

## TECHNICAL SUMMARY

### Questions?

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### Investigator:

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### PROJECT COST:

\$120,000



Safety measures for car-based shared mobility services can be challenging to enforce given the use of private vehicles.

# Understanding Transit and Shared Mobility Preferences Post-COVID

## What Was the Need?

Robust transit services are critical to the long-term viability of rural areas, small towns and smaller urban areas in Minnesota. In addition to improving an area's livability, shared transportation resources also support sustainability and equity initiatives and goals.

Since the COVID-19 pandemic, the use of public transit and shared transportation services has plummeted, including in Greater Minnesota. Social distancing measures, general discomfort or safety concerns have resulted in a 40% reduction in trips throughout the state. Urban transit agencies have experienced a 55% reduction in revenue while smaller transit agencies have seen reductions up to 80%.

While drawing riders back to transit and shared mobility is critical, little research has focused on risk perception regarding infectious diseases and public transit, particularly outside of large urban areas. MnDOT wanted to learn strategies that transit agencies and mobility services can use to assure potential users that alternative transportation is safe and effective.

## What Was Our Goal?

The goal of this project was to explore perceived safety risks and other barriers that may keep potential riders in Greater Minnesota from using transit and shared mobility services in the post-COVID era.

## What Did We Do?

The project began with a review of the literature on the perceived risk of different populations regarding the spread of infectious diseases on public or shared transit. The findings provided an initial range of safety protocols, cost considerations and other strategies to communicate safe, low-risk services.

In fall 2021, researchers surveyed Greater Minnesotans to understand their perceptions, concerns and preferences regarding alternative transportation services. The online survey collected demographic and employment status information, as well as vaccination status and the potential for increased COVID risks in a household. The respondents also indicated if they were hesitant to use new technology and if they shopped online.

The survey then explored risk perceptions and transportation modes used—driving alone, transit, carpools, ride-hailing and car-, bike- or scooter-sharing—before and during the pandemic. Respondents identified preferred safety measures, such as face mask requirements, social distancing, increased cleaning of vehicles and screening of drivers.

In addition to safety measures, participants identified service improvements they would like to see, including frequency and timeliness, lower fares and real-time status information. Finally, participants were asked about their interest in transit and shared mobility in an ideal future.

An analysis of the results identified variations by geographic, demographic, socio-economic and other factors. The results informed recommendations on safety and communications strategies that transit agencies and shared mobility services can use to promote the value and safety of shared transportation.

*Public transit and shared mobility usage sharply decreased during the pandemic. Transit agencies and other transportation services in Greater Minnesota need to recover customers to remain viable. Survey data identified rider preferences, safety measures and service improvements to increase interest in and use of alternative transportation.*

*“We now have some good ideas and strategies to share with transit agencies considering changes or improvements to their services, including what’s important to certain populations so they can target communications and marketing regarding improved safety and services.”*

—Elliott McFadden,  
Program Coordinator,  
MnDOT Greater  
Minnesota Shared  
Mobility Program

*“Project results can help agencies rebuild their clientele by identifying demographic groups that are more likely to use transit resources given certain safety or service improvements and barriers.”*

—Yingling Fan,  
Professor, University of  
Minnesota Humphrey  
School of Public Affairs

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While survey respondents indicated less use of bike- or scooter-sharing than some other transportation modes before the pandemic, a significantly higher number indicated interest in future use.

### What Did We Learn?

Survey results from over 750 respondents identified the most important aspects of transit and shared mobility services to existing or potential users. While many respondents indicated strong interest in using alternative transportation, driving alone continued to be the most common transportation mode. The primary reasons reported for not using other modes, in addition to having better alternatives available, were lack of access and lack of interest. Factors that predict future transit use included income and car ownership.

Over half of respondents indicated some level of safety concern with alternative transportation. Groups with the highest level of concern included women, people with increased infection risks in their households and urban residents. Online shoppers also indicated heightened concerns. Overall, the most preferred safety measures reported were frequent cleaning of transit vehicles and stops, and increased air ventilation and filtration in transit vehicles. Other popular measures included requiring face masks, providing hand sanitizer and practicing social distancing.

Survey participants reported service improvements are nearly as important as safety improvements, indicating important strategies for increasing ridership. More frequent and faster routes followed by real-time information about vehicles and routes were the highest ranked improvements. The data revealed an unexpected finding regarding trip planning tools and contactless payment technology: Three groups—elderly people, people who are hesitant to use technology, and people who have limited automobile access—were less likely to indicate a preference for these enhancements.

Researchers produced a decision-making matrix for transit agency safety and service improvements, identifying preferences—both overall and those of key transit groups—and cost and timelines for implementation. For car-based shared mobility services, researchers recommended incentivizing drivers to implement safety measures and marketing strategies to highlight health assurances.

### What’s Next?

MnDOT can share these strategies and findings with transit agencies as they consider safety or service improvements to rebuild their ridership following the pandemic. Additionally, the agency has started a second phase of this effort, supporting six rural transit agencies in western Minnesota to field-test contactless payment and trip planning technology. These findings will further inform transit agency efforts to increase public confidence in transit safety and value.

*This Technical Summary pertains to Report 2023-16, “Understanding Post-COVID Safety Concerns Toward the Use of Transit and Shared Mobility in Greater Minnesota,” published April 2023. More information is available at [mdl.mndot.gov](http://mdl.mndot.gov).*