



MAASTO CAV STATE GRANT FLY-BY

IOWA DOT WORK ZONE DATA EXCHANGE (WZDX)

Iowa Department of Transportation

2023

MAASTO CAV STATE Grant Fly-By



IOWA DOT WORK ZONE DATA EXCHANGE

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
US DOT Work Zone Data Exchange	\$96,000+	One of 13 grants issued by US DOT in 2021; Iowa project partners with Iowa State University Institute for Transportation Research	Statewide	Smart Arrow Boards launched in August 2022 concurrent with version 4.0 of WZDx data feed

PROJECT SUMMARY

Smart arrow boards channel better work zone data, like lane shifts, into the Iowa statewide Advanced Traffic Management System (ATMS). The ATMS combines the smart arrow board information with existing work zones in the system to produce a WZDx data feed with additional, verified data. This supports traffic operations including Iowa 511 and could in theory provide information to connected or automated vehicles. It may also provide better information for OSOW movements to avoid work zone issues.

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KENTUCKY TRANSPORTATION CABINET GRANT SUMMARY

Shane McKenzie

2023

MAASTO CAV STATE Grant Fly-By



ATCMTD GRANT FOR KYTC'S WRONG WAY DRIVING PROJECT

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT ATCMTD	\$5.2M W/ 5.2M State Match for a total of 10.4M	KYTC City of Louisville City of Lexington	Louisville: Sections of I-65 & I-264 Lexington: Sections of I-75 & New Circle	Issue RFP solicitation in late August to select Progressive Design Build Team (DBT) Deployment starting in 2024

PROJECT SUMMARY

The **Wrong-Way Driving and Integrated Safety Technology System** will use edge computing / video processing to detect and deter wrong-way incidents. The system will alert other drivers and emergency responders. The new computing power also creates an opportunity to better leverage existing ITS equipment for freeway mainline monitoring, detecting other safety concerns including pedestrians, debris, and stopped vehicles.

The Wrong-Way Driving and Integrated Safety Technology deployment has four elements:

1. **Detection System** - Identifies wrong-way incidents and other safety concerns in real time
2. **Deterrent System** - Activates warnings designed to discourage the wrong-way drivers
3. **Alert System** - Notifies correct direction travelers and emergency responders
4. **Mainline Monitoring System** – Identifies mainline safety concerns

STATE OF MICHIGAN GRANT SUMMARY

Kim Zimmer, P.E

2023

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INTELLIGENT WOODWARD CORRIDOR PROJECT

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT ATCMTD	\$5,500,000 grant \$5,500,000 match	MDOT City of Detroit SMART MSP M-1 Rail Grant Partners: Bosch, Derq, Mixon Hill, Corbin, WSP, Wayne State University	M-1 from Adams to 7 mile Woodward Ave from Larned to Adams Various Exit Ramps on I-696, I-75, and I- 375	Awarded FY2019 Construction completion Dec 2024

PROJECT SUMMARY

The project will design, deploy and evaluate an intelligent transportation network along the M-1 (Woodward Avenue) transportation corridor that serves the citizens of Detroit and surrounding communities.

Deploy CV2X RSUs – focused on vulnerable road users, signal priority and preemption, V2V and V2I, & wrong way driving.

AACE 2.0: THE ANN ARBOR CONNECTED ENVIRONMENT REIMAGINED

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
Advanced Transportation Technology and Innovation (ATTAIN)	Total Project cost from all sources - \$12,706,425 Federal Funds - \$9,859,240	FHWA City of Ann Arbor	Ann Arbor, MI	3 years from award

PROJECT SUMMARY

AACE 2.0 will retrofit the Ann Arbor Connected Environment with C-V2X Technology.

Vision for AACE 2.0 will be the national template for a commercial deployment of C-V2X that can be rolled out across the country.

MICHIGAN STATEWIDE CENTRAL SIGNAL CONTROL SYSTEM EXPANSION (PHASE 2)

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT BUILD Grant	USDOT - \$8,333,600 MDOT – \$2,083,400	MDOT USDOT	Signals throughout all 7 regions of MDOT	Start - Feb 2022 Finalize – June 2024



PROJECT SUMMARY

Pays for the costs to integrate 1200 MDOT-owned signals into Central signal control system (CSCS)

Establishes remote communications to many signals that currently do not have communications

Build upon the initial investment made by MDOT to establish to CSCS and integration of 280 signals

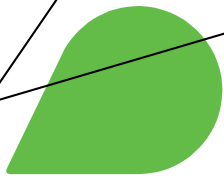


MINNESOTA

CONNECTED AND AUTOMATED VEHICLES

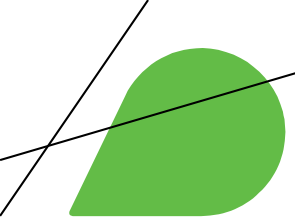
GRANT FLY-BY UPDATES

MAASTO CAV CONFERENCE



AUTONOMOUS TRUCK MOUNTED ATTENUATOR

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT SMART	\$1.9 million \$210K for MnDOT	Colorado DOT-Lead Minnesota DOT Oklahoma DOT Wisconsin DOT	Colorado, Minnesota, Oklahoma, Wisconsin	Ex. Start End of 2023 Ex. Deploy 2024 Ex. Finalize Delivery December 2024



GOMARTI EXPANSION

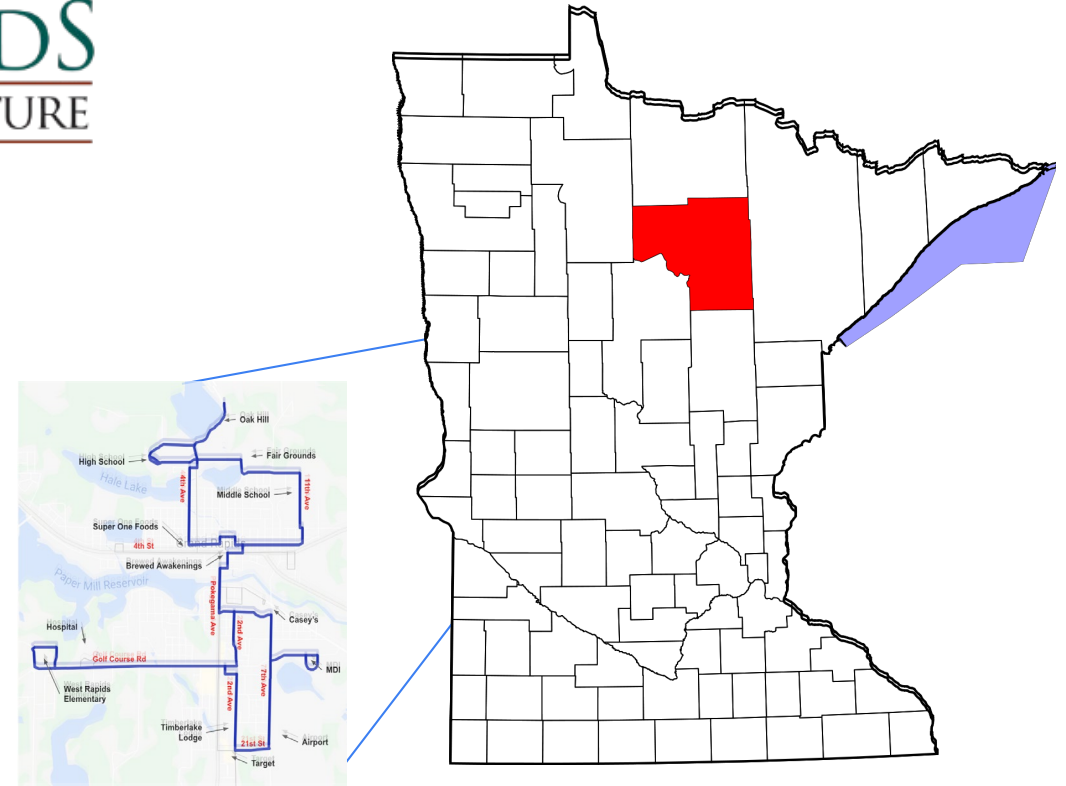
GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT ATTAIN	\$9.3 million	<u>Lead Agency</u> Minnesota Iron Range Resources and Rehabilitation Board <u>Support and Partners</u> MnDOT, Plum Catalyst	<u>Minnesota</u> Grand Rapids, Cohasset, and Le Prairie	Extend for 3 additional years Expand operational area to Cohasset and Le Prairie Add three EVs and one AV Integrate ride call app with greater transit trip planner

GOMARTI PILOT



CITY OF
GRAND RAPIDS
IT'S IN MINNESOTA'S NATURE

- 10 Grand Rapids is in Itasca County (45,180 ppl)
- 10 City Population is 11,280
- 10 Age 65+ is 24.6%
- 10 Minority population 4.3%
- 10 Household income \$48,247
- 10 Persons in poverty 18.2%



goMARTI's pilot zone:
5 shuttles in 16.5 mile area of Grand Rapids

THANK YOU

MINNESOTA CONNECTED AND AUTOMATED VEHICLES PROGRAM

[MNDOT.GOV/AUTOMATED](https://mndot.gov/automated)

TARA OLDS

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STATE OF MISSOURI GRANT SUMMARY

Nicole Hood

2023

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I-270 PREDICTIVE LAYERED OPERATIONS INITIATIVE

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
US DOT ATCMTD (Advanced Transportation and Congestion Management Technologies Deployment)	\$1,000,000	MoDOT	St. Louis, I-270	Start: Summer 2019 Deploy: Fall 2019 Finalize: December 2023

PROJECT SUMMARY

The project deployed three cutting-edge technologies to drive innovation and improve safety and mobility throughout construction: predictive analytics, advanced video analytics and Integrated Modeling for Road Condition Prediction (IMRCP).

LEADER-FOLLOWER TRUCK MOUNTED ATTENUATOR

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
US DOT AMR (Accelerated Market Readiness)	\$425,000	MoDOT, Kratos, Missouri Center for Transportation Innovation (MCTI)	MoDOT SW District (Springfield region)	Start: October 2021 Deploy: Spring 2022 Finalize: December 2022

PROJECT SUMMARY

Deploy an additional set of ATMs in the SW region of the state. Conduct a study to determine the value and effectiveness from a user's point of view; ease of use and determine barriers for implementation.

OPERATION GREEN LIGHT: REGIONAL TRAFFIC SIGNAL PERFORMANCE MEASURES

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
<ul style="list-style-type: none"> - US DOT SMART (Strengthening Mobility and Revolutionizing Transportation) - MoDOT STIC - KDOT STIC (Statewide Transportation Innovation Council) 	<p>\$734,653</p> <p>\$100,000</p> <p>\$172,500</p>	<p>Mid-America Regional Council, Multiple agencies in Missouri and Kansas.</p>	<p>Various high volume multi- agency corridors in MO and KS.</p>	<p>Start: Fall 2023</p> <p>Deploy: 2024 (one year evaluation)</p> <p>Finalize: Early 2025</p>

PROJECT SUMMARY

This project will utilize advanced arterial signal performance measures as a tool when timing traffic signals to improve flow, reliability, safety, reduce vehicle emission and delay for the traveling public. Also seek crowdsourced real-time data that can eliminate the need for deploying expensive additional infrastructure-mounted traffic signal sensors for improving performance.

PREPARING LOCAL GOVERNMENTS FOR AUTOMATED DRIVING SYSTEMS – IMPLEMENTING WZDX

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
US DOT WZDx	\$200,000	St. Charles County, CBB Transportation Engineers, University of Missouri	St. Charles County	Start: January 2023 Feed Testing: April 2023 thru September 2023 Finalize: December 2023

PROJECT SUMMARY

The project develops and publishes a new WZDx-compliant data feed for cities and counties within St. Charles Gateway Green Light corridor.

STATE OF WISCONSIN GRANT SUMMARY

Elizabeth Lloyd-Weis

2023

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WORK ZONE DATA EXCHANGE DEMONSTRATION GRANT

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT/FHWA - Work Zone Data Exchange	\$250,000	WisDOT UW-TOPS Lab (UW-Madison Traffic Operations and Safety Laboratory) Arcadis/IBI Group	State Highways - Statewide	Complete



PROJECT SUMMARY

This project published a Work Zone Data Exchange (WZDx) compliant feed. The feed was developed based on the Wisconsin Lane Closure System which tracks all lane closures on State Highways in Wisconsin.

EXTENDING THE WISCONSIN WORK ZONE DATA EXCHANGE TO LOCAL ROADS USING SMART WORK ZONE ITS

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
<p>USDOT SMART Program: Stage 1 Planning and Prototyping</p>	\$250,000	<p>WisDOT UW-TOPS Lab Arcadis/IBI Group</p>	<p>Wisconsin Rural, Urban, and Local Roads (Milwaukee County, Fond Du Lac County, and Columbia County)</p>	<p>Start: Fall/Winter 2023 Completion: Winter/Spring 2025 (15 months after Start Date)</p>

PROJECT SUMMARY

The project will expand the existing Wisconsin WZDx data model to incorporate local road work zone characteristics and prototype the capability on a select set of rural and urban projects in Wisconsin using smart work zone devices purchased through the project.

The project will also evaluate the ability to scale the proposed solution to all WisDOT improvement projects statewide with local road work zone components.

Lastly, the project will provide a model to incorporate other work zones along the local road network into the Wisconsin WZDx using smart work zone ITS.

AUTONOMOUS TRUCK MOUNTED ATTENUATOR (ATMA) FOR WORK ZONE SAFETY

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
USDOT SMART Program: Stage 1 Planning and Prototyping	\$1,891,343	CDOT, WisDOT, MnDOT, ODOT Kratos Defense and Royal Truck Research Universities	WisDOT specific:	Start: End of 2023 Testing: Spring/Summer 2024 Completion: Mid-2025

PROJECT SUMMARY

The ATMA for Work Zone Safety Project will be led by the Colorado Department of Transportation in partnership with Minnesota DOT, Oklahoma DOT, Wisconsin DOT, and academia partners.

The project intends to demonstrate and evaluate the technology under a diverse set of operational design domains and environments. The project also aims to identify and address current barriers that have prevented transportation agencies from deploying this innovative technology at scale.

Wisconsin plans to test and deploy ATMA for pavement marking operations with the county maintenance fleets.

CONNECTED AND AUTOMATED VEHICLE (CAV) ATTITUDES AND PERCEPTIONS SURVEY

GRANT SOURCE	GRANT AMOUNT	AGENCIES INVOLVED	PROJECT LOCATION	PROJECT TIMEFRAME
WisDOT's Policy Research program: Federal Work Program SPR Part-B	Federal \$60,000 State \$15,000	WisDOT UW-TOPS Lab	Wisconsin – all demographics	Start: January 2023 Final Report: December 2023

PROJECT SUMMARY

This project will survey Wisconsin's public attitudes and perceptions toward connected and automated vehicle technology.

The goal is to understand how these attitudes and perceptions influence public:

- understanding of the technology
- safety perspective
- acceptance of the technology
- acceptance of testing on Wisconsin roads
- factors that may encourage or discourage the purchase of CAVs
- response to communication about this topic