

## Connected and Automated Vehicles: Accessibility for the Twin Cities East Metro

TPEC researchers are continuing their study of the opportunities for connected and automated vehicles (CAVs) to serve transportation-disadvantaged communities. In one effort, researchers focused on the east metro of the Twin Cities, particularly the East Side, downtown, and Frogtown areas of St. Paul. They documented mobility challenges and explored how CAVs could change the landscape of transportation options and accessibility.

### KEY FINDINGS

The team found a potential for CAVs to fill a constructive role in the east metro. Two ideas stand out as tangible ways CAVs can solve issues: by closing existing transportation gaps and by facilitating non-passenger uses.

### CLOSING EXISTING GAPS

CAVs could supplement the existing transportation system to close the gaps between residents and their destinations.

- Compared to other parts of the Twin Cities area, there is a relative lack of transit accessibility in the east metro.
- While transit access is generally concentrated in downtown St. Paul, job growth has occurred further and further out from the urban core, causing long commutes that are not well served by transit.

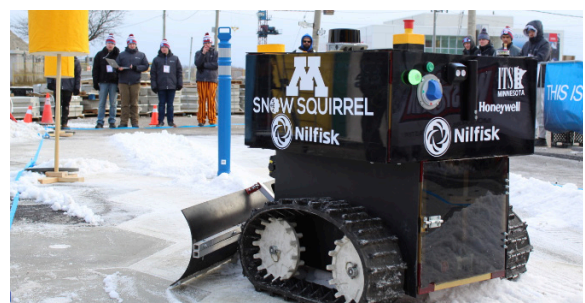
### FACILITATING NON-PASSENGER USES

Study participants specifically noted the use of CAV technology for maintenance and delivery as a way to increase accessibility.

- Automated snowplows could clear sidewalks and bus stops, speeding up snow removal. Using CAV technology for maintenance would have tremendous potential for making multimodal infrastructure more accessible and walkable.
- Delivery service, which took on increasing importance during the pandemic, is another opportunity. The researchers say it will be important to focus not only on younger people adept at using today's common apps but also on seniors and others who need groceries and prescriptions brought to their homes.

### An Existing Gap: Sun Ray Transit Center and Woodwinds Health Campus

One symbol of existing transportation gaps is the limited transit access from the Sun Ray Transit Center to the Woodwinds Health campus. Woodwinds is a major employer and health care service provider, and it includes the only hospital in the southeast metro area. Although there is technically transit access to Woodwinds Health, the campus is very large and not particularly easy to navigate by walking or rolling. The area has been talked about as a CAV pilot opportunity. Researchers say it will be crucial to build in accessibility for all users.



Automated snowplows could clear sidewalks and bus stops—and improve accessibility. Photo: UMN Robotics.

## POLICY AND MARKET OPPORTUNITIES

- There is significant potential for CAVs to connect underserved areas to the broader metro-wide transit system, which could prove beneficial for communities and transit systems alike.
- Planners may need to consider establishing partnerships or policy interventions to avoid inequitable “tiers of access” and high costs from developing in a CAV system.
- Study participants emphasized that public policy must be created to encourage—or force—manufacturers to address equity issues, such as accessibility for users with varying ability levels.
- A marketplace for essential deliveries could be formed in the east metro, building on mobility services such as Mobility4All, which seniors are already using. Another mobility provider, NewTrax, transitioned to food distribution during the pandemic.

## STUDY METHODOLOGY

Researchers interviewed human service providers and transportation practitioners to gain an understanding of transportation challenges and opportunities, as well as potential CAV implications. They also hosted a virtual roundtable with transportation program staff from a variety of organizations in the east metro to discuss the potential implications of CAVs in urban contexts, with an emphasis on equity.

Interview participants included:

- Metropolitan Council
- Philanthropic leader
- Minnesota Department of Human Services – Aging and Adult Services Division
- Hmong American Partnership
- Hmong Elders Center
- Metro Transit
- Mobility4All
- Casa de Esperanza

## FURTHER READING

- Erika Shepard et al., [Opportunities and Challenges for Deploying Connected and Automated Vehicles to Address Transportation Disparities in Urban Areas](#), 2022, *Journal of Law and Mobility*, 3
- [TPEC CAV research](#)

### For more information and additional analyses:

TPEC welcomes public engagement and encourages you to contact us with your questions, comments, and research needs.

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### CAV Demo Projects in FY23

Bear Tracks—a highly automated, 11-passenger, low-speed, fully electric shuttle—began service in August 2022 in White Bear Lake. A pilot in Grand Rapids called goMARTI will have multiple self-driving vehicles and offer free on-demand rides. TPEC researchers will support public evaluation efforts of the White Bear Lake project and examine transportation challenges and stakeholder collaboration in Grand Rapids.