DEPARTMENT OF TRANSPORTATION

Transportation Research Synthesis

Minnesota Department of Transportation
Office of Research & Innovation
651-366-3780
www.mndot.gov/research

TRS 2305

July 2023

TRANSPORTATION OPTIONS & VMT REDUCTION FIELD SCAN

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This report presents the findings of a brief field scan conducted in early 2023 to understand current initiatives, opportunities, and challenges experienced by local communities throughout Minnesota regarding efforts to reduce vehicle miles traveled (VMT) and improve multimodal accessibility. It involves a review of existing policy documents, a brief survey of local organizations across the state, and follow-up interviews with selected representatives. The project demonstrates that while there is considerable support for the types of initiatives that could help lower VMT, many local agencies have more urgent priorities and lack the capacity or resources to fully engage VMT-reduction efforts. Some also see the concept as running contrary to local priorities. MnDOT has many opportunities to support and work more closely with these agencies, including funding opportunities, communications support, data resources, and others.

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Technical Report Documentation Page

1. Report No.	2.	3. Recipients Accession No.
TRS2305		

4. Title and Subtitle	5. Report Date
TRS: Transportation Options and VMT Reduction Field Scan	July 2023
	6.

7. Author(s)	8. Performing Organization Report No.
Chris McCahill, Megan Link, Aaron Westling	

9. Performing Organization Name and Address	10. Project/Task/Work Unit No.
State Smart Transportation Initiative 1180 Observatory Drive Madison, WI 53706	11. Contract (C) or Grant (G) No.

12. Sponsoring Organization Name and Address	13. Type of Report and Period Covered
Minnesota Department of Transportation Office of Research & Innovation 395 John Ireland Boulevard, MS 330 St. Paul, Minnesota 55155-1899	14. Sponsoring Agency Code

15. Supplementary Notes

http://mdl.mndot.gov/

16. Abstract (Limit: 250 words)

Minnesota has declared ambitious climate goals aimed at significantly reducing greenhouse gas emissions over the next thirty years, which it plans to accomplish partly through considerable reductions in the average vehicle miles traveled (VMT) per person. This will require close collaboration between local governments and the Minnesota Department of Transportation (MnDOT). This report presents the findings of a brief field scan conducted in early 2023 to understand relevant initiatives, opportunities, and challenges experienced by local communities throughout Minnesota. It involved a review of local plans and documents, a survey distributed among local agencies across the state, and targeted follow-up interviews.

Results indicate that while many local organizations have expressed an interest in cutting greenhouse gas emissions, few focus explicitly on transportation emissions and even fewer of those see VMT reduction as a major strategy for meeting those goals. Nonetheless, there are organizations that are interested in the types of policies and investments that could reduce overall driving and help meet ambitious climate goals, often because they support local economic goals. This presents opportunities to realign VMT-reduction strategies with local needs and for MnDOT to provide local support in the form of funding, technical assistance, data resources, and additional guidance.

17. Document Analysis/Descriptors	18. Availability Statement
Vehicle miles of travel, Decarbonization, Greenhouse gases, Sustainable transportation, Cooperation, Policy, State government, Local government	No restrictions. Document available from: National Technical Information Services, Alexandria, Virginia 22312

19. Security Class (this report)	20. Security Class (this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	24	

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The purpose of this TRS is to serve as a synthesis of pertinent completed research to be used for further study and evaluation by MnDOT. This TRS does not represent the conclusions of either the authors or MnDOT.

Introduction and Background

Minnesota, like other states across the U.S., has declared ambitious climate goals aimed at significantly reducing greenhouse gas emissions over the next thirty years. Minnesota's *Climate Action Framework* notes that transportation is the number one source of emissions in the state and aims to reduce transportation emissions by 80% by 2040 (*Minnesota's Climate Action Framework*, 2022). This will be accomplished partly through widespread adoption of cleaner vehicles and by reducing the average vehicle miles traveled (VMT) per person by 20% by 2050.

This project focuses on VMT reduction in Minnesota and opportunities for the Minnesota Department of Transportation (MnDOT) to support and coordinate with local governments and leverage ongoing efforts.

This project builds on prior work with MnDOT by our research team to understand the potential trajectory of statewide VMT, the drivers of VMT trends, and the available policy levers to manage VMT growth. A key finding from that work is that the largest growth in VMT is likely to come from rural areas and areas on the fringe of suburban growth (Figure 1). These are areas with a lot of growth potential because they typically contain undeveloped land and areas where the average household drives considerably more miles per year (25,000 compared to 20,000 in suburban areas and 15,000 in central urban areas).

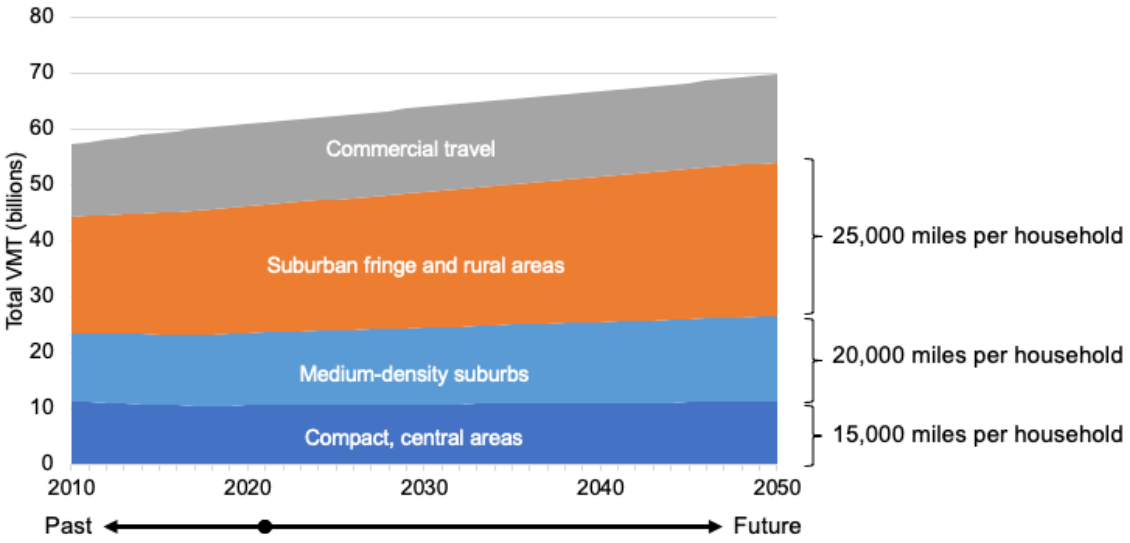


Figure 1. Approximate distribution of future VMT in Minnesota (analysis by SSTI).

To understand the potential impact of different policy levers on VMT, we relied heavily on research documented by the California Air Pollution Control Officers Association (2021). These policy levers were grouped into four tiers:

1. More and better travel options, including walking, biking, and transit improvements.
2. Transportation demand management, including constrained highway capacity investments and road pricing (e.g., mileage-based fees, congestion pricing, or tolls).
3. Coordinated transportation and land use, including parking policy and land use regulations.
4. Commercial travel, including deliveries and movement of goods.

Policy tiers	Strategy	Potential impact per household (● = 5%)	MnDOT role
1. More and better travel options 2. Transportation demand management 3. Coordinated transportation and land use 4. Commercial travel	Walking and biking	●○○○○○○○○○○○○○○○○○○○	
	Transit	●●○○○○○○○○○○○○○○○○○○	
	TDM and broadband	●●○○○○○○○○○○○○○○○○○○	
	Constrained highway capacity spending	●●○○○○○○○○○○○○○○○○○○	
	Road pricing	●●●●●○○○○○○○○○○○○○○○	
	Parking policy	●●●●○○○○○○○○○○○○○○○○	
	Land use patterns	●●●●●●●●●●●●○○○○○○○○	
	Commercial VMT	**?**	

Figure 2. Various policy levers, potential impact on household VMT, and approximate MnDOT role.

The first three tiers are ordered from the easiest to implement yet with the lowest impact to those with a high impact, but which are more challenging to implement (Figure 2). The most impactful policies (land use and parking regulations) are controlled at the local level, which means MnDOT must coordinate and work closely with local partners to meet long-term climate goals.

The importance of local coordination was evident from a policy scenario analysis conducted by our team (Figure 3). Through that analysis, we worked with MnDOT staff to estimate the extent of each policy across households in three different place types (urban, suburban, and rural fringe), then translated those household level impacts into statewide VMT trends. The analysis relied on some key assumptions:

1. No policy can impact every household equally, and most policies have greater potential in more urbanized areas than in more rural areas.
2. The distribution of future land uses is critical. The analysis assumes 25% of new growth will be in urban areas, 50% in suburban, and 25% in exurban and rural.

One of the scenarios included only those policies that MnDOT has some reasonable authority or influence over, while the second scenario included all the potential policies, state and local.

This research synthesis aims to understand the gaps and challenges that local jurisdictions in Minnesota face and to identify areas of opportunity for MnDOT to build on. The goal is for MnDOT to learn what is happening at the ground level and what opportunities there are for collaboration. This will set the foundation for future partnership work as MnDOT continues to work with partners on the implementation of its climate and sustainability goals.

Reigning in statewide VMT

Given the heavy influence of land-use patterns on VMT, a holistic approach includes supporting the movement of people and goods across the state, while concentrating new growth in central areas (including rural centers) and minimizing development in low-density, outlying areas.

Transportation agencies can support local land-use decisions through technical support by aligning its planning and investment strategies and by managing and optimizing existing road capacity to limit induced demand.

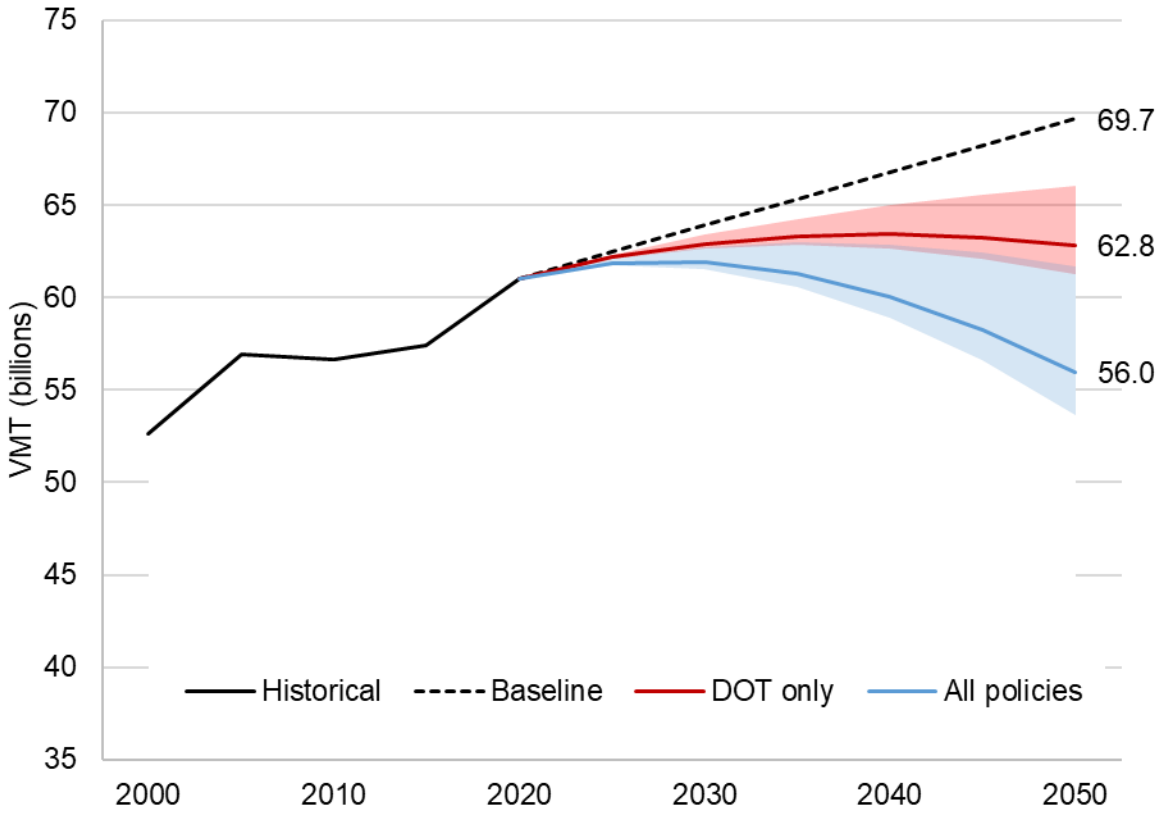


Figure 3. Potential impact of various policy levers on statewide VMT (analysis by SSTI).

Methods

The project was divided into two main phases spanning about six months, including four Technical Advisory Panel (TAP) meetings to gather feedback and recommendations. The first phase involved a review of literature and grey resources. This included different comprehensive, climate, and transportation plans from organizations across Minnesota to create a baseline of current programs and plans that emphasize emissions reductions. Plans that outlined local sustainability initiatives related to transportation without explicitly mentioning VMT reduction were identified to understand motives for reducing emissions outside the focus of VMT. The second phase built off the initial knowledge from the grey resource review to dive deeper into local programs and priorities. It focused on a follow-up survey and interviews with representatives from agencies selected due to differences in geographic area (urban, suburban, rural), local priorities (freight, agriculture, transit etc.), transportation related sustainability initiatives, and varying levels of progress towards VMT reduction goals and targets. The interviews were conducted after the survey closed to follow-up with organizations regarding their stated priorities, challenges, feedback for MnDOT, and motivations for or against a VMT reduction goal. Organizations were selected from literature review case studies, survey respondents, and recommendations from the TAP. The timeline of the project is shown in Table 1.

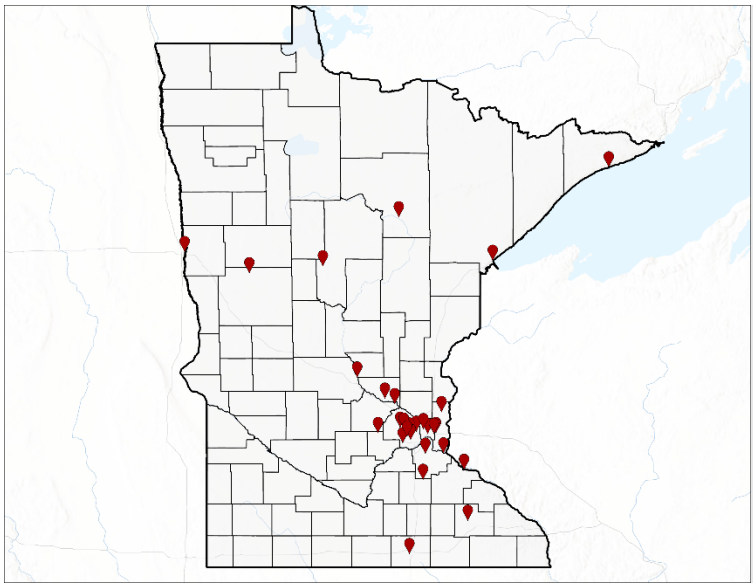
The literature and resource review included agency websites, public documents, and recommendations from the TAP to determine a baseline for current plans and goals to reduce VMT across the state.

Table 1: Project timeline

Tasks	2022	2023						
	Dec.	Jan.	Feb.	March	April	May	June	July
Literature and resource review								
Surveys and targeted interviews								
Draft final report								
Editorial review and publication								
TAP Meetings	12/21		2/15		4/18		6/2	

Literature and resource review

This review covered a variety of geographic areas and population sizes for a representative view of the different plans and strategies across Minnesota. The final review included comprehensive plans, climate plans, and some transportation plans Figure 4.



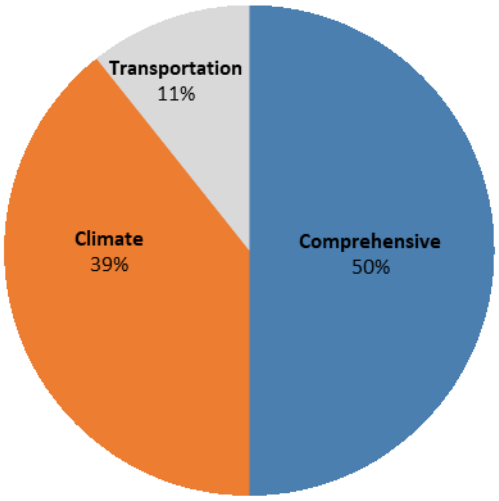


Figure 4. Geographic distribution and composition of plans reviewed.

Summary of key findings

The team established five criteria to score each document based on its strategies and recommended actions to reduce emissions and advance MnDOT's VMT reduction target. Since some municipalities do not mention VMT specifically, criteria were based on general language of overall emissions, transportation emissions, and greenhouse gas targets. In addition, strategies to advance multimodal access and infrastructure, active transportation, and land use and zoning reform were also included in the scoring. Plans with the highest scores

often had specific emissions goals and targets, shorter-term deadlines, and robust strategies to reduce single occupancy vehicles. The scoring criteria, which are worth a total of seven points, are outlined in Table 2.

Table 2. Scoring criteria to evaluate grey resources.

Criteria	Score (points)
Does the plan mention reducing emissions?	0-1
Does the plan specifically mention reducing transportation emissions?	0-1
Are there stated greenhouse gas emission reduction targets or goals?	0-1
To what degree does the plan discuss multimodal strategies and goals?	0: No mention of multimodal 1: A mention of multimodal plans but no specific strategies 2: Explicit policies and actionable steps to improve active transportation (ex. Complete streets policy)
To what degree does the plan discuss land use, zoning, and active transportation?	0: No mention of land use or zoning reform 1: Mention of land use reform and bike and pedestrian facilities 2: Explicit policies for zoning reform, transportation demand management (TDM), transit-oriented development, and land use reform

The scoring results are outlined in Figure 5 and Figure 6. Most plans mention a greenhouse gas reduction goal, but fewer describe a specific greenhouse gas target. Even fewer of those describe a greenhouse gas reduction goal that is specific to transportation. Many plans also mention the importance of multimodal transportation, land use policies, and transportation demand management, but only a few of those describe specific strategies. Plans recommended by the TAP for inclusion are listed at the bottom of each figure and consistently rank higher than average.

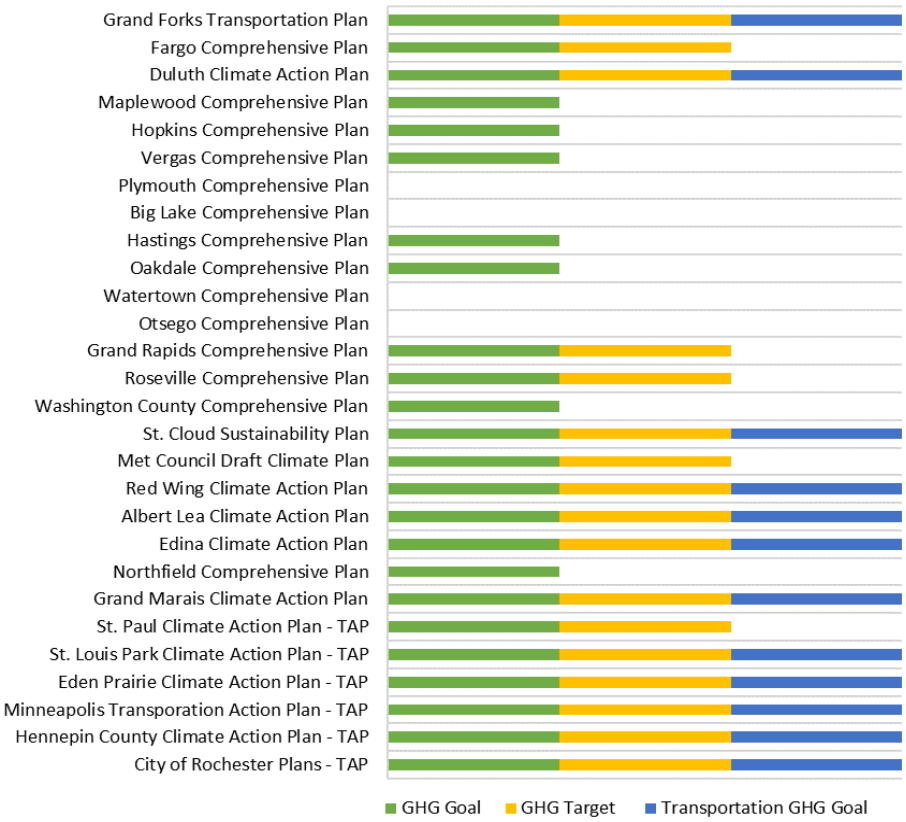


Figure 5. Assessment based on stated climate goals.

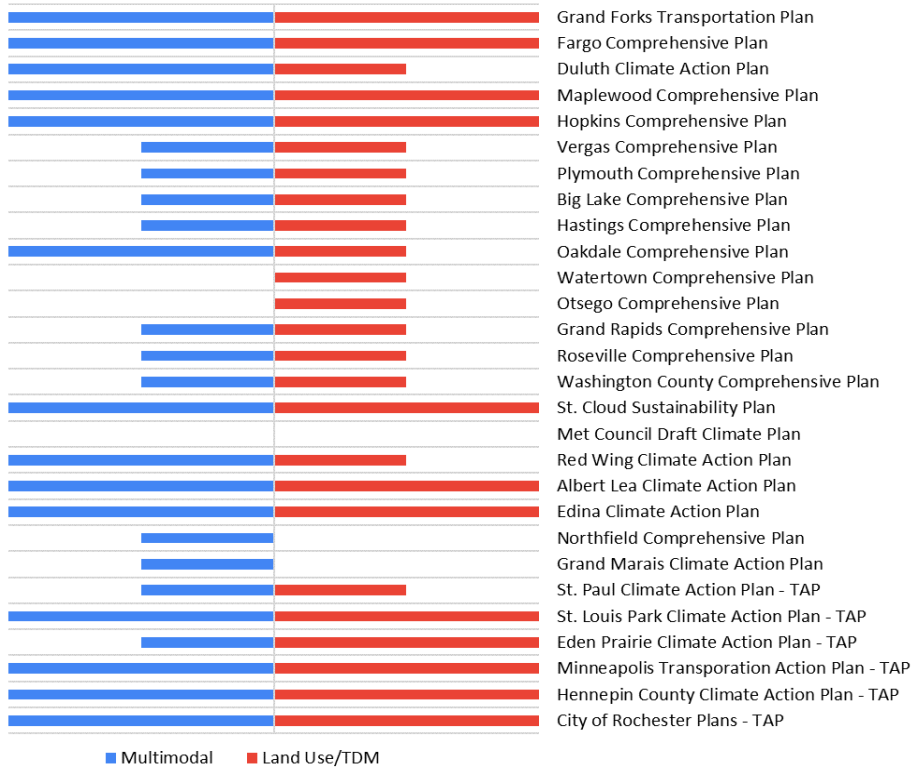


Figure 6. Assessment multimodal and land use strategies.

Transportation Planning Across Minnesota

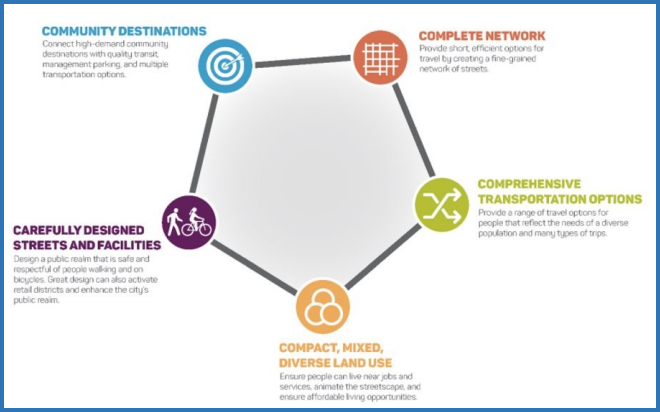
Minneapolis

As the largest city in Minnesota, Minneapolis aims to reduce greenhouse gas emissions by 80% by 2050 and to reduce automobile passenger miles by 38%. Its Transportation Action Plan ties actionable steps to high-level values and goals on climate, equity, safety, prosperity, mobility, and active partnerships. Specific strategies include:

- Increasing transit coverage so that 75% of residents are located within a quarter mile and 90% of are located within a half mile of high frequency transit corridors.
- Completing the All Ages and Abilities Network.

Rochester

As the third largest city in Minnesota, Rochester has an eye toward growing its economy while reducing greenhouse gas emissions by 50% in 2030 and 100% in 2050. Taken together, its Comprehensive Plan, Resilience Plan, and integrated transit studies stress the need for coordinated transportation, land use, and parking strategies that improve multimodal accessibility, shift transportation modes, and reduce single occupancy vehicle use by 60% by 2035—all within existing funding constraints.



Rochester's Comprehensive Plan incorporates an integrated land use and transportation framework.

Albert Lea

Albert Lea is a smaller city in southern Minnesota, known largely for lake recreation. Its Climate Action Plan recognizes the transportation sector as one of the largest opportunities for emissions reduction and sets a goal of reducing related emissions by 32% by 2030. Through on combined focus on transportation and land use, it lays out the following goals:

- Lower community-wide VMT by 5% by 2030.
- Increase average population per developed acre by 3% by 2030.
- Increase community-wide use of battery electric vehicles utilization to 20%.
- Establish viable biodiesel sources to serve the community by 2050. Achieve 10% diesel consumption replacement with biodiesel by 2030.

Big Lake

As the smallest city featured in this report, Big Lake has not focused to any great extent on reducing transportation emissions, but its Comprehensive Plan emphasizes sustainable transportation and land use strategies to support local businesses and community growth. These include pedestrian safety improvements that support “family-oriented” growth and parking policy reforms to promote economic development and walkability.

Survey and targeted interviews

The team conducted a survey and targeted interviews, based on the grey resource review, to gain additional information from local stakeholders and MnDOT's partners. The surveys and interviews helped the research team learn more about the current local initiatives aimed at reducing VMT, identified best practices, and gained a better understanding of the current barriers to VMT reduction.

For this portion of the work, our team took a broader perspective than just VMT reduction, to include more general sustainability efforts, multimodal investments, and land use policies. This was done to elicit a wider response, including those who might not prioritize VMT reduction or even resist the concept.

Survey findings

The survey was designed to generate a list of best practices, initiatives, and goals of different municipalities in Minnesota. The TAP received a draft survey to provide feedback on the content and recommend organizations to share the survey with.

We used Qualtrics to administer the survey with separate sections dependent on the respondent's answers. If the respondent said "yes" or "no" to working towards a VMT reduction goal, different sections dug deeper into why or why not it is a priority. The team sent the survey to over 44 agencies, 87 counties, and 151 state aid cities, and received 93 usable responses. Responses covered every region of the state with representation from city and county governments, Regional Development Commissions, and Metropolitan Planning Organizations (Figure 7).

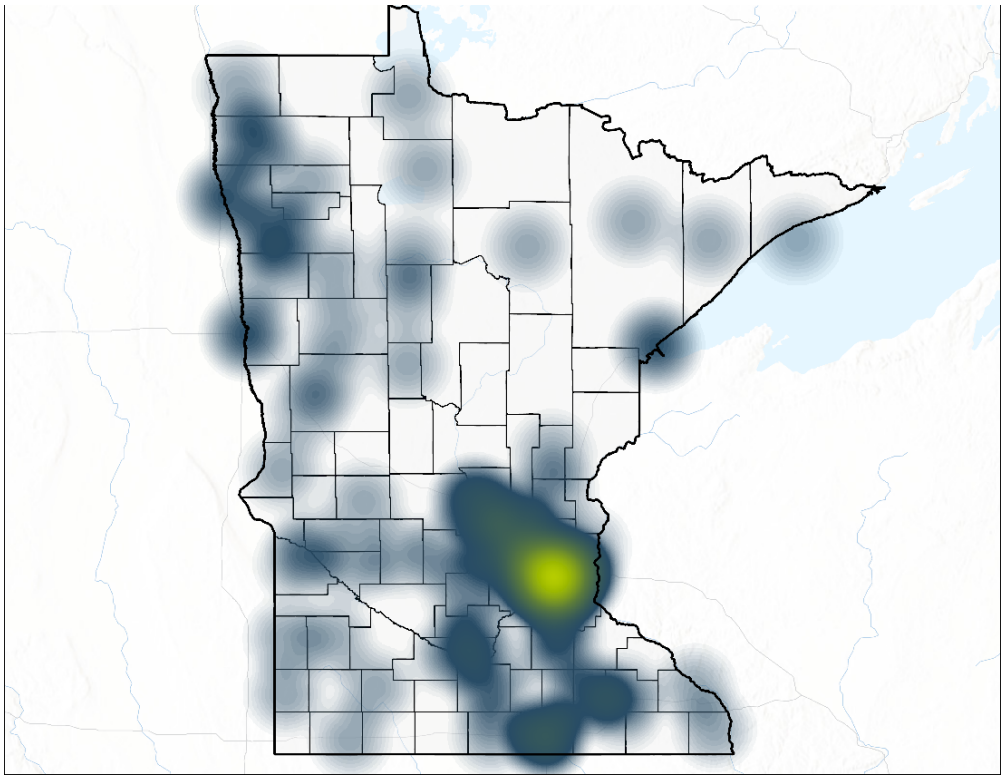


Figure 7. Geographic distribution of survey responses.

A higher than anticipated response rate produced quantitative data that helped the team better understand the priorities and challenges of organizations across Minnesota. The findings from the survey are shown in Appendix A. These include the number of organizations with the goal to reduce transportation emissions (38% of respondents), key priorities among different agencies, challenges, and the perceived role of MnDOT in supporting local agencies.

The list below shows the main themes from the survey responses:

- Most organizations focus on road maintenance and safety, including for people walking and biking.
- Many organizations expressed a desire for MnDOT to better support local priorities and to back up state-level priorities with funding and implementation support.
- The local economy and values of a community determine what the organization expresses as its priorities. Examples include off-street trails for pedestrian and bike safety, reducing congestion to make agricultural transportation more efficient, and improving road pavement to meet 10-ton design standards for freight access.
- Many organizations indicate that while environmental sustainability is important in guiding their decision-making, they do not have a stated goal of reducing transportation emissions.
- Measuring and monitoring VMT is extremely challenging for jurisdictions who either have or are working towards a VMT goal.
- For respondents who do not have a VMT goal or target, promoting reliable alternatives to driving is the biggest challenge.

Interview findings

From the survey responses and grey resource review, we identified 17 organizations from across the state for targeted follow-up interviews (Figure 7). Suggested interviewees from the TAP were also included. Organizations were selected by general geographic location in Minnesota, stated local initiatives, VMT goals, and different local economic drivers such as freight or agriculture. The selected organizations included a mix of urban, suburban, and rural locations. Two organizations that did not fill out the survey but were included in the grey resource review were selected due to the transportation-related initiatives in their local plans and goals.

From the 17 organizations selected for targeted follow-up interviews, our team held nine interviews. Each interview was 30 minutes and conducted over Zoom. The interview was conducted in a casual format with a general list of questions related to the individual's survey responses, or the survey questions in general if the interviewee had not filled out the survey. Main topics included their organizational priorities, challenges, current VMT reduction initiatives (or related sustainability efforts in cases where VMT reduction is not a priority), and working with MnDOT as a partner.

Key findings from the interviews are described below, organized by theme.

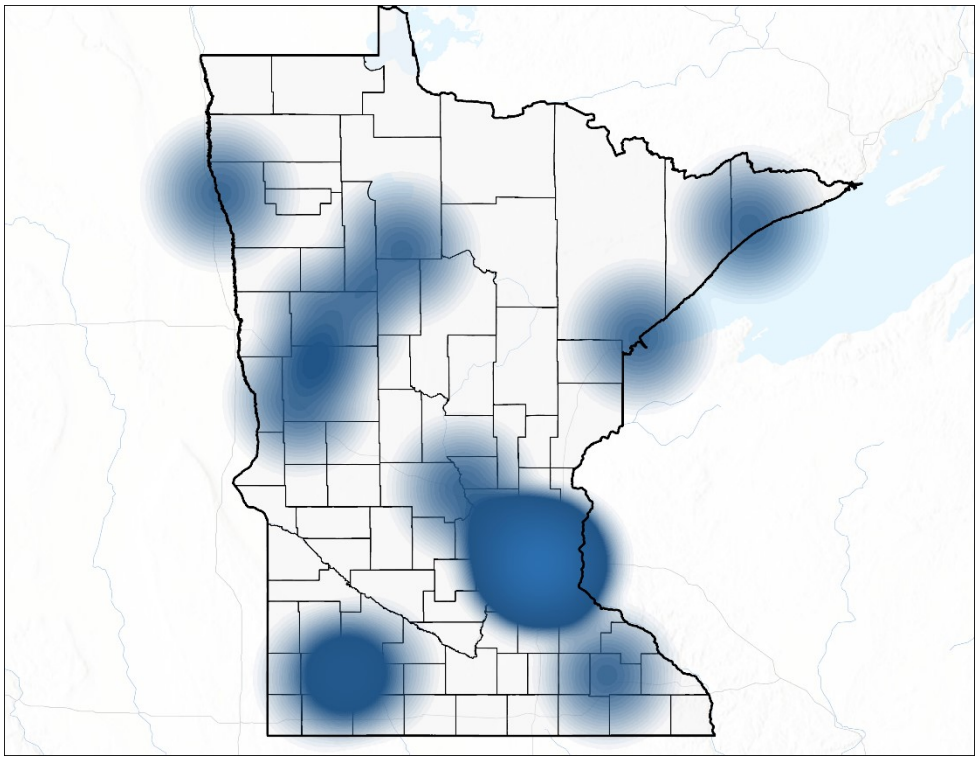


Figure 7. Distribution of organizations represented in follow-up interviews.

Organizational priorities and challenges

Although the agencies interviewed generally support reducing VMT when possible, they often do not have the capacity or resources to apply state level policies locally. Key challenges include land uses that are not conducive to walking and difficulty providing reliable alternatives to driving, especially in rural areas.

- Some organizations support the idea of VMT reduction but most lack the knowledge or resources to set informed goals and incorporate them into their daily operations.
- Jurisdictions are generally interested in initiatives that could help reduce VMT but don't have the funding to support them. While local organizations would like to invest in multimodal projects, their budgets are stretched to the point where they are forced to use all available resources on maintaining their existing infrastructure.
- Organizational priorities are generally determined by local values and economic priorities. For example, many rural communities prioritize adequate infrastructure for freight and for agricultural equipment, while others prioritize building recreational trails to support seasonal tourism.
- Most communities, especially in smaller and more rural areas, have an interest in sustainability and multimodal transportation although many do not support VMT reduction goals. Some organizations mentioned a conflict between VMT reduction and attracting more businesses or tourism, because they see VMT as a natural byproduct of these economic efforts.
- Land use is a major challenge in most areas. A lack of density makes it difficult to incorporate multimodal projects. When working on initiatives like Safe Routes to Schools, some school boards do not allow children

to bike or walk to school due to schools being in areas not conducive to safe walking and biking. Railroads were also cited as a barrier.
- Organizations working in rural areas highlighted the difficulty of providing reliable alternatives to driving and view reducing VMT as unrealistic.
- To support efforts such as increased density, VMT reduction, and mode shift, organizations are interested in a 'carrot and stick' approach. However, they find it challenging to adequately explain the potential benefits of projects in areas where these types of projects have not been implemented in the past. These organizations would benefit from MnDOT providing talking points, data, and comparable examples to help justify novel projects.

Current initiatives

Many initiatives across the state that could help reduce VMT are often paired with other goals like improving health, providing access to education, or fostering the community culture of outdoor recreation.

- Zoning changes include efforts to gently increase density.
- As part of its commitment to improving the health of their residents and workers and reducing health insurance costs, one community is prioritizing parks and trails, which has led to a shift in community culture towards multimodal and active transportation initiatives.
- Neighborhood traffic management plans have helped bring communities together to make streets safer. Although there are still some barriers to overcome (cost to participate, neighborhood petitions, etc.) they have led to effectively lowering speeds in some areas.
- In some rural areas where VMT reduction is seen as a challenge, local governments still focus on multimodal investments—driven by community feedback—to better connect downtown areas. This includes adding sidewalks, bike lanes, and trail systems through a pedestrian plan.
- Consistent data collection is often a challenge for local jurisdictions. Several local organizations are collecting local travel data using bike and pedestrian counters, transit ridership data, and StreetLight Data. One organization notes the Minnesota Department of Health was instrumental in setting up bike and pedestrian counts. Another has relied on Safe Routes to School counts to build a decades-long database for monitoring changes in travel patterns over time.
- Sustained, long-term public engagement with communities and stakeholders has led to several active transportation plans. Local organizations note it is a lengthy process, but many look forward to implementing the plans, knowing the community and stakeholders reached a consensus.
- One rural jurisdiction has had success framing VMT reduction, multimodal options, and mixed-use development as a strategy for kickstarting the local economy, as it faces population decline and its businesses struggle.
- Framing the need for bike and pedestrian improvements in terms of safe routes to school, expanding recreational trails, and economic development has been successful in rural areas.

Opportunities for increased MnDOT support

Organizations shared many potential ways in which MnDOT can continue to support their sustainability efforts, especially with funding, communication, and tools to measure and monitor VMT.

Measuring VMT

- Limited staff capacity makes measuring and monitoring VMT difficult.

- Local organizations would benefit from VMT data for local roads or guidance on methods for estimating VMT. This includes guidance on using emerging data sources like StreetLight Data.

Funding

- Most organizations interviewed are on board with initiatives that could help lower VMT, but they struggle to incorporate supportive infrastructure projects without dedicated funding, as their limited budgets require them to spend any available general funding on maintenance of existing assets.
- A MnDOT uniform method for estimating carbon reductions could be helpful to standardize how counties or organizations are applying for funding from MnDOT. Since there is not a single definition or tool to calculate carbon and mitigation efforts, different jurisdictions make different assumptions on their carbon reduction. This would also help streamline the grant process.
- Several jurisdictions struggle with MnDOT's cost-participation policy because MnDOT only pays the cost for replacing existing infrastructure. Anything beyond what already existed must be covered by the local jurisdiction. One suggestion is that, at a minimum, MnDOT guarantee a sidewalk be part of any local road project, whether one existed in the past or not.

Communication

- The idea of reducing VMT causes many organizations and residents around Minnesota to shut down. People often associate VMT reduction with something being taken away from them. Providing language focused on what active transportation and multimodal infrastructure can *add* to the municipality helps shift this focus.
- Several local jurisdictions want to effectively communicate the benefits of active transportation compared to highway expansion. They are looking for ways to communicate the cost of a large road project and the benefits (e.g., 30 seconds per day) compared to the costs and benefits of a trail system or similar investment. Jurisdictions want more assistance in making the case for why alternative modes are worthy of investment.
- Many organizations note the desire for more interactive outreach and communication between districts. When decisions come from the central district, it is often seen as a huge jump without sufficient context on the backgrounds, methods, or feedback processes.

MnDOT strengths

Past and current efforts by MnDOT to coordinate with local governments and support multimodal investments have not gone unnoticed.

- Almost all organizations noted how good of an all-around partner MnDOT has been. Local jurisdictions appreciate the engaging interactions between MnDOT staff and local authorities who prioritize relationship-building and two-way conversations, as opposed to simple directives without any flexibility.
- MnDOT's leadership has been beneficial in making active transportation projects into the default standard for many communities.
- One organization notes that MnDOT has been a great partner in their district, but they observe that there seem to be drastically different approaches and motivations for incorporating active transportation and mobility options in other districts. This signals inconsistency in the priorities and support offered by different MnDOT district offices.

Miscellaneous Feedback

- Some organizations mentioned that the MnDOT website is difficult to navigate, specifically within the funding applications and option pages. Finding up-to-date funding opportunities and current application pages is inconsistent.
- A few organizations mentioned frustration with MnDOT's bridge policy, specifically for snow storage. Cities currently pay for all snow storage on bridges, which makes them more reluctant to add bike and pedestrian infrastructure, which can be complicated to clear. Instead of removing the snow and putting it in storage, agencies tend to move snow back and forth between the sidewalk and right of way, which reduces accessibility and safety on the bridges.
- Snow removal came up as a challenge in multiple interviews, especially where local and state jurisdictions transition.
- There are concerns about the effectiveness of electric vehicles in winter conditions. Organizations would be interested in more guidance from MnDOT on this topic.
- One organization noted that while MnDOT is an excellent partner on local projects, its broader spending program still seems to prioritize highway capacity, which runs contrary to its long-term goals related to VMT reduction.

Conclusions

While many local organizations across the state have expressed an interest in cutting greenhouse gas emissions, few have an explicit focus on emissions from the transportation sector and even fewer of those see VMT reduction as a major strategy for meeting those goals. In many cases, this is because there are more urgent concerns like maintaining existing infrastructure or perceptions of conflicting economic priorities (i.e., agriculture, growth, and tourism), or because they lack the resources—i.e., fundings, data, staff capacity, or social capital—to implement meaningful policies or investments.

Overall, this points to a need to better align VMT-reduction goals and strategies with the pressing needs and priorities of communities across Minnesota. This includes not only maintenance and construction issues but also the notion that long travel distances are naturally inherent to everyday life and the perception that VMT growth is necessary for a strong local economy. In some of these cases, unique opportunities to reduce VMT could exist, while in other cases, it might be necessary to lean into other strategies for reducing transportation emissions (i.e., cleaner vehicles and fleets).

Nonetheless, there are organizations that are interested in the types of policies and investments that could reduce overall driving and help meet ambitious climate goals, often because they support local economic goals. These include bicycle and pedestrian improvements and compact development. Many of these organizations see MnDOT as a critical partner in funding, designing, and maintaining multimodal infrastructure.

Given how important local policies and initiatives are in supporting MnDOT's overarching goals related to VMT reduction, this presents a strong impetus for closer coordination and support among state and local agencies.

While many local organizations view MnDOT as a good and responsive partner, there are opportunities for the agency to work more actively with and support these organizations in overcoming unique jurisdictional challenges. These include:

- **Dedicating funding for multimodal investments.** Many local organizations feel they must allocate any available funds toward maintenance, then rely on specialized funding programs for multimodal projects,

to help justify the costs internally and in the community. Many feel they need to be able to point to reliable transportation alternatives before seriously considering reduced driving.

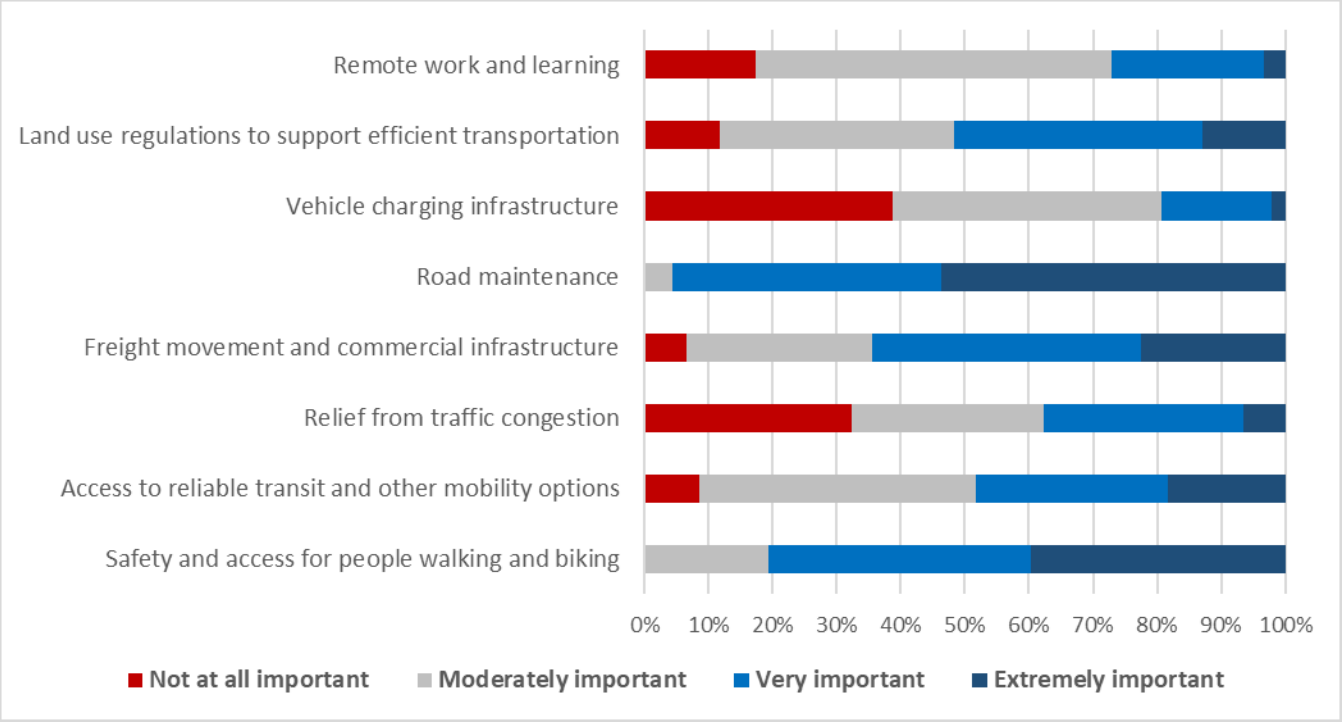
- **Communications around VMT reduction.** Many local organizations struggle to communicate the benefits of driving less and related policies. Specifically, many would welcome examples highlighting the health and economic development benefits (moving away from language about "reduction"), and ways of comparing the costs and benefits of multimodal investments to those of traditional highway projects. Many rural communities would also benefit from materials that help them understand the compatibility of VMT-reduction initiatives with local economic priorities like tourism and agriculture.
- **Data resources.** Most local organizations lack the knowledge or capacity to measure and monitor VMT locally. MnDOT could support local efforts by providing data, tools, and guidance on leveraging emerging data sources.
- **Clearer guidance.** Some local organizations would benefit from clear explanations of how MnDOT develops newer guidelines or requirements and how to apply those rules at the local level. This could include better communication from district offices with specific talking points and examples to help staff implement and support policy changes. It could also include more intentional transparency from MnDOT in explaining the motivations, processes, and decisions behind newer policies, guidelines, and requirements.
- **Leading by example.** MnDOT touts many well-intentioned goals related to sustainability and multimodal transportation, but its project funding does not seem to consistently reflect those goals.

References

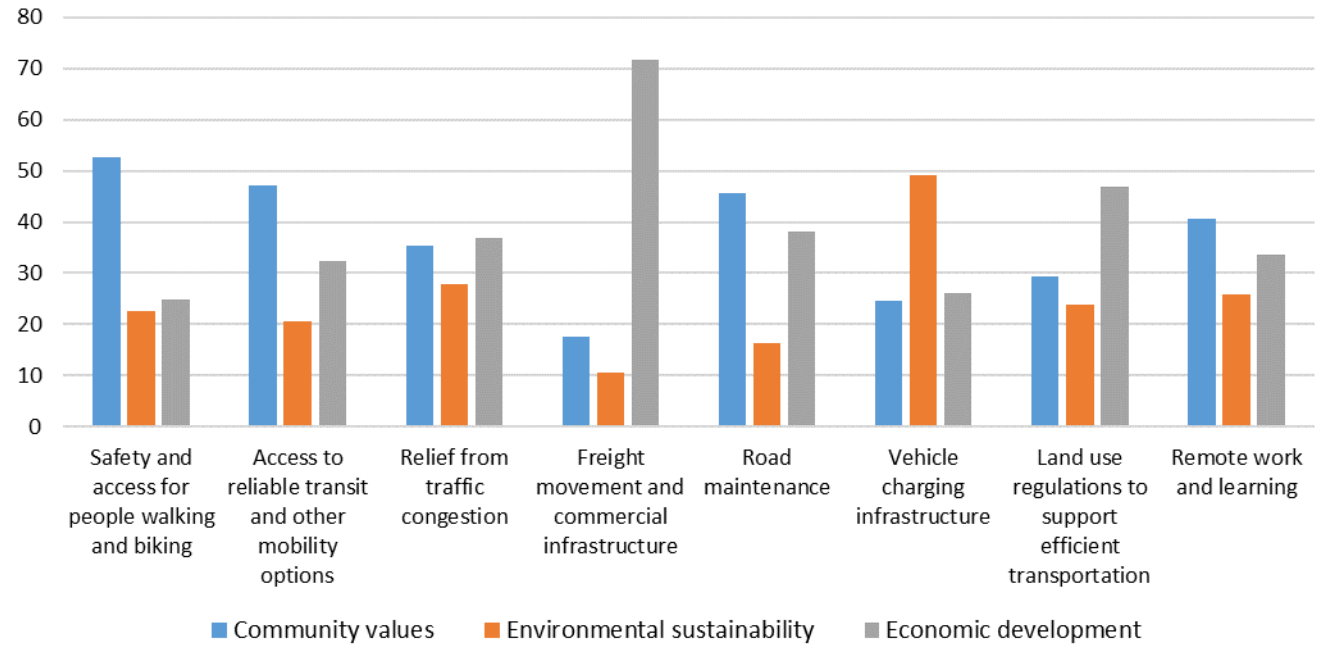
California Air Pollution Control Officers Association. (2021). *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. Retrieved from https://www.caleemod.com/handbook/full_handbook.html

Minnesota's Climate Action Framework. (2022). Retrieved from https://climate.state.mn.us/minnesotas-climate-action-framework

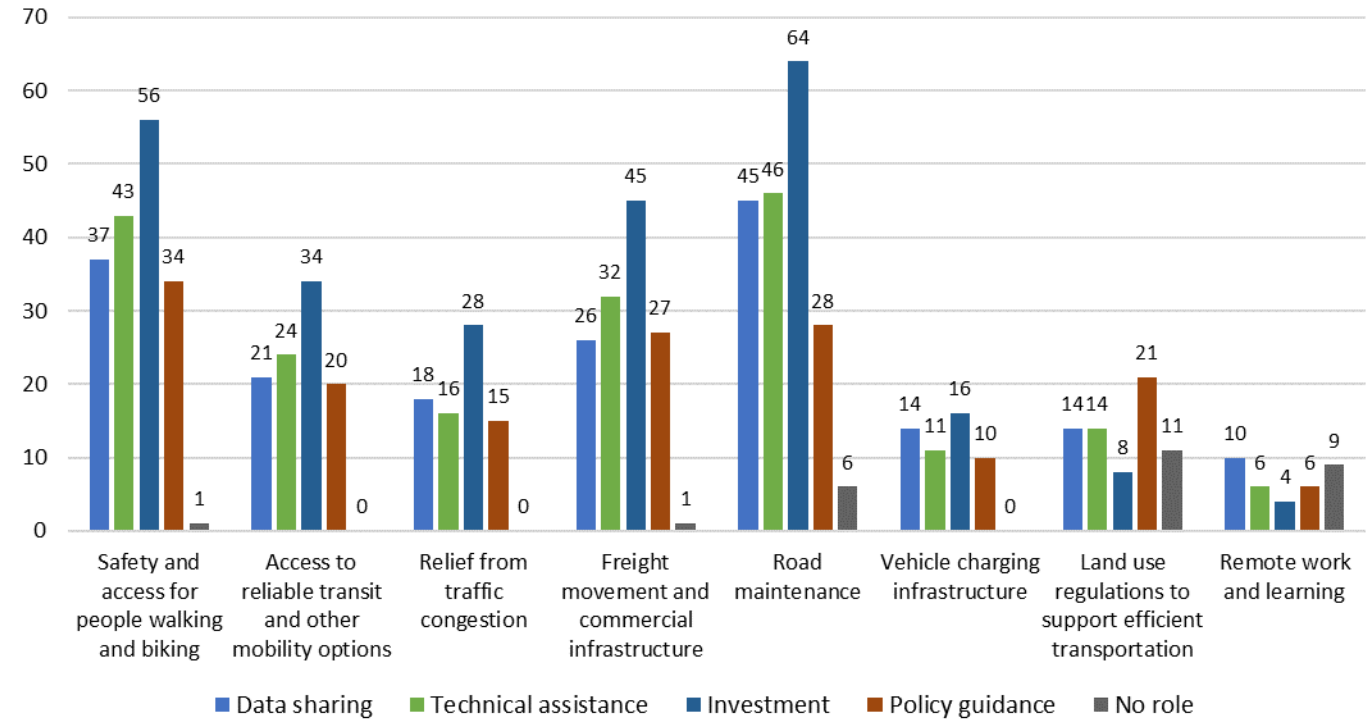
Appendix A. Quantitative survey results



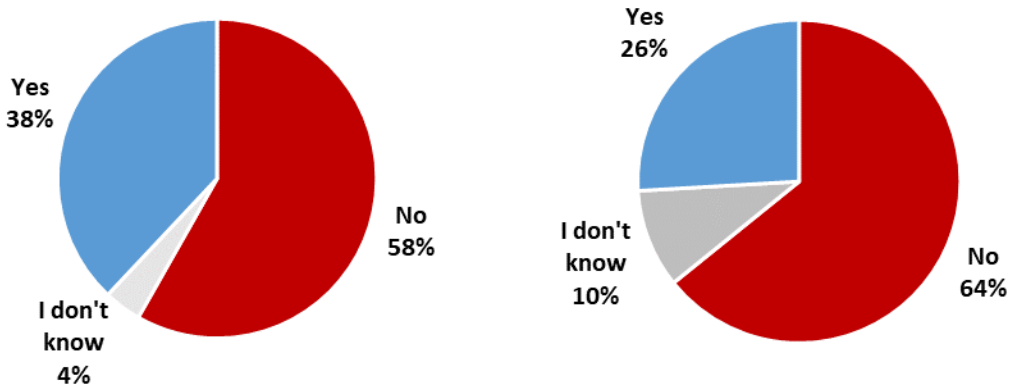
A-1. How important are each of the following in guiding decisions within your organization?



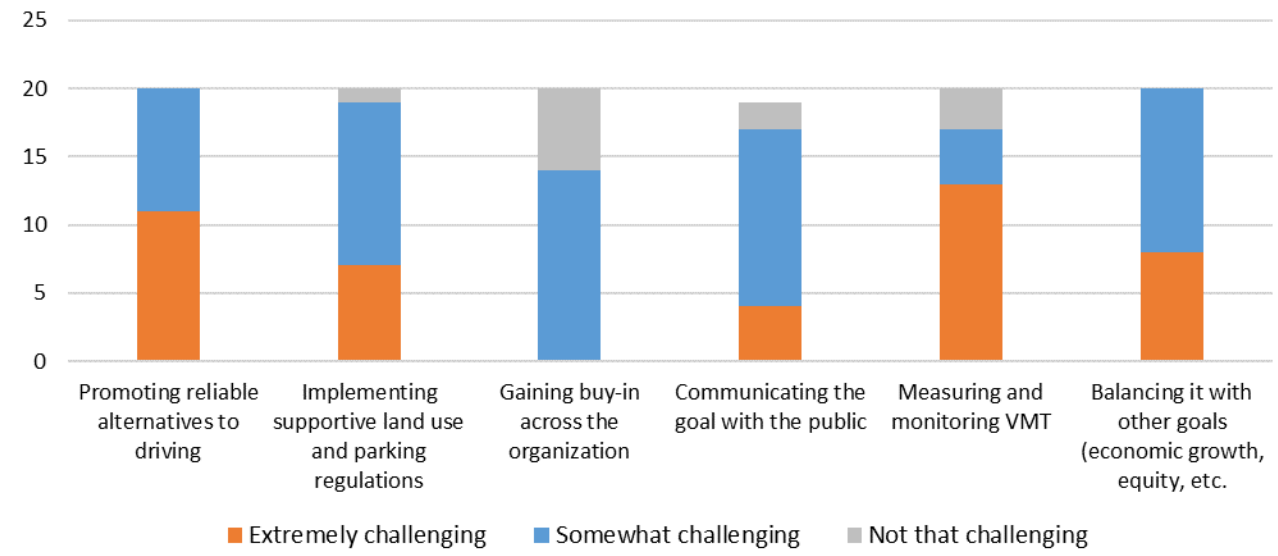
A-2. Why are each of the following important in guiding decisions within your organization?



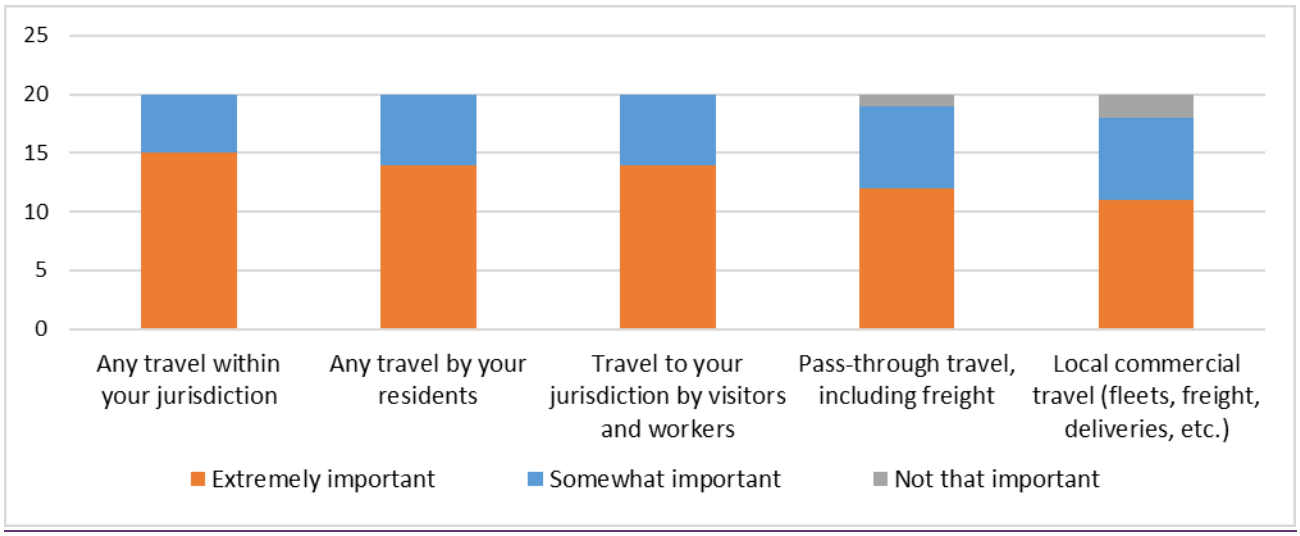
A-3. How do you see MnDOT potentially playing a role in these efforts?



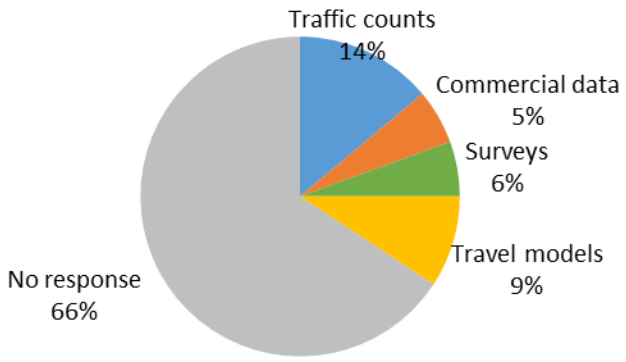
A-4. (LEFT) Is it a goal of your organization to reduce transportation emissions? A-5. (RIGHT) Is it a goal of your organization for the average person or household to drive less?



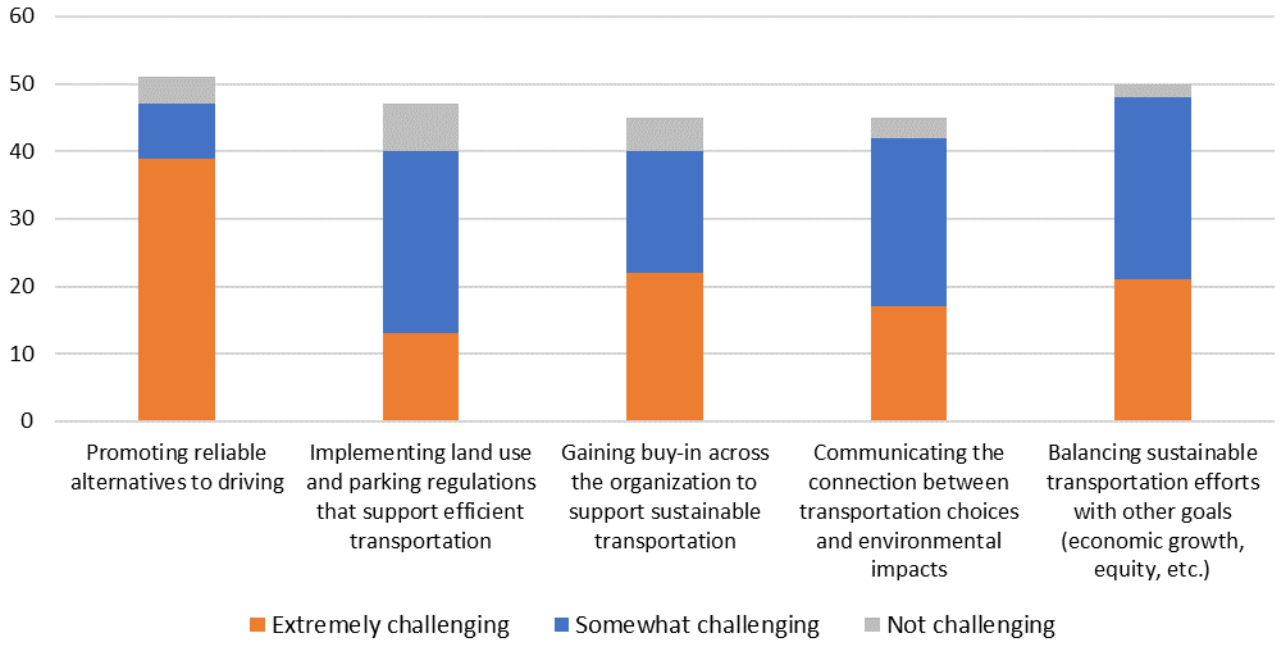
A-6: YES to either: How challenging are advancing the following efforts in your jurisdiction?



A-7: YES to either: How important are each of the following considerations when measuring VMT?



A-7. YES to either: Do you rely on any unique data sources to measure VMT?



A-8. NO: How challenging are advancing the following efforts in your jurisdiction?