



THE GRAND IRON RANGE CAV INITIATIVE: HISTORY, PARTNERSHIPS, AND COMMUNITY ENGAGEMENT

OVERVIEW

Citizens, leaders, and other transportation stakeholders in Itasca County, Minnesota (which includes the city of Grand Rapids), have long recognized the need for more accessible, affordable transportation. The United Way identified significant transportation and mobility challenges to accessing health and human services for county residents who are older, experiencing poverty, or both. Yet like many rural areas, the county's large geographic size and relatively small population have made it difficult to provide conventional alternative transportation.

Past studies conducted in the area have revealed common themes: a need for safe locations to access shared modes of transportation such as carpools; more transportation options for students and those with disabilities; and expanded multi-modal transportation choices. To address these, local leaders have focused on identifying ways to improve the multi-modal transportation network—including with connected and automated vehicles (CAVs).

We currently have very limited accessible transportation in the evenings and on weekends for the general public. goMARTI provides opportunities for people with mobility challenges to experience activities that enhance their quality of life.

—Myrna Peterson, Itasca Life Options and community engagement advocate

In the fall of 2022, a first-of-its-kind CAV pilot program called goMARTI (or, Minnesota's Autonomous Rural Transit Initiative) was launched as a collaborative effort between numerous partners. The 18-month pilot offers free, on-demand rides to area residents and visitors using five autonomous shuttle vans (including three wheelchair-accessible vans) at 70 drop-off and pickup points within a 17-square-mile area. The pilot's goals are to advance CAV technology in rural, winter conditions; engage and educate the local community with real-world CAV experiences; provide safe, accessible mobility for all residents; and understand how the pilot could impact economic development while attracting future talent and technology to the area.

WHAT WAS THE NEED?

The goMARTI pilot offered University of Minnesota researchers an opportunity to support the work by providing data and conducting research on specific aspects. In this project, researchers documented lessons learned from the pilot, which included exploring the recent history of institutional and community



The goMARTI self-driving shuttle pilot is the result of a unique partnership of multiple groups with a shared goal of increasing accessibility and transportation options in Grand Rapids, MN. The deployment covers nearly 17 square miles and includes approximately 70 pickup and drop-off points with a fleet of five autonomous vehicles, including three that are wheelchair-accessible.

engagement efforts regarding transportation in Itasca County and Grand Rapids, as well as the innovations and collaborations that took place to make the pilot's implementation possible.

WHAT WAS THE GOAL?

The goal of this project was to review past efforts that identified the transportation needs of underserved populations in Grand Rapids and evaluate how the goMARTI pilot project addressed those needs.

WHAT WAS DONE

To begin, researchers reviewed previously identified transportation and community goals related to the goMARTI project and the transportation needs of underserved populations. After creating a list of stakeholders involved in local transportation planning, they interviewed stakeholders to learn what progress had been made towards these goals—and assessed goMARTI's ability to address them.

Next, the team examined the innovations at work in the goMARTI project. They created a summary of evaluation criteria for CAV projects by reviewing other Minnesota-based pilot projects—White Bear Lake's Bear Tracks and Rochester's Med City Mover—along with the national Waymo and Cruise demonstrations. In addition, the researchers considered how the innovations of the goMARTI demonstration affected the Grand Rapids community. Finally, researchers evaluated the extent to which goals were met through stakeholder interviews, focus groups, and post-ride survey analysis.

WHAT WAS LEARNED

This study found that the goMARTI project is successfully meeting the transportation needs that had been identified in previous studies. Many individuals who are unable to drive or who lack consistent access to a vehicle reported a positive experience with goMARTI and want to see the service expanded and continued. Overall, these people enjoyed their goMARTI experience; any negative feedback received was related to a desire for expanded service. Riders requested increased hours, increased range, and shuttle stops at specific locations rather than the street.

The goMARTI demonstration is meeting many of the community needs identified in studies over the last 15 years. The services are available to those who cannot or are unable to drive, which includes young people and those with mobility challenges. It also provides an additional consistent form of transportation for the entire community and helps educate residents (especially young people) about CAV capabilities.

A better understanding of how CAVs function in winter weather was another benefit of the goMARTI demonstration. As the first CAV deployment in a rural community with winter weather conditions, this project provided a unique learning opportunity for CAV operations compared to other environments that lack snowfall and have only clear urban streets to navigate. The project team recommends this research be continued to ensure safe service in locations that experience winter weather.

WHAT'S NEXT?

In May 2023, the USDOT's Federal Highway Administration awarded the Minnesota Department of Iron Range Resources and Rehabilitation a \$9.3 million Advanced Transportation Technology and Innovation (ATTAIN) grant to continue the goMARTI demonstration. The grant will allow goMARTI to expand its fleet and the area it serves to continue towards its goal of service for all in the Grand Rapids community.

“Findings show that goMARTI is helping to meet an essential community need. The lessons learned will guide future CAV deployments in Minnesota and beyond, particularly for rural communities that experience the same harsh winter conditions as Grand Rapids.”

—Thomas Johnson-Kaiser, CAV-X engagement and project manager, MnDOT

“In our experience, it's a sign of a successful project when the main suggestions for improvement are to increase the service.”

—Frank Douma, Director of State and Local Policy and Outreach, Institute for Urban and Regional Infrastructure Finance, U of M



Of the five goMARTI project vehicles, three are equipped to accommodate a passenger who uses a wheelchair.



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FOR MORE INFORMATION:

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