DECEMBER 8, 2021

MINNESOTA GOVERNOR'S ADVISORY COUNCIL ON CONNECTED & AUTOMATED VEHICLES

Meeting focuses:

- CAV in Long-Range Planning
- Innovation Alliance Outreach and Education Committee Report Out







WELCOME

Margaret Anderson Kelliher, Co-Chair Commissioner, MnDOT

Phil Magney, Co-Chair CEO and Founder, VSI Labs



AGENDA

- 1. Welcome
- 2. Council Member Engagement Interviews
- 3. CAV in Long Range Planning
- 4. Preview of Federal Infrastructure Investment and Jobs Act
- 5. Innovation Alliance Outreach and Education Committee Updates
- 6. Public Comment
- 7. Closing



- 1. Margaret Anderson Kelliher MnDOT
- 2. Amber Backhaus Automobile Dealers Association
- 3. Dan Chen 3M
- 4. Ryan Daniel St. Cloud Metropolitan Transit
- 5. Danielle Elkins City of Minneapolis
- 6. Michael Gorman Split Rock Partners
- 7. John Hausladen Minnesota Trucking Association
- 8. Phil Magney- VSI Labs
- 9. Myrna Peterson Mobility Mania
- 10. Edward Reynoso Teamsters Joint Council
- 11. Damien Riehl Fastcase Legal Research Platform
- 12. Vicky Rizzolo American Family Insurance
- 13. Kyle Shelton University of Minnesota CTS
- 14. Bret Weiss WSB
- 15. Patrick Weldon Polaris

OTHER PARTICIPANTS

In the chat box please share...

- 1. Your name
- 2. Your role
- 3. Your organization





PREVIOUS MEETING RECAP AND TAKEAWAYS

- Cavnue presented on their work designing the physical, digital, coordination, and operational infrastructure to accelerate and realize the full potential of CAV to make roads safer, less congested, shared, and sustainable
- Updates provided on CAV projects happening throughout Minnesota
 - Med City Mover
 - Highway 52 CAV Corridor Planning
 - CAV Traveler Alert System
 - Twin Cities Startup Week
 - CAV Career Pathways Camp





COUNCIL MEMBER ENGAGEMENT INTERVIEWS

THOMAS JOHNSON-KAISER CAV-X ENGAGEMENT AND PROJECT MANAGER











Suggestions for improvement

- More interactive meetings
- Tangible results and accomplishments
- Clarify relationship of Advisory Council and Innovation Alliance
- Clear communication and more engagement between meetings







Advisory Council hot topics

- National level information
- Accessibility and AVs
- Safety issues
- Cold weather technology
- CAV related businesses





CAV IN LONG RANGE PLANNING

PHILIP SCHAFFNER MNDOT TRANSPORTATION PROGRAMING DIRECTOR



Statewide Multimodal Transportation Plan

MINNESOTA GO

Governor's Advisory Council on CAV

December 8, 2021

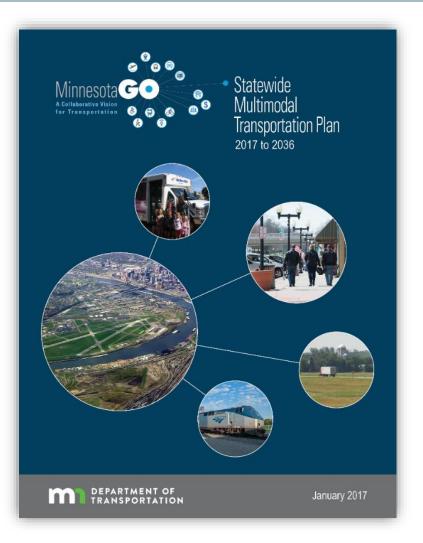


Back in July

- 2018/2019 Scenario Planning for CAV
- Statewide Multimodal Transportation Plan (SMTP)
- Defining Transportation Equity
- Draft Investment Strategies for CAV in the 20year Minnesota State Highway Investment Plan



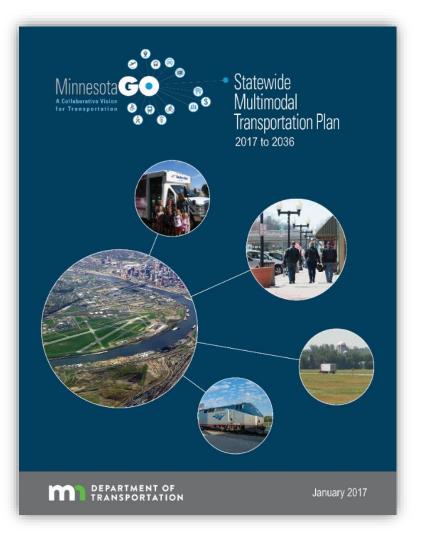
Statewide Multimodal Transportation Plan



- Developed by MnDOT, but covers all transportation
- Overarching objectives, strategies and performance measures for <u>all</u> <u>modes</u>
- Work plan for MnDOT
- Update due 2022



2017 SMTP



• CAV trend analysis

• One reference in a strategy:

"Implement strategic engineering and technology solutions to improve transportation safety."

• Work Plan commitment for MnDOT:

"Study and work with transportation partners to prepare for connected and autonomous vehicles."



2021 State of Practice Review

- Less than half of states currently include a strategy for CAV readiness in their long-range transportation plans—most at a very high level
- A dozen have conducted scenario planning related to CAV
- We have not found any states with CAV-related performance measures



Public & Stakeholder Input

- Continue to proactively lead and plan for CAV
- Transportation agencies should be sure their strategies also benefit human drivers
- Take an iterative approach maintain flexibility
- Consider implications for rural communities and small urban areas (e.g. cost sharing)
- Important to maintain equity focus



Proposed CAV Strategy with Actions

Promote the development and deployment of connected and automated transportation technologies

- Pilot technologies and business models to maintain flexibility in a changing market
- Design roads to support current & new technology with proven safety benefits for all users including human drivers
- Use CAV technology to improve transportation equity and accessibility for all Minnesotans and to reduce transportation disparities
- Improve work zone safety by leveraging CAV technologies and data
- Advance CAV research and data collection to address Minnesota challenges and opportunities



Possible Performance Measure

- Signal CAV readiness
 - % of signals that broadcast signal phase and timing



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PREVIEW OF FEDERAL INFRASTRUCTURE BILL

CAV-RELATED

TARA OLDS CAV-X ACTING EXECUTIVE DIRECTOR



POTENTIAL CAV OPPORTUNITIES

SECTION 25005-STRENGTHENING MOBILITY AND REVOLUTIONIZING TRANSPORTATION GRANT PROGRAM

SMART Grant

- Criteria
 - Public transportation system or other transit
 - Population density
 - Leadership and capacity
 - Data sharing
 - Technical and financial commitments
 - Increase access
 - Private sector investments and partnerships
- Eligible projects
 - Coordinated automation
 - Connected vehicles
 - Intelligent, sensor-based infrastructure
 - Smart technology traffic signals

What's next:

 GAC workshop to brainstorm partnership ideas





INNOVATION ALLIANCE OUTREACH AND EDUCATION COMMITTEE UPDATES

- TARA OLDS, CAV-X ACTING EXECUTIVE DIRECTOR
- KATIE CASKEY, STRATEGIC COMMUNICATIONS MANAGER, HDR
- GINA BAAS, ASSOCIATE DIRECTOR OF ENGAGEMENT AND EDUCATION, CENTER FOR TRANSPORTATION STUDIES



COMMITTEE PRIORITIES

Develop CAV messaging Develop tools and Update Destination CAV Plan for future public Plan a MN CAV Annual Plan a MN CAV materials (general resources content for newsletter demonstrations Conference Technology Showcase MnDOT CAV website public audience) • Draft agenda and • Draft agenda • CAV dictionary • Newsletter template • Draft content to share • Targeted audiences and locations content • Talking points • Content ideas Prioritize information • List of companies and • Measures of success • List of key speakers research to highligh • Partner newsletters • CAV 101 presentations and sessions • Handouts





LET'S TALK ABOUT CAV

UNDERSTANDING PEOPLE'S KNOWLEDGE AND FEELINGS RELATED TO CONNECTED AND AUOTMATED VEHICLE TECHNOLOGY IN MINNESOTA

Governor's Advisory Council Presentation 12/8/21









WHAT DID THE PROCESS LOOK LIKE?







WHAT DO WE WANT TO LEARN?

WHAT DO	WHAT	WHAT ARE	WHAT ARE
MINNESOTANS	TERMINOLOGY	PEOPLE	PEOPLE
CURRENTLY	RESONATES	EXCITED	CONCERNED
THINK OF CAV?	WITH PEOPLE?	ABOUT?	ABOUT?
WHAT DO PEOPLE WANT TO KNOW ABOUT CAV?	WHAT IS THE STATE'S ROLE?	HOW DO PEOPLE WANT TO BE INVOLVED?	WHAT DOES THAT MEAN FOR OUR WORK?







PEER AGENCY INTERVIEWS CAV MEDIA REVIEW MINNESOTA DATA REVIEW





BACKGROUND RESEARCH INSIGHTS

WHAT DID WE LEARN ABOUT CAV COMMUNICATIONS AND ENGAGEMENT?

FROM PEER AGENCIES:

- What have others learned?
 - o Preferred language
 - o How to frame the conversation
 - o Successful tactics
 - o Common themes from previous engagement

FROM MEDIA REVIEW:

- What are Minnesotans' currently saying?
 - o Where conversations about CAV are occurring
 - o Who is talking about CAV
 - How they are talking about CAV (key words and sentiments)

FROM DATA REVIEW:

- How do we connect with Minnesotans?
 - o Technology use
 - o Media use
 - o Civic participation





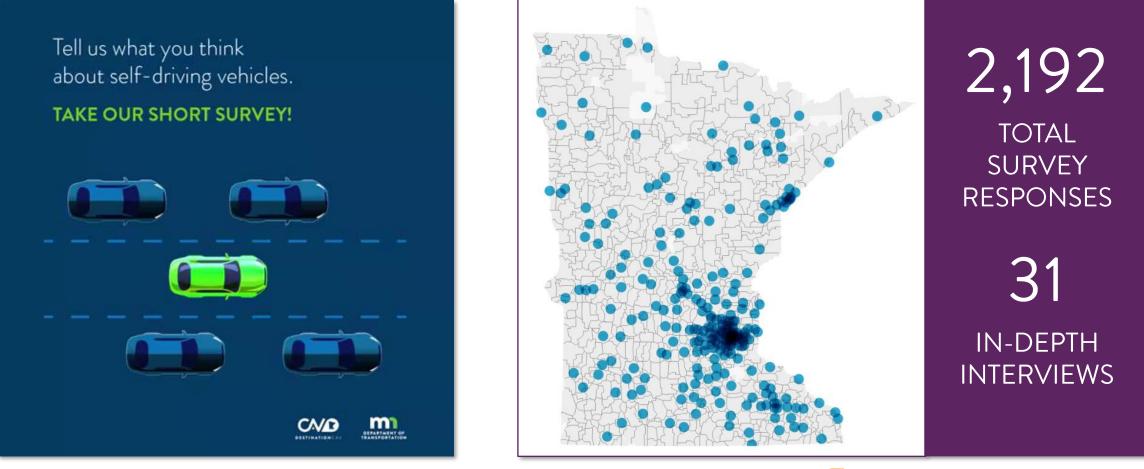


STATEWIDE BASELINE SURVEY INDIVIDUAL IN-DEPTH INTERVIEWS









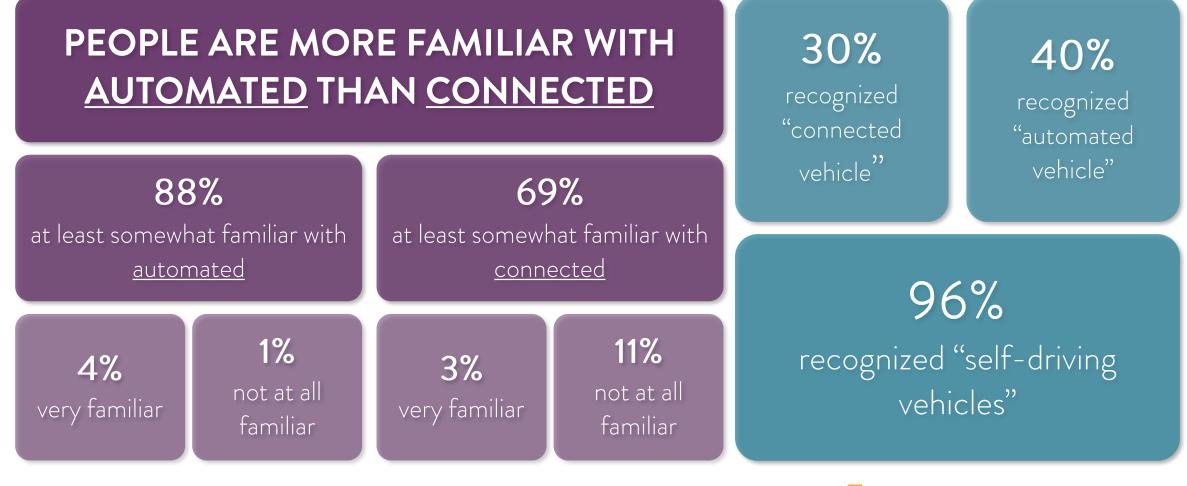




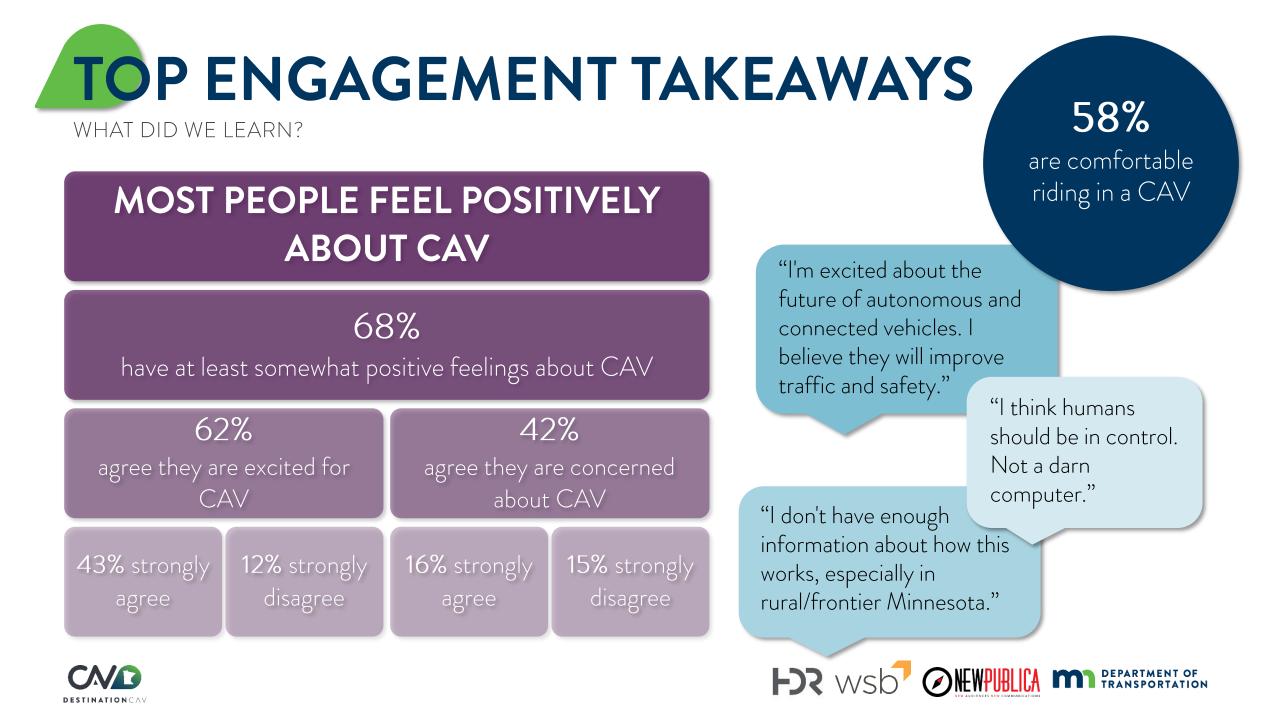


WHAT DID WE LEARN?

DESTINATION



HR WSD ONEWPUBLICA M DEPARTMENT OF TRANSPORTATION



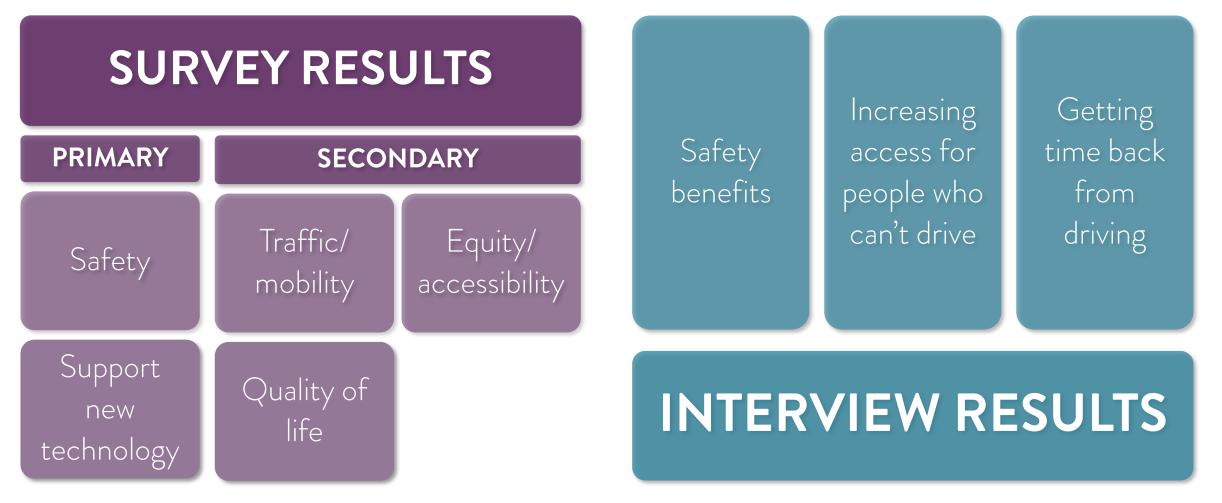






WHAT ARE PEOPLE EXCITED ABOUT?

RESULTS FROM SURVEY AND INTERVIEWS

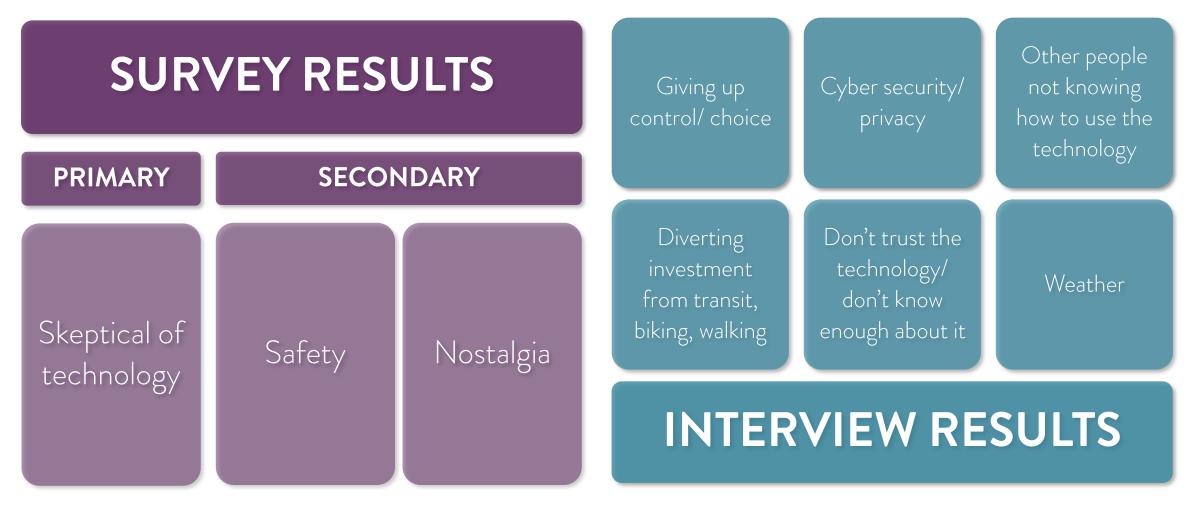


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WHAT ARE PEOPLE CONCERNED ABOUT?

RESULTS FROM SURVEY AND INTERVIEWS









WHAT DID WE LEARN?

The more familiar people are with CAV the more likely they are to be excited for it



Most people want to continue to be informed and involved



People generally support government having a role, especially related to safety







AUDIENCE ANALYSIS

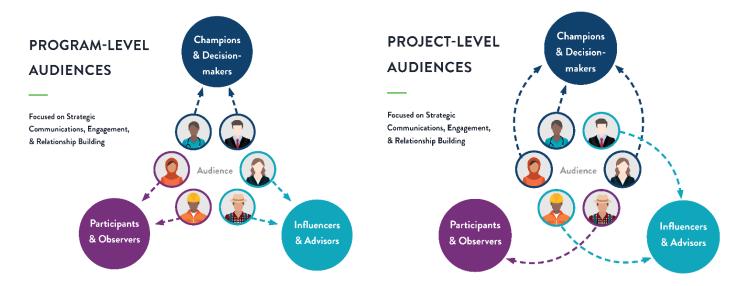




PARTNER AND INDUSTRY AUDIENCE GROUPS

WHAT ARE THE DIFFERENT ROLES GROUPS AND INDIVIDUALS PLAY?

- Champions & Decision Makers—these individuals hold formal or informal power to support or obstruct success on CAVrelated activities
- Influencers & Advisors—these individuals are interested in CAV and can affect outcomes but do not establish the environment and direction for a program or project
- Participants & Observers—these individuals are interested in CAV but unlikely to affect outcomes of program or project at this time



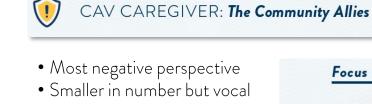




PUBLIC CAV PERSPECTIVES

WHAT PERSPECTIVES ON CAV ARE COMMON IN MINNESOTA?





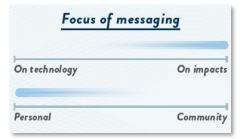
- Need to build trust
- Benefit to showing real use cases for CAV

Focus of m	essaging
On technology	On impacts
Personal	Community



CAV CRITICAL: The Historically Underprioritized

- More indifferent than negative
- Don't feel the system is designed for them
- Might be excited, but don't think CAV will be for them
- Relationship building before engagement





champions



CAV CRITICAL PRIORITY POPULATIONS

WHO ARE THE DEMOGRAPHIC GROUPS LIKELY TO HOLD THIS PERSPECTIVE?







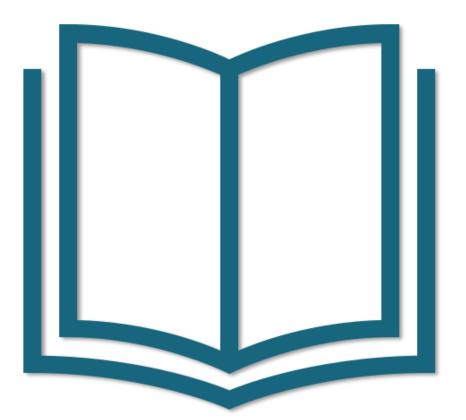
MESSAGING AND ENGAGEMENT GUIDANCE PROGRAMMATIC RECOMMENDATIONS TOOLS FOR PRACTITIONERS





CAV MESSAGING & ENGAGEMENT GUIDANCE

HOW SHOULD WE TALK ABOUT AND CONNECT WITH MINNESOTANS GOING FORWARD?



WHAT'S INSIDE:

- Messaging and engagement goals
- Audience analysis
- Messaging guidance
- Engagement guidance
- Recommended communications and engagement tactics





MESSAGING AND ENGAGEMENT GOALS

WHAT ARE WE TRYING TO ACCOMPLISH?

- **1. Build knowledge** of CAV technology throughout Minnesota so people have the information they need and can help shape the future of transportation in the state
- **2. Develop two-way lasting relationships** with communities, organizations and entities to create a CAV-ready environment in Minnesota **and build trust** in Minnesota's CAV Program
- **3. Integrate Minnesota's CAV messaging and engagement** into transportation plans and projects and other related communication across partners to promote clarity, consistency and understanding among all audiences





CORE CAV MESSAGING THEMES

WHAT DO WE WANT PEOPLE TO KNOW?

INNOVATION

Connected and automated vehicles are the future of transportation and Minnesota is proactively planning and preparing.

SAFETY

Safety is and will continue to be our top priority and CAV has the potential to improve safety for travelers.

EQUITY, ACCESS AND MOBILITY

CAV technology can support Minnesota to create a transportation system that works for all.

ECONOMIC AND WORKFORCE DEVELOPMENT

CAV will drive opportunity for Minnesota.





OTHER MESSAGING GUIDANCE

WHAT ELSE SHOULD WE CONSIDER?

Inform, don't sell

Need to built to "CAV" terminology

Incorporate the <u>connected</u> aspect of CAV technology

Include the full range of CAV application (e.g., multi-passenger)

Related topics: shared mobility, electrification and GHG emissions

People's perceptions mirror the success of local projects

Highlight the broader Minnesota CAV Program





ENGAGEMENT GUIDANCE

HOW SHOULD WE INCORPORATE CAV IN PLANNING FOR ENGAGEMENT?

MNDOT PUBLIC ENGAGEMENT PLANNING STEPS:

Step 1: Define expectations

Clearly define the project and MnDOT's expectations and commitment

Step 2: Identify issues

Identify stakeholders, issues and needs

Step 3: Determine level of engagement

Determine the level of engagement and public influence

Step 4: Clarify Roles

Clarify public role in decision making

Step 5: Create a plan

Create and implement public engagement plan

Step 6: Evaluate

Evaluate engagement efforts (after action review)

Final document will identify CAV-specific considerations for each step





OTHER ENGAGEMENT GUIDANCE

WHAT ELSE SHOULD WE CONSIDER?

Prioritize exposure to CAV via demonstrations

Look for opportunities to engage people beyond industry partners

Digital engagement will reach many, but not all

Leverage Facebook and YouTube for public audiences

Emphasize non-digital strategies, especially for rural audiences

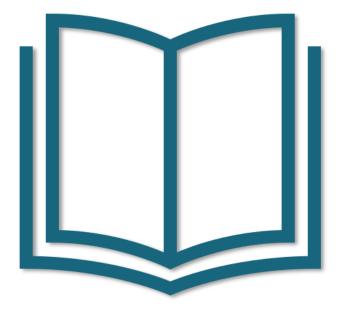
People want to be involved, but use tactics other than public meetings





MESSAGING & TALKING POINTS TOOLKIT

HOW CAN WE HELP PRACTITIONERS USE THIS GUIDANCE?



WHAT'S INSIDE:

- Specific messages and talking points by theme, with consideration for:
 - Audience
 - $\circ \quad \mathsf{Type of project}$
 - Easy-to-use guide for project managers, communications/ engagement professionals and partners

Development will be supported by Outreach & Education Committee





STRATEGIC RECOMMENDATIONS

HOW CAN WE BUILD ENHANCE CAV COMMUNICATIONS AND ENGAGEMENT PROGRAMMATICALLY?

- Update messaging/branding
- Create and maintain a resources library
- Revise MN CAV web presence
- Enhance baseline survey data
- Conduct regular surveying
- Launch multi-agency communications working group
- Implement a stakeholder management system and newsletter



Led by CAV Innovation Alliance Outreach & Education Committee

Supported by CAV Innovation Alliance Outreach & Education Committee



Prioritize demonstration projects



Develop CAV ambassadors, champions and thought leaders



Develop CAV community advocates



Launch CAV Equity Community Advisory Committee



Participate in industry events





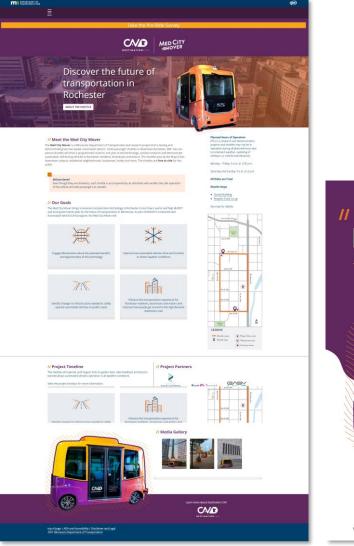
MED CITY MOVER GENERAL & TEMPLATE MATERIALS DRIVE, LEARN, SHAPE PROGRAM





MED CITY MOVER CASE STUDY

HOW DID WE APPLY THIS GUIDANCE TO A REAL CAV PROJECT?



Tailored messaging for CAV Cautious: The Information Seekers

This perspective is the most common among Minnesotans. With that in mind, these messages should act as the baseline foundation for general project talking points and materials. Using an empathetic and informative tone, we're letting people know we understand their questions and are addressing their concerns, specifically related to safety.

No audience is only one perspective. However, consider using this group as your base when talking to audiences like Rochester residents, businesses, visitors, and elected officials. It's a good reminder to do advance work or questioning about any group you'll be communicating with, so you can effectively tailor the messaging to meet the audience at its level.

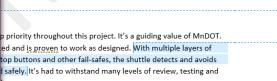
Framing

Discover CAV technology. The Rochester Automated Shuttle Pilot will test automated vehicles in all weather conditions to teach us about self-driving vehicle technology in a real-world setting. Learn more ic shuttle!

// MEET THE MED CITY MOVER //

Discover the future of transportation in Rochester





orward-thinking automated vehicle technology to Rochester to ansportation option for Minnesota. The shuttles <u>provide</u> many sses and visitors, including:



CK Caskey, Katie A communications goal of the project is to educate about CAV benefits

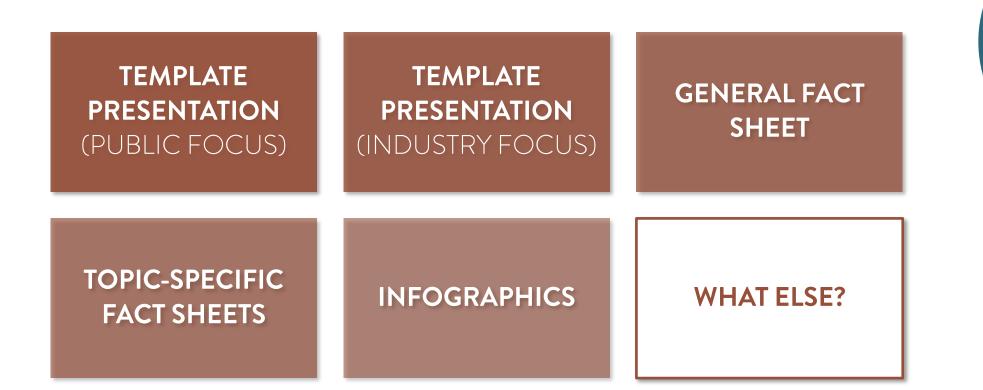
Caskey, Katie These are the top things this group is curious about



DESTINATIONCAV

GENERAL & TEMPLATE MATERIALS

WHAT READY-MADE RESOURCES DO PARTNERS NEED?



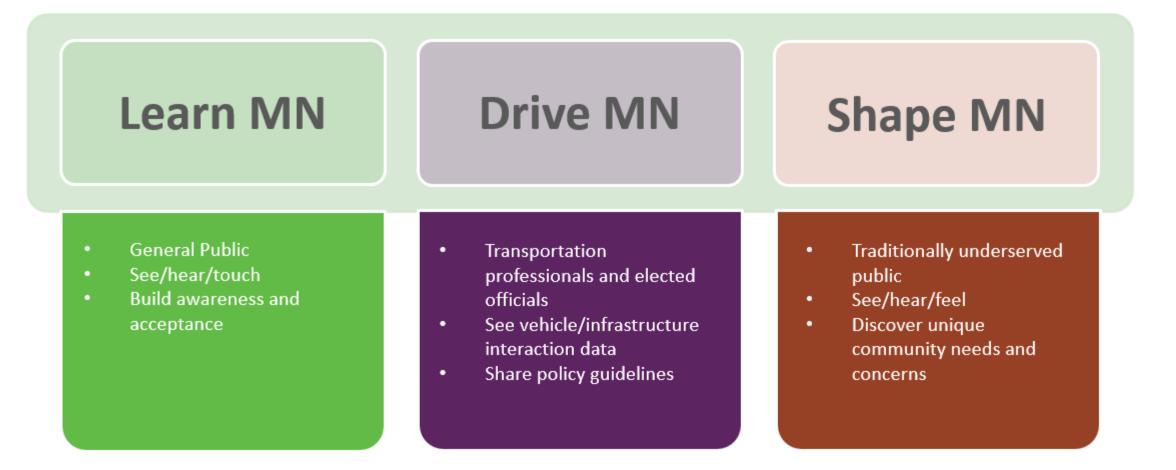
Development will be led by Outreach & Education Committee





LEARN, DRIVE, SHAPE

HOW ARE WE STARTING TO IMPLEMENT RECOMMENDATIONS?







COMMUNITY AND STAKEHOLDER ENGAGEMENT

DEMONSTRATION RECOMMENDATIONS CAV CONFERENCE & TECH SHOWCASE





DEMONSTRATION RECOMMENDATIONS

Recommendation "buckets"





Drive MN

Description	Show CAV readiness, gather and share vehicle/infrastructure interaction, share policy guidelines
Target audiences	Transportation professionals and elected officials at city/county facilities
Suggested timing/sequencing	1,000+ miles of road among 6-9 destinations, one week in Spring 2022, prior to CAV annual conference/technology showcase
Measures of success	Increase knowledge about CAV readiness, establish baseline of general readiness, motivate action (e.g., participate in testing, update and explore policies/infrastructure)
Why now?	Response to MUTCD AV guidance, follow-up to CAV scenario planning workshops, prompts planning to ready for CAV, share recently approved CAV policy guidelines

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Learn MN

Description	Show what CAV is, provide see/hear/touch experience, build awareness
Target audiences	General public at Greater MN community events (e.g., festivals, county fairs, tribal gatherings)
Suggested timing/sequencing	10-12 communities, Summer 2022 – Spring 2023, launch after CAV annual conference/technology showcase
Measures of success	Increase awareness, expand demographic reach, generate interest in follow-up, incorporate project measures where applicable
Why now?	CAV is transformative, pilot projects are being conducted, communities should be informed to guide future testing/deployment

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Shape MN

Description	Show what CAV is, provide see/hear/feel experience, build awareness, discover unique community needs and concerns
Target audiences	Traditionally underserved public (e.g., elderly, differently abled, BIPOC) at annual meetings
Suggested timing/sequencing	3-5 groups (MN Council on Disability, MN Board on Aging, Council for Minnesotans of African Heritage, MN Council on Latino Affairs, Council on Asian Pacific Minnesotans, Minnesota Indian Affairs Council), Fall 2022-Spring 2023
Measures of success	Increase awareness, deepen demographic reach, determine how to address unique needs, interest/advocacy in future testing
Why now?	CAV is transformative, pilot projects are being conducted, future testing/deployment should address unique community needs

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CAV Conference & Tech Showcase

OBJECTIVES

- Engage stakeholders (public, private, non-profit and academic sectors) interested in CAV
- Shine a spotlight on CAV initiatives and research in Minnesota
- Provide updates from the national level and from other states
- Showcase Minnesota companies and academic institutions as well as companies interested in doing CAVrelated business in Minnesota
- Convene a half-day workshop to develop strategies for advancing CAV policies and legislation





CAV Conference & Tech Showcase

Day 1: Conference

- Combination of general and concurrent sessions
- Build concurrent sessions around Innovation Alliance Committee Focus Areas
- Solicit presentation ideas from committees, I-CAV, and Advisory Council

Day 2 – Workshop and Tech Showcase

- Workshop and Tech Showcase held concurrently
- Consider workshop as invitation only 50-60 participants identified by planning committee
 - Facilitated discussions to identify and prioritize strategies and actionable items for advancing CAV policies and legislation
- Tech Showcase open to all conference registrants
 - Showcase includes demonstrations and exhibits with space to accommodate indoor and outdoor activities







Tentative Timing







QUESTIONS FOR BREAKOUT GROUPS

TELL US WHAT YOU THINK

- What stands out to you?
- What questions do you have?
- What is most surprising? Most interesting?
- Can you see this type of guidance informing your work?
- What other guidance do you need?





OPPORTUNITY FOR PUBLIC COMMENT

Please enter use 'raise hand' feature or type your question into the chat box



UPCOMING EVENTS

- Next Council Meeting March 16 from 9:00-11:30am
- Transportation Research Board Annual Meeting, Washington, D.C. January 9th through 13th
- Minnesota Transportation Conference, St. Paul, MN February 28th through March 2nd

CLOSING

Margaret Anderson Kelliher, Co-Chair Commissioner, MnDOT

Phil Magney, Co-Chair CEO and Founder, VSI Labs

Next meeting March 16, 2022



THANKYOU

GOVERNOR'S COUNCIL ON CONNECTED AND AUTOMATED VEHICLES

MARGARET ANDERSON-KELLIHER

Co-Chair

PHIL MAGNEY Co-Chair



