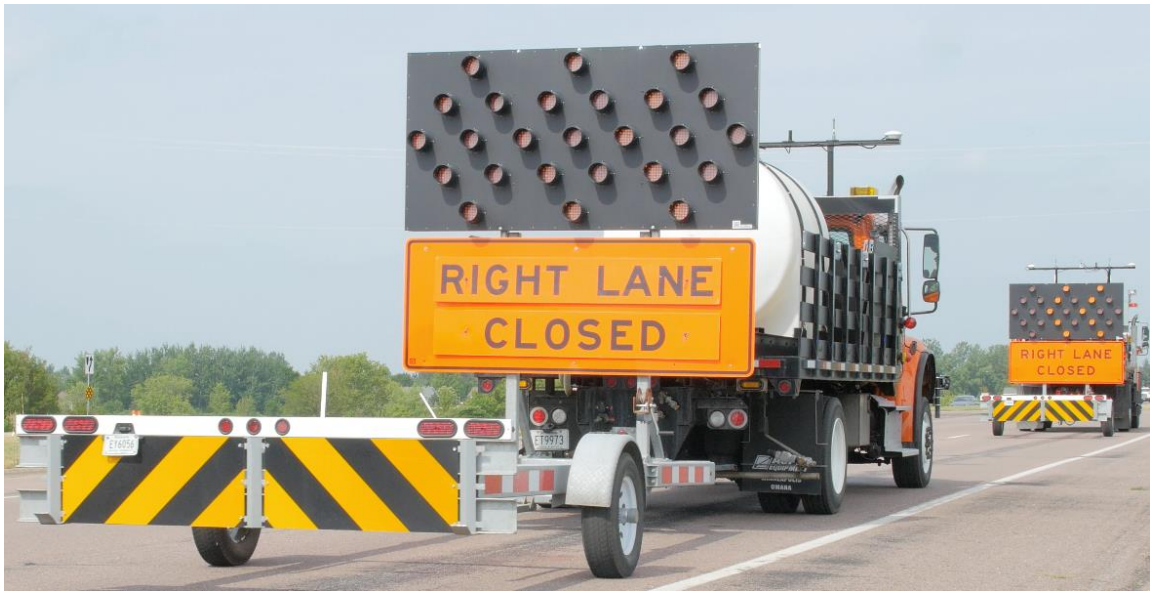
Automated Truck Mounted Attenuator (ATMA) Project

Connected and automated vehicle (CAV) technology has the potential to significantly increase work zone safety. Each day, MnDOT maintenance employees and contractors are at risk of being involved in crashes when performing road work. To mitigate this risk, MnDOT uses truck mounted attenuators – or crash cushions – to help protect roadside workers.

The *Minnesota CAV Challenge* is a unique contracting method which allows industry to propose CAV solutions to current transportation problems. Micro Systems, Inc. proposed an idea to build an Automated Truck Mounted Attenuator (ATMA) based on technology used for the Department of Defense with the goal to test and demonstrate this technology to improve work zone safety.

ATMA Overview



An ATMA truck follows the path of lead maintenance vehicles by useing connected and automated vehicle technology. The lead vehicle leaves "electronic bread crumbs" for the ATMA to follow, allowing the ATMA to operate autonomously. For this project demonstration, a safety driver will be in the ATMA vehicle at all times. In the future, ATMAs have the potential to increase safety during mobile work zone operations by not needing a driver, keeping workers out of harm's way.

Benefits of the ATMA Technology

Testing and Research
- MnDOT learns how to apply technology and its impacts to the agency

Enhance Worker Safety
- Minimize workers exposure to crashes

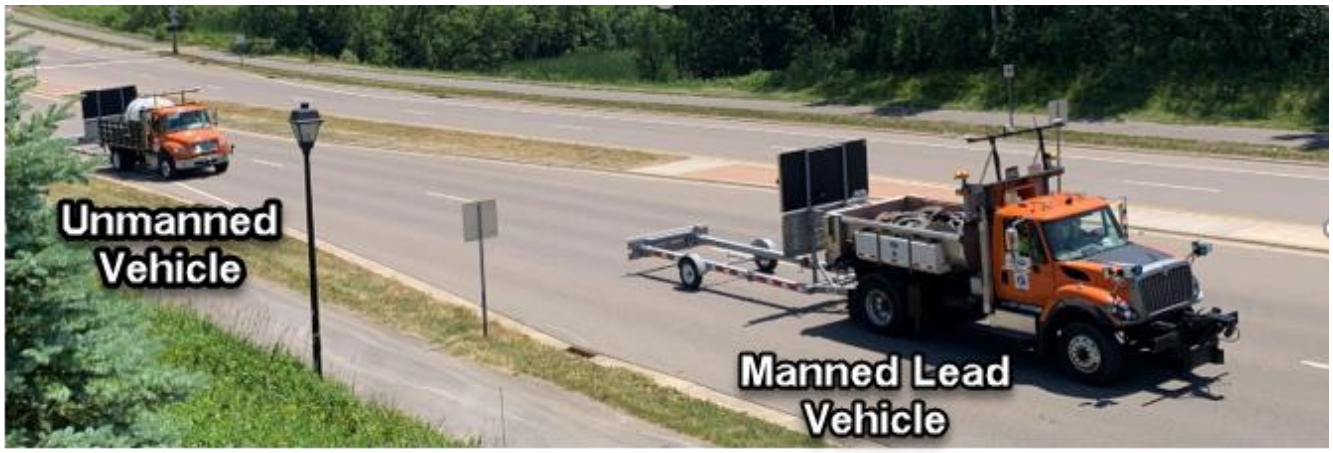
Increased efficiency
- Driver can assist crews with finishing tasks faster

Public Awareness & Education
- See how CAV technology can enhance safety and operations

Project Goals

Safety	Public Engagement	Improved Technology	Efficiency	Education
Increase worker safety with automation	Demonstrate technology to support policy and educate the public	Learn from user feedback to improve technology	Identify how technology can be deployed to improve oerations	Learn how DOTs can use technology and share best practices with other users

How does it work?



1. Retrofit existing MnDOT maintenance vehicle and install "ATMA kit" technology
2. Install automated technology on the follower vehicle (truck mounted attenuator)
4. Test on closed roads
5. Refine software as-needed

Schedule

Summer 2019	Fall 2019	Spring-Summer 2021	September 2021	October 2021
Project kick-off	Build technology onto MnDOT truck	Testing	Evaluation	MnDOT Demo

For more information contact:

Cathy Huebsch, Project Manager – cathy.huebsch@state.mn.us