solicit feedback on the proposed VMT target and partnership language through SMTP development and the public comment period in Spring/Summer 2022 to finalize the draft VMT reduction target: reduce VMT by 20% per capita (7% statewide) by 2050. MnDOT will work with partners to identify strategies to make progress toward these goals starting in Fall 2022.

Starting in Spring/Summer 2022, MnDOT will begin developing information and tools to support VMT goal implementation, including:

- Continue developing tools and resources, like a multimodal accessibility tool and an induced demand calculator, to support future consideration of VMT in plans and projects, as appropriate.
- Coordinate with MnDOT District staff to update communication tools to help staff communicate the status of VMT efforts and what it means for projects and plans.
- Pursue research projects on the costs/benefits of VMT reduction strategies, considerations for different community types (e.g., urban, suburban, exurban/rural), and stakeholder communications.

Connections between VMT and equity warrant additional exploration and must be evaluated. For VMT reduction strategies to support health and equity, non-driving options must be reliable, safe, convenient, and affordable to avoid further shifting time burdens to BIPOC communities and people with lower incomes.

Purpose and Need

There are significant barriers and risks to adding new elements to Purpose & Need as part of the National Environmental Policy Act (NEPA) process. New NEPA elements for projects receiving federal funding for projects may not be allowed or could risk funding for future projects. MnDOT, FHWA, and other state DOTs are currently looking at ways to incorporate VMT target guidance and strategies within other areas of the NEPA process, outside Purpose and Need.

MnDOT recognizes that transportation projects vary in type, size, and complexity, and have different potential to impact goals for safety, accessibility, affordability, and climate action that a VMT target helps us to measure. There may also be opportunities to include VMT reduction strategies in the project development process outside of NEPA to impact broader change to reach VMT outcomes.

Proposed Action—Explore Further and Explore Alternatives

MnDOT will provide updates to STAC members and gather feedback on implementation throughout the 2022-23 membership term.

Implementing VMT—Explore Further:

- MnDOT will work with transportation users and partners to identify and advance statewide strategies for reducing VMT by 20% per capita (7% statewide) by 2050.
- MnDOT will continue to develop a multimodal accessibility tool and an induced demand calculator to support future consideration, as appropriate, of VMT in plans and projects.
- MnDOT will pursue research to improve understanding of costs/benefits of VMT reduction strategies specific to Minnesota, the current landscape of VMT reduction strategies in Minnesota, and stakeholder communication.

Purpose and Need—Explore Alternatives: MnDOT will work with federal partners to explore the potential to incorporate a VMT target or supporting strategies into the NEPA process, including discussions about ability to include and any funding risks/constraints.

RECOMMENDATION #2:

Partner with Metropolitan Council and other metropolitan planning organizations (MPOs) to adopt a similar VMT reduction goal and ensure that state and federal dollars coming into Minnesota are invested consistent with the VMT reduction goal

Workgroup Recommendation

Why is this important?

Ensuring that funding sources are invested consistent with the VMT reduction goal is important to:

- Provide adequate financial resources for the creation of infrastructure that supports equitable, low and zero carbon transportation.
- Move away from funding infrastructure that may cause increased carbon emissions.

How can this move forward?

MnDOT can move this goal forward by:

- Proposing and requesting the funding splits needed for infrastructure necessary to achieve the VMT reduction goal.
- Using the maximum flexibility within existing dedicated transportation funds, including Motor Vehicle Sales Tax (MVST) funds to support transit and active transportation. Seek necessary clarification from relevant bodies if needed.

MnDOT Review and Response

Working with local partners

MnDOT is the owner/operator of about 10% of all roads in Minnesota, which means that promoting climate smart investments that lead to VMT reduction depends on collaboration with local government and other transportation stakeholders to support the needs of different communities. MnDOT recognizes that climate action requires collaboration with local governments, including Metropolitan Planning Organizations, and other transportation decision-makers.

MnDOT began outreach on VMT reduction with local partners in Summer 2021 as part of the Statewide Multimodal Transportation Plan (SMTP) planning process. This included targeted discussions to share background about the importance of VMT reduction strategies, anticipated co-benefits of support VMT reduction, and gather initial feedback about thoughts, concerns, and questions. MnDOT staff have presented at meetings for the Minnesota County Engineers Board of Directors, City Engineers Association of Minnesota, MnDOT Freight Advisory Committee, Regional Council of Mayors, Metropolitan Council Transportation Advisory Board, Metropolitan Planning Organization Directors, Minnesota Tribal Environmental Committee, and Regional Development Organizations. Future outreach is scheduled for Spring 2022 with the seven Area Transportation Partnership and subgroups of the MN County Engineers Association and City Engineers Assoc of Minnesota.

MnDOT is the principal agency for state transportation policies, plans and programs, and the agency's influence extends beyond the facilities we own and operate. Close collaboration with local partners is needed to develop complimentary strategies, tools, and guidance that support collective progress.

Funding alignment

MnDOT continues to advocate for long-term, comprehensive and sustainable transportation funding consistent with statutory direction provided in MN Statute 174.01, which include reducing greenhouse gas emissions from the state's transportation sector. MnDOT will need to consider the complexities of state and federal funding programs to provide adequate resources to support a multimodal transportation system that maximizes the health of people, the environment, and our economy.

Proposed Action—Explore Further

Working with local partners — Following adoption of a VMT reduction target in the SMTP, MnDOT will coordinate with MPOs and local partners to develop and implement VMT strategies starting in Fall 2022.

Funding alignment — MnDOT will further explore how projects directed by the legislature (e.g., Corridors of Commerce) and projects that advance other agency priorities (e.g., safety) relate to VMT.

RECOMMENDATION #3:

Build public and local support for providing transportation choice for travelers and reducing VMT through MnDOT's educational programs, traditional media, social media, local units of government and extensive direct outreach to, and partnering with, multiple stakeholders

Workgroup Recommendation

Why is this important?

- Sharing testimonials and images of low-carbon transportation options allows stakeholders to identify behaviors and infrastructure that could benefit their communities.
- MnDOT is well positioned to develop and disseminate case studies and transportation statistics given its role in project implementation and data tracking.

How can this move forward?

- Build and maintain relationships with local governments and many other partners to disseminate information about:
 - the environmental, health, and equity problems associated with current transportation habits
 - case studies of low-carbon transportation projects
 - testimonials of Minnesotans getting around by walking, biking, using transit, etc.
- Develop billboards and other promotions highlighting the community, health, environmental, and economic benefits of low-carbon transportation
- Write op-eds and partner with others to write op-eds (quotes from the Commissioner, project managers, district) about transportation choices

MnDOT Review and Response –

MnDOT recognizes the important role of education and communication to build support for transportation options and reducing VMT. The agency currently leads and partners on several education and technical assistance efforts to build local support for providing traveler choice. This includes:

- **[Walk! Bike! Fun!](#) curriculum:** This pedestrian and bicycle safety curriculum is a training resource for educators and community members to help increase the number of students who walk and bike to school. MnDOT's Safe Routes to School program funds the Bicycle Alliance of Minnesota to implement the Walk! Bike! Fun! Curriculum in communities throughout Minnesota.
- **[Greater MN Shared Mobility webinars:](#)** MnDOT introduced new education programming in Nov. 2021 with a monthly Greater Minnesota Shared Mobility webinar series. The series is focused on increasing familiarity with shared mobility technology and services to improve the way people in Minnesota move around our state.
- **Pedestrian Safety messaging:** MnDOT coordinates with partners to share messages about safety when walking and driving. Safety materials supporting walking are available for communities and are shared regularly by MnDOT. For example, MnDOT's initiated a Facebook Pedestrian Safety campaign in 2021 that was one of the agencies top three performing campaigns of the year.
- **Complete Streets case studies:** MnDOT promotes demonstration projects with public agencies, community partners, and community residents through a [mapping tool with case studies](#) and technical assistance. Demonstration projects to show what future changes to our roads might look like and improve the transportation experience for people walking and bicycling. The agency is also developing case studies to highlight successful Complete Streets projects in Minnesota to share best practices. These will be available for agency staff, partners and stakeholders on the [Complete Streets website](#) starting in Fall 2022.

Proposed Action—Support

MnDOT will expand the scope and scale of education and communication strategies to help build public and local support for providing transportation choice for travelers and reducing VMT. This will include exploring creative approaches for public engagement during the 2022-23 MnDOT Sustainability and Public Health Fellow tenure. This is an artist-in-residence pilot program in partnership with Transportation for America to experiment with creative engagement methods. The work will explore the intersections of equity, mobility, and health to help reduce greenhouse gas emissions in Minnesota.

MnDOT will also conduct a research study that includes an audience segmentation analysis and message testing component to inform and target external communication and engagement strategies. MnDOT will leverage this information to develop an education and outreach plan. The plan will include a focus on education and communication strategies with historically underserved and overburdened communities, including Black, Indigenous and other People of Color (BIPOC) and environmental justice communities.

Implementation of the plan will include engagement and communication tools that educate the public about why a transportation system that supports traveler choice is important, how VMT provides value as a measure, and steps the public can take to support a safe and accessible multimodal transportation system. This could include incorporating messaging into project benefit materials, updating program technical assistance materials, and/or an external messaging campaign.

JOINT WORKGROUP

Recommendation and Response

Workgroup recommendation

Why is this important?

According to the EPA, the transportation sector accounted for the largest portion of total U.S. greenhouse gas emissions in 2019 at 29%.⁵ Additionally, vehicle miles traveled in Minnesota, particularly in counties surrounding the metro, have been increasing since 2014.⁶ To reduce the impact on climate change from the transportation sector, Minnesota needs to reduce emissions from cars on the road and create a transportation system that reduces incentives to drive.

How can this move forward?

MnDOT should create communication tools that provide information on why electrification and vehicle mile reduction strategies are important and how they can be incorporated into transportation projects. The communication tools should include the creation of two documents:

1. Leverage existing resources to create a PowerPoint or written document for MnDOT staff to use at project kick-off meetings that help project partners understand the following:

Questions	Content Suggestions
Why is climate change a problem? How will climate change affect Minnesotans? Who is most vulnerable to climate change?	Visuals from MDH and MPCA
What is causing climate change?	Visuals from MDH and MPCA
What role does transportation play?	State GHG emissions data
What do we need to do?	Next Generation Energy Act Goal
How much time do we have?	IPCC 6 th Assessment Report

⁵ <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions>

⁶ https://www.dot.state.mn.us/traffic/data/reports/vmt/VMT_Trend_Report_2018.pdf

Questions	Content Suggestions
Why is climate change a problem? How will climate change affect Minnesotans? Who is most vulnerable to climate change?	Visuals from MDH and MPCA

2. Develop a guide that shows project partners how electrification and VMT reduction strategies can be incorporated into projects

How can MnDOT advance equity and environmental justice by implementing this recommendation?

This recommendation helps advance equity and environmental justice by:

- Ensuring project partners understand how transportation decisions affect climate change, and how climate change disproportionately harms vulnerable communities.
- Exposing project teams to examples of how they can reduce transportation-related pollutants and greenhouse gas emissions.
 - Increasing the likelihood that VMT reduction strategies are implemented, strategies that often provide more affordable alternatives than owning a car.
 - Increasing the likelihood that electrification strategies are implemented. Electric vehicles produce less pollutants than traditional ICE vehicles.

MnDOT Response

Related Activities:

There are several planning documents and other resources that provide guidance on topics related to incorporating transportation electrification and VMT reduction strategies into transportation projects, described briefly below.

- In response to the 2020 STAC recommendation to set a VMT reduction target, an internal MnDOT staff workgroup has been meeting since Summer 2021 to discuss how the target will affect MnDOT projects and processes. MnDOT is developing **tools for MnDOT staff and local partners to improve understanding about how transportation decisions can impact VMT** and potentially be incorporated into the project planning and development process.
- MnDOT is updating the agency's **Complete Streets** policy. An interdisciplinary team of MnDOT staff are making updates to the policy and related tools, performance measures, and communications materials. Resources developed through this process can be used by MnDOT and local partners to incorporate active transportation elements into construction projects.
- MnDOT led a multi-agency effort to develop an updated assessment of EV market conditions, identify opportunities for progress toward the state's EV goal (20% by 2030), and integrate equity into EV efforts. Minnesota state agencies will use the recommendations from the 2021 Minnesota Electric Vehicle Assessment to help develop a **Statewide Electric Vehicle Infrastructure Deployment Plan** to maximize federal funding for EV chargers. The plan is due August 1, 2022.
- The **Federal Bipartisan Infrastructure Bill** will provide additional guidance on incorporating electric vehicle infrastructure into construction and other projects.

Opportunities and Considerations

There is an opportunity to coordinate with ongoing efforts to develop guidance for MnDOT staff and project partners on incorporating VMT reduction strategies into construction projects.

There is also an opportunity to update information about the work of the Sustainability and Public Health Division and subject matter guidance on sustainability considerations in the project development process on the **Transportation Project Development Process web directory** and on the MnDOT intranet sustainability pages, both of which are resources for MnDOT project and planning staff.

Proposed Action—Support

MnDOT will draft a workplan and communications plan to compile resources for staff and partners, including guidance on incorporating vehicle electrification and VMT reduction strategies into transportation projects. MnDOT will engage the STAC workgroups for feedback on content and outreach planning.

Conclusion

Addressing the climate crisis remains a top priority for the Walz-Flanagan Administration and MnDOT. The scale and urgency of climate action needed to address transportation climate pollution cannot be overstated.

MnDOT is grateful to all the STAC members for volunteering their time, energy, and expertise to advise the agency on potential strategies to make progress towards the state climate goals in the Next Generation Energy Act. State government cannot achieve these goals alone and support is needed from the local governments; the private, and nonprofit sectors; community groups; and elected officials represented on the STAC. Leading on climate action can give the state a competitive advantage for clean energy jobs, reduce historic and structural inequities and help Minnesota remain a healthy and vibrant state for future generations.

The STAC recommendations have initiated important conversations within the agency that will continue in the future, including through development of the SMTP and MnSHIP planning processes that provide the policy and investment frameworks, respectively, for the agency.

We recognize there are some STAC recommendations the agency supports in part or is supportive of but needs to explore further. In some cases, MnDOT lacks the legislative authority to adopt a recommendation or needs to connect with more Minnesotans following our agency's commitment to public engagement. MnDOT looks forward to further engagement with the STAC in 2022 (and beyond) to continue working together to make progress towards a low carbon transportation future for Minnesota.

Appendix 1

MnDOT Review Teams

MnDOT staff coordinated review teams for each recommendation including internal and external stakeholders and subject area experts. Each review team met several times to inform the MnDOT responses, which were approved by agency senior leadership.

Fueling and Powering Transportation

Transition state fleet to ZEVs: MnDOT: Fleet Management, Operations leadership, MN Dept. of Administration

Support medium- and heavy-duty EV market: N/A

Take a proactive leadership role in establishing a Midwest DCFC network: REV Midwest partner states

Reduce VMT & Improve Transportation Options

Implement the VMT reduction goal and incorporate it into Purpose and Need: MnDOT: Office of Environmental Stewardship, Internal VMT workgroup

Partner with Metropolitan Council and other MPOs to adopt a similar VMT reduction goal: MnDOT internal VMT workgroup, Metropolitan Council, Metropolitan Planning Organizations

Build public and local support for providing transportation choice for travelers and reducing VMT: MnDOT: Communications and Public Engagement, Office of Transit and Active Transportation, Office of Research and Innovation

Joint workgroup recommendation

Develop a toolkit/guide for sustainable transportation projects: MnDOT: Communications and Public Engagement, Office of Project Management and Technical Support

Appendix 2

MnDOT Response and Progress on 2020 STAC Recommendations

Fueling and Powering Transportation

Recommendation #1: Develop a clean fuels policy

MnDOT Response: Support – 2021 Governor’s budget proposal includes MnDOT-led stakeholder process on Clean Fuels Policy. *Update – Future Fuels Act proposed but not passed, engagement efforts underway*

Recommendation #2: Establish rebates for EVs, including dealership support and consumer rebates

MnDOT Response: Explore Further – Support efforts by Governor and legislature to promote EVs. *Update – Needs further clarified in Minnesota EV Assessment (Fall 2021)*

Recommendation #3: Increase investment in charging infrastructure, beyond existing VW settlement investments

MnDOT Response: Support – 2021 Governor’s budget proposal includes EV chargers for public use and MnDOT fleet. *Update - Strategic opportunities for EV chargers included in MN EV Assessment*

Additional Fueling and Powering Transportation workgroup recommendations:

STAC Recommendation	MnDOT Response
Minnesota signs a multi-state EV charging corridor Memorandum of Understanding	<i>MN and four other states signed REV Midwest MOU</i>
Examine value of NextGen highways	<i>Established internal MnDOT work group</i>
Develop a state-level plan to support medium/heavy duty electric vehicles	<i>MN EV Assessment developed Fall 2021</i>
Incentives to support increased manufacturing of EVs	<i>MnDOT is exploring opportunities to support</i>
Minnesota signs on a Zero Emissions Vehicle truck and bus MOU	<i>More engagement needed</i>

VMT Reductions and Transportation Options

Recommendation #1: Adopt a statewide goal of reducing VMT by 20% by 2050

MnDOT Response: Support – Accept a preliminary statewide and per capita VMT reduction goal. Finalize after engagement in the SMTP process *Update – MnDOT internal work group developing messaging for staff and collecting public and stakeholder feedback*

Recommendation #2: Stop expanding highway capacity to reduce congestion

MnDOT Response: Explore Further - Capacity expansion already lowest priority to address congestion. Partner to evaluate actions that support recommendation in upcoming planning processes (SMTP, MnSHIP). Add new first tier to mobility investment strategy for TDM and explore ways to track and report mobility project decisions.

Recommendation #3: Prioritize transit and high occupancy vehicles on MnDOT owned right of way

MnDOT Response: Support - Continue to support the recommendation and build on current efforts:

- Develop a communications strategy
- Partner with METC to explore expanded transit opportunities
- Engage STAC in current policy and planning efforts: MnSHIP and SMTP

Additional VMT and Transportation Options workgroup recommendations:

STAC Recommendations:	MnDOT Response:
Conduct a spending audit across project categories	<i>MnDOT provided the STAC with a list of capacity expansion projects in the current STIP</i>
Support efforts by local governments to dedicate their right of way to low carbon and active transportation	<i>MnDOT to establish Intergovernmental Council on Climate Change and Transportation</i>
Discard auto-centric metrics like Level of Service (LOS), in favor of people-centered metrics	<i>Part of engagement around VMT internally and through SMTP/MnSHIP</i>